

**OPENMAT**  
**Entrance Test Papers**

*MANAGEMENT*  
*PROGRAMME*  
*2006*



**School of Management Studies**  
**Indira Gandhi National Open University**

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## **Print Production**

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## CONTENTS

	<b>Page Nos.</b>
● Openmat (xii) Entrance Test .....	9
● Openmat (xiii) Entrance Test .....	24
● Openmat (xiv) Entrance Test .....	42
● Openmat (xv) Entrance Test .....	59
● Openmat (xvi) Entrance Test .....	77

## INFORMATION BOOKLET FOR ENTRANCE EXAMINATION

Dear Candidate,

This booklet contains the Previous Openmat question papers and other related information for OPENMAT Test for admission to Management Programme of this University. You will be given a test booklet containing 200 objective type multiple choice questions and a specifically designed OMR response sheet in the Examination hall. You will notice from the sample test paper that it is different from the usual School/College examinations. It is, therefore, necessary for you to know in advance about the type of questions and the way in which you are required to answer them. This booklet will help you in this respect.

The type of tests which will be used in this OPENMAT (ENTRANCE TEST) are given below:

	Test	No. of Questions	Marks	Time
Test I	General Awareness	30	30	Composite
Test II	English Language	50	50	Time of
Test III	Quantitative Aptitude	50	50	<b>Three hours</b>
Test IV	Reasoning	70	70	

All the above four tests will be given in a composite test booklet which will be printed in English. You will be given composite time of **three hours** to answer 200 questions. You may attempt the test in any order you like. Since the questions in the test Booklet are objective type, answers are not required to be written in words or sentences. For each question, there are four possible answers and only one of them is correct. You have to select the right answer from amongst the given choices. **In case you find that none of the four alternatives is correct, you have to mark 'O'.**

### HOW TO FILL UP THE INFORMATION ON THE OMR RESPONSE SHEET (EXAMINATION ANSWER SHEET)

1. Write your complete enrolment no. in 9 digits. This should correspond to the enrolment number indicated by you on the OMR Response Sheet. Also write your correct name, address with pin code in the space provided. Put your signatures on the OMR Response Sheet with date. Ensure that the Invigilator in your examination hall also puts his signatures with date on the OMR Response Sheet at the space provided.
2. On the OMR Response Sheet student's particulars are to be filled in by pen. However use **HB** pencil for writing the Enrolment No. and Examination Centre Code as well as for blackening the rectangle bearing the correct answer number against the serial number of the question.
3. Do not make any stray remarks on this sheet.
4. Write correct information in numerical digit in Enrolment No. and Examination Centre Code columns. The corresponding rectangle should be dark enough and should be filled in completely.
5. Each question is followed by four probable answers which are numbered 1, 2, 3 & 4. You should select and mark only one answer to each question considered by you as the most appropriate or the correct answer. Select the most appropriate answer. Then by using HB pencil, blacken the rectangle bearing the correct answer number against the serial number of the question. If you find that answer to any question is none of the four alternatives given under the. question you should darken the rectangle '0'.
6. If you wish to change your answer, ERASE completely the already darkened rectangle by using a good quality eraser and then blacken the rectangle bearing your revised answer number. If incorrect answer is not erased completely, smudges will be left on the erased rectangle and the question will be read as having two answers and will be ignored for giving any credit.
7. No credit will be given if more than one answer is given for one question. Therefore, you should select the most appropriate answer.
8. You should not spend too much time on any one question. If you find any particular question difficult, leave it and go to the next. If you have time left after answering all the questions, you may go back to the unanswered ones. **There is no negative marking for wrong answers.**

## GENERAL INSTRUCTIONS

1. No cell phones, calculators, books, slide-rules, note-books or written notes, etc. will be allowed inside the examination hall.
2. You should follow the instructions given by the Centre Superintendent and by the Invigilator at the examination venue. If you violate the instructions you will be disqualified.
3. Any candidate found copying or receiving or giving assistance in the examination will be disqualified.
4. The Test Booklet and the OMR Response Sheet (Answer Sheet) would be supplied to you by the Invigilators. After the examination is over, you should hand over the OMR Response Sheet to the Invigilator before leaving the examination hall. Any candidate who does not return the OMR Response Sheet will be disqualified and the University may take further action against him/her.
5. All rough work is to be done on the test booklet itself and not on any other paper. Scrap paper is not permitted. For arriving at answers you may work in the margins, make some markings or underline in the test booklet itself.
6. The University reserves the right to cancel scores of any candidate who impersonates or uses/adopts other malpractices or uses any unfair means. The examination is conducted under uniform conditions. The University would also follow a procedure to verify the validity of scores of all examinees uniformly. If there is substantial indication that your performance is not genuine, the University may cancel your score.
7. Candidates should bring their hall tickets duly affixed with their latest photograph to appear in the test. The photograph should be attested by a Gazetted Officer, failing which you will not be allowed to take the examination. It should be got signed by the Invigilator. In the event of your qualifying the Entrance Test, this hall ticket should be enclosed with your admission form while submitting it to the University for seeking admission in Management Programme along with your testimonials and programme fee. Admission forms received without hall ticket in original will be summarily rejected.

## DECLARATION OF RESULT AND RESULT CARD

The University will send you Result Card by post indicating your qualifying/non-qualifying status in the examination. Those who have '*qualifying*' status may apply for admission. The procedure for submission of admission form, is given on page 14 of Student Handbook and Prospectus. The results will also be available with IGNOU Regional Centres in third week of **September/March for OPENMAT (Entrance Test) held in August and February** respectively. You may inquire about your qualifying status from the Office of the Regional Director, IGNOU of your Region.

Relaxed qualifying standards would be applied to SC/ST and female candidates. In case, you have not indicated the category (SC/ST) you belong to, you will be considered as a general candidate. Similarly, if there is no indication regarding male/female, no relaxation in qualifying standard if any will be admissible. You will be responsible for the accuracy of indications made by you in the OPENMAT test form and no review will be possible.

Result Cards would be despatched from SR&E Division, IGNOU, Maidan Garhi, New Delhi-110068 to all the candidates, who appear for the examination. In case you are 'Qualifying' but do not receive your Result Card, you may approach the Regional Director, IGNOU of your Region.





# OPENMAT (XII) ENTRANCE TEST FOR MANAGEMENT PROGRAMMES 2003

## TEST I GENERAL AWARENESS

1. Which of the following countries is *not* a member of the G-8 Group?  
(1) France (2) Italy  
(3) Spain (4) Germany
2. Sariska and Ranthambhore are the reserves for which of the following animals?  
(1) Lion (2) Deer  
(3) Tiger (4) Bear
3. Which Article of the Constitution of India gives precedence to constitutional provision over the laws made by the Union Parliament/Sate Legislatures?  
(1) 13 (2) 32  
(3) 245 (4) 326
4. 'APSARA' is the name of India's first  
(1) Nuclear Reactor  
(2) Helicopter  
(3) Ground Battle Tank  
(4) Railway Locomotive
5. Which of the following countries has the second largest rail network in the world?  
(1) India (2) USA  
(3) Russia (4) China
6. Gandhi Peace Prize for the year 2000 was awarded to the former President of South Africa along with  
(1) C. Subramaniam  
(2) Grameen Bank of Bangladesh  
(3) Satish Dhawan  
(4) World Health Organisation
7. Which of the following is *not* a part of vehicular pollution?  
(1) Sulphur dioxide (2) Nitrogen oxide  
(3) Carbon monoxide (4) Hydrogen peroxide
8. The 'World Environment Day' is celebrated on  
(1) June 5th (2) June 4th  
(3) July 5th (4) July 4th
9. The theme of the World Development Report 2001 is  
(1) From plan to market  
(2) Knowledge for development  
(3) Attacking poverty  
(4) The state in the changing world
10. The Indian National Army (INA) came into existence in 1943 in  
(1) Japan (2) Then Burma  
(3) Singapore (4) Then Malaya
11. The Asian Games have been held in New Delhi  
(1) Once (2) Twice  
(3) Thrice (4) Four times
12. The Famous book '*Anandmath*' has been authored by  
(1) Rabindranath Tagore  
(2) Bankim Chandra Chattopadhyaya  
(3) Sarojini Naidu  
(4) Sri Aurobindo
13. SAARC declared the decade 1991-2000 as the Decade of  
(1) Youth (2) Family  
(3) Literacy (4) Girl Child
14. Army Day is celebrated in India every year on  
(1) 1st January (2) 15th January  
(3) 1st February (4) 15th February
15. The first Indian-American Woman to go into space was  
(1) Harbans Kaur (2) Kalpana Chawla  
(3) Jyotirmoyee Sikdar (4) Bachhendri Pal
16. The main occupation of the people of Indus Valley Civilization was  
(1) Trade (2) Cattle rearing  
(3) Huntin (4) Agriculture
17. The term 'Golden Quadrangle' refers to :  
(1) The base of the pyramids found in Egyptian Desert  
(2) Four sea-ports identified by the Customs department which are routes for gold smuggling  
(3) National Highways Development Project connecting the four Indian metro-cities  
(4) Rich contiguous wheat growing areas of Punjab, Haryana, U.P. and Rajasthan
18. Which of the following was *not* a centre of learning in ancient India?  
(1) Taxila (2) Vikramshila  
(3) Nalanda (4) Koushambi



19. 'Charak' was the famous court physician of  
 (1) Harsha  
 (2) Chandragupta Maurya  
 (3) Ashoka  
 (4) Kanishka
20. Who among the following Congress leaders was called the 'Grand Old man of India'?  
 (1) Mahatma Gandhi (2) Bal Gangadhar Tilak  
 (3) Dadabhai Naoroji (4) Madan Mohan Malviya
21. The President of the Drafting Committee of the Indian Constitution was  
 (1) Dr. B.R. Ambedkar (2) Jawahar Lal Nehru  
 (3) Dr. Rajendra Prasad (4) J.B. Kriplani
22. Which rock is formed by the deposits of animal shells and skeletons?  
 (1) Sandstone (2) Limestone  
 (3) Phyllite (4) Granite
23. Which of the following pairs is mismatched?  
 (1) Mettur – Kaveri  
 (2) Bhakra Nangal – Sutlej  
 (3) Hirakud – Mahanadi  
 (4) Tehri – Yamuna
24. Which part of the islands in the Arabian Sea is known as Minicoy Islands?  
 (1) Northern (2) Eastern  
 (3) Southern (4) Western
25. Tropical evergreen forests of India are found in  
 (1) Kerala (2) andhra Pradesh  
 (3) Madhya Pradesh (4) Orissa
26. G-15 is  
 (1) an organisation of the developed countries of the world  
 (2) an organisation of the developing countries of the world  
 (3) an organisation of the developed countries of Europe  
 (4) an organisation of developing countries of Asia
27. The birth-rate measures the number of births during a year per  
 (1) 100 of population  
 (2) 1, 000 of ppulation  
 (3) 10,000 of population  
 (4) 1,00,000 of population
28. Fundamental Duties were incorporated in the India Constitution in  
 (1) 1971 (2) 1972  
 (3) 1975 (4) 1976
29. In India, to be recognised as a national party, a party must secure at least  
 (1) 10% of the valid votes in four or more states  
 (2) 4% of the valid votes in four or more states  
 (3) 15% of the valid votes in two states  
 (4) 25% of the valid votes in one state
30. In which year were the first general elections held in India?  
 (1) 1947–48 (2) 1948–49  
 (3) 1950–51 (4) 1951–52

## TEST II

### English Language

**Directions :** For Questions 31 to 45. Read the two passages given below carefully. Each passage is followed by questions based on the contents of the passage. Answer the questions by selecting the best alternative from among those given in the questions.

#### Passage I

India has come a long way since the Bengal Famine of 1943. The food situation in India, once characterised by chronic shortages and the spectre of famines, has changed dramatically over the years. From being the biggest recipient of PL 480 aid during the 1950s and 1960s, India today is relatively self-sufficient in foodgrains at the given level of incomes and prices; in fact, it has marginal surpluses. The General Agreement on Tariffs and Trade (GATT) has been signed, with India as one of the signatories, under which all countries will have to gradually open up their agricultural sectors.

It is, therefore, neither feasible nor desirable to keep India's foodgrains sector insulated from world markets. In fact, this is an appropriate opportunity for India to integrate its agriculture with global agriculture, and make use of private trade (both domestic and foreign) as an important instrument for efficiently allocating her resources as well as providing food security to her people at the lowest economic cost. The time to change gears in food policy has come.

Food security, in a broader context, means that people have physical and economic access to food. Since foodgrains have the largest share in the food basket of the poor in a developing country like India, it is the availability of foodgrains that lies at the heart of the concept of food security. The first step in this direction, therefore, is to make foodgrains physically available to the people. This can be done by augmenting production, or through imports and transportation of grains to people wherever they are.

There are several ways of achieving these targets. One may rely on private entrepreneurship by letting the individual farmers produce, traders trade/import and make it available to consumers far and wide; or the Government may directly intervene in the production and/or the trade process. In the former case, the Government follows policies that provide appropriate market signals while in the latter, it acts as producer, importer and trader itself. Indian policy makers have followed a mix of both these options. For production, they have relied on the farmers while the Government has retained control over imports. For distribution, it created public agencies to do the job along with private trade, thus creating a dual market structure.

Providing economic access to food is the second part of the concept of food security. This can be best obtained by adopting a cost effective technology in production so that the real price of foodgrains come down and more people have access to it. In case it still fails to reach the larger sections of the population, the Government can directly subsidise food for the poor, launch a drive to augment their incomes, or try a combination of the two strategies. India has followed both these policies.

- 31.** India has 'come a long way' means
- (1) many years have passed after the Bengal famine
  - (2) the food position in India is now vastly improved
  - (3) India now handles such problems under PL-480 scheme
  - (4) India has advanced in science and technology
- 32.** Which of the following views regarding GATT, does the author seem to be advocating?
- (1) India should seize the chance and make efforts to fulfil its objectives
  - (2) India should not have signed it, to insulate our foodgrains sector
  - (3) India should have agreed to GATT excluding the agricultural sector
  - (4) India should hand over the issue of foodgrains security to the private sector
- 33.** According to the author, why is it necessary to ensure food security to people?
- (1) In order to sustain economic growth
  - (2) As per the PL-480 guidelines
  - (3) In order to be able to export foodgrains
  - (4) The passage makes no such assertion
- 34.** Which of the following forms the most essential part of the concept of food security in India?
- (1) Availability of affordable technology of food production to poor farmers
  - (2) Availability of all foodgrains in the market for the rural poor
  - (3) Easy access of foodgrains to the weaker sections at affordable prices
  - (4) Providing subsidies on all food items for the rural poor
- 35.** If private agencies are to be entrusted with the task of making foodgrains available to people, what facilitative role should the Government undertake?
- (1) Nationalise all distribution systems
  - (2) Make policies that give the right signals to the market
  - (3) Take responsibility of distribution
  - (4) Make efforts to increase the income of the farmers
- 36.** The author of the passage seems to advocate
- (1) liberalisation and privatisation
  - (2) state controlled, socialistic but closed economy
  - (3) a very practical and pragmatic approach to guard our economy
  - (4) stable international relations
- 37.** According to the author, food at affordable prices could be made available to the poor by
- A. reducing the cost of production of foodgrains by using appropriate technology
  - B. offering foodgrains at lower cost and offering economic support for maintaining low cost
  - C. raising the earnings of the poor
    - (1) only A
    - (2) only B and C
    - (3) only A and C
    - (4) A, B and C
- 38.** By saying Indian policy makers have followed a mix of both options it means that
- (1) production and distribution both have public and private participation
  - (2) production is largely in private hands while distribution is only through public means
  - (3) for production, reliance has been on the private sector while both public and private agencies are mobilised for distribution
  - (4) production and distribution are both private endeavours

## Passage II

The strength of Indian democracy lies in its tradition, in the fusion of the ideas of democracy and national independence, which was the characteristic of the Indian nationalist movement long before Independence. Although the British retained supreme authority in India until 1947, the provincial elections of 1937 provided real exercise in democratic practice before national independence. During the Pacific war, India was not overrun or seriously invaded by the Japanese and after the war was over, the transfer of power to a government of the Indian Congress Party was a peaceful one as far as Britain was concerned. By 1947 'Indianisation' had already gone far in the India Civil Service and Army, so that the new government could start with effective instrument of central control.

After Independence, however, India was faced with two problems; the first, that of economic growth from a very low level of production and the second was that of ethnic diversity and the aspirations of subnationalities. The Congress leadership was more aware of the former problem than of the second; as a new political elite, which had rebelled not only against the British Raj but also against India's old social order, they were conscious of the need to initiate economic development and undertake social reforms, but as nationalists who had led a struggle against the alien on behalf of all parts of India, they took the cohesion of the Indian nation too much for granted and underestimated the centrifugal forces of ethnic division, which were bound to be accentuated rather than diminished as the popular masses were more and more drawn into politics. The Congress Party was originally opposed to the idea of recognizing any division of India on a linguistic basis and preferred to retain the old provinces of British India, which often cut across linguistic boundaries; it was only in response to strong pressures from below that the principle of linguistic states was conceded as the basis for a federal 'Indian Union'. The rights granted to the States created new problems for the Central Government. The idea of making Hindi the national language of a united India was thwarted by the recalcitrance of the speakers of other important Indian languages, and the autonomy of the States rendered central economic planning extremely difficult. Land reforms remained under the control of the States and many large scale economic projects required a degree of cooperation between the Central Government and one or more of the States which it was found impossible to achieve. Coordination of policies was difficult even when the Congress Party was in power both in the States and at the Centre; When a Congress Government in Delhi was confronted with non-Congress parties in office in the States, it became much harder.

39. Choose the word which is most nearly the same in meaning as the word 'thwarted' as used in the passage.
- (1) opposed                      (2) diverted  
(3) implemented                (4) advocated
40. Why, according to the passage, was central economic planning found to be difficult?
- (1) On account of multiplicity of States and Union Territories  
(2) On account of lack of coordination in different Government departments  
(3) On account of autonomy given to the States in certain matters  
(4) On account of lack of will in implementing land reforms
41. Which of the following issues was not appropriately realised by the Central Government?
- (1) Ethnic diversity of the people  
(2) A national language for the country  
(3) Implementation of the formulated policies  
(4) Centre-State relations
42. Which, according to the passage, was an exercise in democratic practice in India before Independence?
- (1) The handing over of power by the British  
(2) The Indianisation of the Indian Civil Service  
(3) The conduct of provincial elections in 1937  
(4) Several democratic institutions created by the India National Congress
43. Which of the following statements is *not* true in the context of the passage?
- (1) The Congress party was originally opposed to the idea of division of states on linguistic basis  
(2) Economic development and social reform were initiated soon after Independence  
(3) The political elite in India rebelled against the British Raj  
(4) The Congress leadership was full conscious of the problems arising out of ethnic diversity in India at the time of Independence
44. The new government could start with effective instrument of central control because the
- (1) process of Indianisation of the Indian Civil Service had already begun  
(2) Indian army was organised on the pattern of the British army  
(3) people of India offered their wholehearted support to the Government  
(4) transfer of power to the Indian Congress Party was peaceful

45. Why was India **not** overrun by Japan during the Pacific war?
- (1) Japan was friendly with the British  
 (2) Japan was interested in India's freedom  
 (3) Japan was doubtful about the success of such attack  
 (4) The passage does not offer any information in this regard

**Directions :** For Questions 46 to 50. Each of these questions consists of a capitalised word followed by four alternatives. From the given alternatives, choose the one that is most similar in meaning to the capitalized word.

46. FEIGN  
 (1) to pretend (2) faint  
 (3) congratulate (4) glow
47. SEDITIOUS  
 (1) impure (2) inactive  
 (3) seriously injured (4) rebellious
48. GLEAN  
 (1) to shine (2) gather  
 (3) glide (4) glorify
49. VAUNTED  
 (1) belittled (2) exacting  
 (3) highly publicized (4) trusted
50. MALADROIT  
 (1) impossible (2) awkward  
 (2) sluggish (4) hardy

**Directions :** For questions 51 to 55. These questions consist of a capitalized word followed by four alternatives. Select from among the given alternatives, the word which is most nearly opposite in meaning to the capitalized word.

51. TURPITUDE  
 (1) amplitude (2) activity  
 (3) virtue (4) calmness
52. SEDULOUS  
 (1) indolent (2) guileless  
 (3) vindictive (4) upright
53. REPROGRADE  
 (1) inclining (2) progressing  
 (3) evaluating (4) directing
54. PROVIDENT  
 (1) unholy (2) rash  
 (3) miserable (4) remote
55. PERNICIOUS  
 (1) practical (2) comparative  
 (3) harmless (4) tangible

**Directions :** For Questions 56 to 60. Each of the questions below consists of a sentence with one or two blank spaces. Each sentence is followed by four alternative sets of words. Choose the words or set of words from among the alternatives given, which when inserted in the sentence best fit the meaning of the sentence.

56. Critics of the movie version of *The Colour Purple* \_\_\_\_\_ its saccharine, overoptimistic mood as out of keeping with the novel's more \_\_\_\_\_ tone.  
 (1) applauded, sombre  
 (2) decried, acerbic  
 (3) denounced, sanguine  
 (4) acclaimed, positive
57. Measurement is, like any other human endeavour, a complex activity, subject to error, not always used \_\_\_\_\_, and frequently misinterpreted and \_\_\_\_\_.  
 (1) mistakenly, derided  
 (2) erratically, analyzed  
 (3) innovatively, refined  
 (4) properly, misunderstood
58. If you are seeking a \_\_\_\_\_ that will resolve all our ailments you are undertaking an \_\_\_\_\_ task.  
 (1) precedent, awkward  
 (2) panacea, impossible  
 (3) direction, awesome  
 (4) continuance, enjoyable
59. Your \_\_\_\_\_ tactics may comple me to \_\_\_\_\_ the contract as the job must be finished on time.  
 (1) dilatory, cancel  
 (2) pressure, delay  
 (3) offensive, award  
 (4) confiscatory, hasten



**Directions :** For Questions 76 to 80. Each of these questions consists of a related pair of capitalized words, followed by four alternative pairs of words. Select the pair that best expresses a relationship similar to that expressed in the pair of capitalized words.

76. OGLE : OBSERVE  
 (1) haggle : outbid  
 (2) clamour : dispute  
 (3) discern : perceive  
 (4) flaunt : display
77. PROLOGUE : PLAY  
 (1) chapter : novel  
 (2) overture : opera  
 (3) intermezzo : symphony  
 (4) epilogue : oration
78. CHAFF : WHEAT  
 (1) mote : dust  
 (2) gold : lead  
 (3) dregs : wine  
 (4) yolk : egg
79. NEBULOUSNESS : DEFINITION  
 (1) apathy : zeal  
 (2) penetration : depth  
 (3) rectitude : sombreness  
 (4) rigidity : homogeneity
80. SAP : VITALITY  
 (1) persevere : fortitude  
 (2) bore : tedium  
 (3) drain : resolve  
 (4) enhance : allure

### TEST III Quantitative Aptitude

81. 252 can be expressed as a product of primes as  
 (1)  $2 \times 3 \times 3 \times 3 \times 7$  (3)  $2 \times 2 \times 3 \times 3 \times 7$   
 (2)  $3 \times 3 \times 3 \times 3 \times 7$  (4)  $2 \times 2 \times 2 \times 3 \times 7$
82. LCM of 27, 63, 72 is  
 (1) 1512 (2) 1522  
 (3) 1532 (4) 1542
83. A worker makes a toy every  $\frac{2}{3}$  hour. If the worker works for  $7\frac{1}{2}$  hours, how many toys will he make?  
 (1)  $11\frac{3}{4}$  toys (2)  $13\frac{3}{4}$  toys  
 (3)  $13\frac{1}{4}$  toys (4)  $11\frac{1}{4}$  toys
84. I consume 7 chapatis at lunch and 8 chapatis at dinner. How many dozen chapatis, do I consume in a leap year?  
 (1) 450.5 dozen (2) 460.5 dozen  
 (3) 457.5 dozen (4) 467.5 dozen
85. Rs. 5000 earned Rs. 300 interest in 2 years. The rate of interest is  
 (1) 6% (2) 5%  
 (3) 4% (4) 3%
86. An Internet package originally costs Rs. 100 and was discounted 10%. After three months it was sold after being discounted 15%. How much was the package sold for?  
 (1) Rs. 75 (2) Rs. 75.50  
 (3) Rs. 76.50 (4) Rs. 76
87.  $(-5) (4) (2) \left(-\frac{1}{2}\right) \left(\frac{3}{4}\right) = ?$   
 (1) -30 (2) 15  
 (3) -15 (4) 30
88. If the average annual income of 10 workers is Rs. 15,665 and two of the workers each made Rs. 20,000 for the year, what is the remaining 8 workers' average annual income?  
 (1) Rs. 14815.25 (2) Rs. 14581.25  
 (3) Rs. 15815.25 (4) Rs. 13581.25
89.  $\sqrt[3]{-8} \times \sqrt[4]{16} = ?$   
 (1) 4 (2) -4  
 (3) 2 (4) -2
90. Simplify  $\frac{21x^4y^2}{3x^6y^3}$   
 (1)  $\frac{7}{x^2y}$  (2)  $\frac{7y}{x^2}$   
 (3)  $\frac{7y^2}{x}$  (4) 7xy

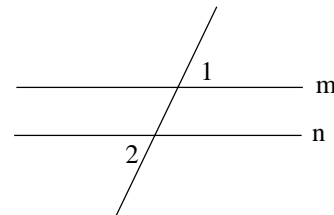
91.  $(2a + 3a^2 - 4) - 2(4a^2 - 2)(a + 4) = ?$   
 (1)  $-5a^2 + 6a + 12$  (2)  $5a^2 + 6a + 12$   
 (3)  $-5a^2 - 6a - 12$  (4)  $5a^2 - 6a - 12$
92. Find  $a$  if  $a - 3 = \frac{10}{a}$ .  
 (1)  $\sqrt{7}, 7$  (2)  $5, -2$   
 (3)  $-5, 2$  (4)  $-\sqrt{7}, 7$
93. Ram weighs 25 kg more than Shyam. Their combined weight is 325 kg. How much does Shyam weigh?  
 (1) 150 kg (2) 175 kg  
 (3) 200 kg (4) 125 kg
94. A train travels at an average speed of 50 miles per hour for  $2\frac{1}{2}$  hours and then travels at a speed of 70 miles per hour for  $1\frac{1}{2}$  hours. How far did the train travel in the entire 4 hours?  
 (1) 200 miles (2) 120 miles  
 (3) 230 miles (4) 150 miles
95. Worker A takes 8 hours to do a job. Worker B takes 10 hours to do the same job. How long should it take worker A and worker B working together, but independently, to do the same job?  
 (1)  $4\frac{1}{9}$  hours (2)  $4\frac{2}{9}$  hours  
 (3)  $4\frac{4}{9}$  hours (4)  $4\frac{5}{9}$  hours
96. A club has 20 members. They are electing a president and a vice-president. How many different outcomes of the election are possible?  
 (1) 300 (2) 380  
 (3) 200 (4) 280
97. Find  $x$  if  $\frac{4}{5} = \frac{10}{x}$   
 (1) 10.5 (2) 12  
 (3) 12.5 (4) 10
98. If  $m$  is proportional to  $na$  and  $m = 5$  when  $n = 4$ , what is the value of  $m$  when  $n = 18$ ?  
 (1) 20 (2) 22.5  
 (3) 24.5 (4) 26.5

99. What is the eighth term of the sequence 1, 4, 9, 16, 25, \_\_\_\_\_?  
 (1) 36 (2) 49  
 (3) 64 (4) 81

100. Which of the following is the largest?

- (1)  $\frac{13}{16}$  (2)  $\frac{7}{8}$   
 (3)  $\frac{31}{40}$  (4)  $\frac{63}{80}$

101. If  $m$  and  $n$  are two parallel lines and angle 1 is  $60^\circ$ , how many degrees is angle 2?



- (1)  $60^\circ$  (2)  $30^\circ$   
 (3)  $45^\circ$  (4)  $75^\circ$

102. What is the perimeter of a regular pentagon whose sides are 6 inches long?

- (1) 18 inches (2) 24 inches  
 (3) 27.5 inches (4) 30 inches

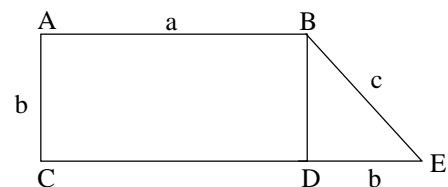
103. How far will a wheel of radius 2 ft travel in 500 revolutions? (Assume the wheel does not slip)

- (1) 1000  $\pi$  ft (2) 1500  $\pi$  ft  
 (3) 500  $\pi$  ft (4) 2000  $\pi$  ft

104. Given that  $x$  and  $y$  are real numbers let  $S(x, y) = x^2 - y^2$ . Then  $S(3, S(3, 4)) = ?$

- (1) -40 (2) -7  
 (3) 40 (4) 49

105. What is the area of the figure below? ABCD is a rectangle and BDE is an isosceles right triangle.



- (1)  $ab$  (2)  $ab^2$   
 (3)  $cab$  (4)  $b\left(a + \frac{b}{2}\right)$

106. If  $2x + y = 5$  then  $4x + 2y$  is equal to  
 (1) 5 (2) 8  
 (3) 9 (4) 10
107. In 1997 a new oven cost Rs. 2500. In 2000 the cost of that type of oven is Rs. 4800. What is the percentage increase between 1997 and 2000?  
 (1) 92 (2) 152  
 (3) 192 (4) 52
108. If  $x + y = 6$  and  $3x - y = 4$  then  $x - y$  is equal to  
 (1) -1 (2) 0  
 (3) 2 (4) 4
109. If  $\frac{x}{y} = \frac{2}{3}$  then  $\frac{y^2}{x^2}$  is equal to  
 (1)  $\frac{4}{9}$  (2)  $\frac{2}{3}$   
 (3)  $\frac{3}{2}$  (4)  $\frac{9}{4}$
110. How much simple interest will Rs. 2000 earn in 18 months at an annual rate of 6%?  
 (1) Rs. 120 (2) Rs. 180  
 (3) Rs. 216 (4) Rs. 1800
111. If the average of 6 numbers is 4.5, the sum of the numbers divided by  $3^2$  is  
 (1) 4.5 (2) 3.5  
 (3) 3 (4) 5
112. The product of  $(a + b)(a^2 - ab + b^2)$  is  
 (1)  $a^3 + b^3$  (2)  $a^3 - b^3$   
 (3)  $(a + b)^3$  (4)  $(a - b)^3$
113. What is the value of the following expression?  

$$\frac{0.05 \times 0.05 \times 0.05 \times 0.04 \times 0.04 \times 0.04}{0.05 \times 0.05 - 0.05 \times 0.04 + 0.04 \times 0.04}$$
  
 (1) 0.0009 (2) 0.01  
 (3) 0.09 (4) 0.41
114. If I walk at 3 kmph, I miss a train by 2 minutes. If however I walk at 4 kmph, I reach the station 2 minutes before the arrival of the train. How far do I walk to reach the station?  
 (1)  $\frac{3}{4}$  km (2)  $\frac{4}{5}$  km  
 (3)  $\frac{5}{4}$  km (4) 1 km
115.  $\sqrt{\frac{0.289}{0.00121}} = ?$   
 (1)  $\frac{1.7}{11}$  (2)  $\frac{17}{11}$   
 (3)  $\frac{17}{110}$  (4)  $\frac{170}{11}$
116. The fractions below are in their lowest terms. Supply the missing figures.  
 $5\frac{1}{*} \times * \frac{3}{4} = 20$   
 (1) 3,1 (2) 4,1  
 (3) 5,3 (4) 3,3
117. What is the least number which must be subtracted from 10420 to make it a perfect square?  
 (1) 219 (2) 200  
 (3) 189 (4) 16
118.  $0.2 \infty 0.02 \ 0;002 = ?$   
 (1)  $\frac{8}{10^5}$  (2)  $\frac{0.8}{10^6}$   
 (3)  $8 \times 10^6$  (4)  $\frac{8}{10^6}$
119. SP = Rs. 450, loss = 10%. If gain = 10%, SP = ?  
 (1) Rs. 475 (2) Rs. 550  
 (3) Rs. 500 (4) Rs. 525
120.  $\frac{3}{8} + \frac{1}{2}$  of  $\frac{3}{16} = ?$   
 (1)  $\frac{3}{4}$  (2)  $\frac{15}{32}$   
 (3)  $\frac{21}{128}$  (4)  $\frac{15}{16}$
121.  $\sqrt{\frac{0.16}{0.4}} = ?$   
 (1) 0.2 (2) 2  
 (3)  $\sqrt{\frac{10}{5}}$  (4)  $\sqrt[5]{\frac{5}{5}}$
122. 80000 is equivalent to which of the following?  
 (1)  $2^3 \infty 10^5$  (2)  $0.2^3 \infty 10^7$   
 (3)  $2^2 \infty 20^4$  (4)  $2^4 \infty 5^8$



**123.** Rs. 720 is divided between 2 men, 5 women and 8 boys so that the share of a man, a woman and boy are in the ratio of 3 : 2 : 1. How much does each boy get?

- (1) Rs. 24                      (2) Rs. 30  
(3) Rs. 45                      (4) Rs. 72

**124.** The length of the diagonal of a square is 'a' cms. Which of the following represents the area of the square in sq. cms?

- (1) 2a                              (2)  $\frac{1}{\sqrt{2}}$   
(3)  $\frac{a^2}{2}$                               (4)  $\frac{a^2}{4}$

**125.**  $\frac{2^5 \times 9^2}{8^2 \times 3^5} = ?$

- (1)  $\frac{1}{6}$                               (2)  $\frac{2}{3}$   
(3)  $\frac{3}{2}$                               (4)  $\frac{1}{8}$

**Directions :** For Questions 126 to 130. Study the table given below and answer the questions 126 to 130.

<u>Income (Rs.)</u>	<u>Tax (Rs.)</u>
0 – 4,000	1 % of income
4,000 – 6,000	40 + 2% of income over 4,000
6,000 – 8,000	80 + 3% of income over 6,000
8,000 – 10,000	140 + 4% of income over 8,000
10,000 – 15,000	220 + 5% of income over 10,000
15,000 – 25,000	470 + 6% of income over 15,000
25,000 – 50,000	1070 + 7% of income over 25,000

**126.** How much tax is due on an income of Rs. 7,500?

- (1) Rs. 80                      (2) Rs.125  
(3) Rs. 150                      (4) Rs. 225

**127.** Your income for a year is Rs. 26,000. You receive a raise so that next year your income will be Rs. 29,000. How much more will you pay in taxes next year if the tax rate remains the same?

- (1) Rs. 70                      (2) Rs. 180  
(3) Rs. 200                      (4) Rs. 210

**128.** Vibha paid Rs. 100 tax. If X was her income, which of the following statements is true?

- (1)  $0 < X < 4,000$   
(2)  $4,000 < X < 6,000$   
(3)  $6,000 < X < 8,000$   
(4)  $8,000 < X < 10,000$

**129.** Town X has a population of 50,000. The average income of a person who lives in town X is Rs. 3,700 per year. What is the total amount paid in taxes by the people of town X? (Assume each person pays tax on Rs. 3,700)

- (1) Rs. 37                      (2) Rs. 3,700  
(3) Rs. 1,85,000              (4) Rs. 18,50,000

**130.** A person whose income is Rs. 10,000 pays what per cent of his or her income on taxes approximately?

- (1) 1                              (2) 2  
(3) 3                              (4) 4

## TEST IV Reasoning

**Directions :** For Questions 131 to 134, consider the following information.

There adults – Rs, S and V – will be travelling in a van with five children – F, H, J, I and M. The van has a driver's seat and one passenger seat in the front, and two benches behind the front seats, one bench behind the other. Each bench has room for exactly three people. Everyone must sit in a seat or on a bench, and seating is subject to the following restrictions :

- (i) An adult must sit on each bench.  
(ii) Either R or S must sit in the driver's seat.  
(iii) J must sit immediately beside M.

**131.** Which of the following can sit in the front passenger seat?

- (1) J                              (2) L  
(3) R                              (4) S

**132.** Which of the following groups of three can sit together on a bench?

- (1) F, J and M              (2) F, J and V  
(3) F, S and V              (4) H, L and S

**133.** If F sits immediately beside V, which of the following *cannot* be true?

- (1) H sits on the same bench as R
- (2) J sits immediately beside S
- (3) L sits immediately beside V
- (4) H sits in the front passenger seat

**134.** If S sits on a bench that is behind where J is sitting, which of the following must be true?

- (1) L sits in a seat or on a bench that is in front of where F is sitting
- (2) M sits on the same bench as V
- (3) F sits on the same bench as H
- (4) L sits on the same bench as S

**Directions :** For Questions 135 to 138, unscramble the letters in the following words and find the odd man out.

**135.** (1) HONRT

(2) EWTS

(3) EWSN

(4) ATES

**137.** (1) NVESU

(2) TERAH

(3) NOMO

(4) RASM

**136.** (1) LOW

(2) ERTGI

(3) OWC

(4) ROSHE

**138.** (1) EGERN

(2) DRE

(3) KADR

(4) RAGONE

**Directions :** For Questions 139 – 140. Select the alternative which does not belong to the class of the other three.

**139.** (1) Million

(2) Powder

(3) Letter

(4) Compel

**141.** A man starts walking in the morning facing the sun. After sometime, he turned to his left. Later he again turned to his left. The direction in which the man is moving now is

**140.** (1) Belief

(2) Shield

(3) Deceit

(4) Brief

(1) West

(2) South

(3) East

(4) North

**Directions :** For Questions 142 to 147, consider the following information.

Two nations, Fontan and Gordia, have agreed to submit any disputes that might arise between them to arbitration panels drawn from a pool of arbitrators. The pool consists of the following : three Fontanian representatives – K, L and M; three Gordian representatives – P, Q and R; and three neutral arbitrators – S, T and U. Each arbitration panel must be formed according to the following conditions :

(i) A panel can have three, four, five or six members.

(ii) At least one member of each panel must be neutral.

(iii) Neither Fontanian nor Gordian representatives can make up more than half the number of members on a panel.

(iv) S cannot be on a panel with L, with M or with U.

(v) R cannot be on a panel with L or with T.

**142.** Which of the following is a properly constituted panel?

(1) L, M, P, Q

(2) R, P, S, T

(3) P, Q, R, U

(4) P, Q, S, T

**145.** If K, M, Q and R are all selected as members of a five-member panel, which of the following must be selected as the fifth member of that panel?

(1) L

(2) P

(3) U

(4) T

**143.** If both S and T are to be members of a three-member panel, then which of the following can be the third member of that panel?

(1) L

(2) M

(3) P

(4) R

**146.** If S, P and Q are selected as members of a four-member panel and if T is not available to serve, the fourth member selected must be

(1) K

(2) L

(3) M

(4) R

**144.** If R and S are both selected as members of a four-member panel, which of the following must also be selected as a member of that panel?

(1) K

(2) L

(3) P

(4) Q

**147.** How many different, acceptable five-member panels can be formed if both S and R must be selected as members?

(1) 1

(2) 3

(3) 4

(4) 0

**Directions :** For Questions 148 to 155, Find the number that comes next in the sequence.

- 148.** 3, 1, 4, 5, 9, 14, 23, \_\_\_\_\_  
(1) 32 (2) 37  
(3) 41 (4) 28
- 149.** 3, 5, 8, 12, 17, 23, \_\_\_\_\_  
(1) 30 (2) 28  
(3) 29 (4) 33
- 150.** 3, 6, 18, 72, 360, \_\_\_\_\_  
(1) 720 (2) 1080  
(3) 1600 (4) 2160
- 151.** 7776, 1296, 216, \_\_\_\_\_  
(1) 16 (2) 36  
(3) 108 (4) 21
- 152.** - 15, 2, 21, 42, \_\_\_\_\_  
(1) 62 (2) 84  
(3) 65 (4) 66
- 153.** 1, 2, 5, 29, \_\_\_\_\_  
(1) 866 (2) 58  
(3) 53 (4) 145
- 154.** 13, 10, 4, -5, -17 \_\_\_\_\_  
(1) - 32 (2) - 34  
(3) 34 (4) - 22
- 155.** 0.5, 1.5, 3, 5, 7.5, 10.5, \_\_\_\_\_  
(1) 21 (2) 13.5  
(3) 14 (4) 15

**Directions :** For Questions 156 to 159, consider the following information.

Seven persons – N, Q, R, S, T, U and W – are all the persons present at a party. All of them join distinct conversational groups that form during the party and these consist of two, three, or four persons at a time. At any time during the party, each of the persons present is considered to be a member of exactly one of the conversational groups. During the party the following conditions are satisfied :

- (i) N can never be in the same conversational group as S.  
(ii) T must be in a conversational group that includes either S or W, but T cannot be in a conversational group with both S and W.  
(iii) W must be in a conversational group that consists of exactly three persons.

- 156.** Which of the following lists three conversational groups that can exist at the same time during the party?  
(1) N and S; Q, T and W; R and U  
(2) N and T; R and S; Q, U and W  
(3) N and U; R and S; Q, T and W  
(4) N and W; S and U; Q, R and T
- 157.** If, at a certain point during the party, R, T and W are members of three distinct conversational groups, S must at that that point be in a conversational group that includes  
(1) Q (2) R  
(3) T (4) W
- 158.** If, at a certain point during the party, a group of three persons and a group of four persons have formed and W is in the same conversational group as U, who of the following must that point be in the group with W and U?  
(1) N (2) Q  
(3) R (4) S
- 159.** If, at a certain point during the party, one of the conversational groups consists only R and W, at that point N must be part of a group of exactly  
(1) two persons, whose other member is T  
(2) two persons, whose other members is U  
(3) four persons, whose other members include S  
(4) four persons, whose other members include T

**Directions :** For Questions 160 to 163. In each of these questions a word has been given following four other words, one of which cannot be formed by using the letters of the given word that word.

- 160. RECOMMENDATIONS**  
(1) RAINS (2) MEANT  
(3) SOON (4) NURSE
- 161. UNDERESTIMATED**  
(1) ESTIMATE (2) DIRT  
(3) EARTH (4) TIMER

**162. DETERMINATION**

- (1) TAME (2) NORTH  
 (3) TEAM (4) MINT

**163. AUTONOMOUS**

- (1) TOON (2) AUNTS  
 (3) MASON (4) SAME

**164.** In a certain code, if SAND is written as TBOE, then how is GATE written?

- (1) FMNO (2) HBUF  
 (3) FZSD (4) HBUD

*Directions : For Questions 165 to 167, find the missing letter.*

**165.** U, T, S, R, \_\_\_\_\_

- (1) M (P) P  
 (3) Q (4) N

**167.** H, I, K, N, \_\_\_\_\_

- (1) Q (2) S  
 (3) O (4) R

**166.** B, E, H, \_\_\_\_\_

- (1) K (2) L  
 (3) J (4) M

*Directions : For Questions 168 to 173, consider the following information.*

The curator of a sculpture garden is planning an exhibit. Seven statues – F, G, H, J, R, S and U – are to be exhibited, three on the south lawn, four on the north lawn. Four of the statues – F, G, H and J – are made of steel, and three – R, S, and U – are made of bronze.

The curator will satisfy the following requirements in setting up the exhibit :

- (i) Each lawn will have at most two bronze statues placed on it.  
 (ii) G cannot be on the same lawn as U.  
 (iii) H cannot be on the same lawn as R.

**168.** Which of the following groups could be placed on the north lawn?

- (1) F, G, H, and U (2) F, H, S and U  
 (3) G, H, R and S (4) G, J, R and U

**173.** If F and G are placed on the north lawn, which of the following groups could be placed on the south lawn?

- (1) H, J, and S (2) H, J and U  
 (3) H, R and U (4) J, S and U

**169.** If U and R are placed on the north lawn, which of the following groups must be placed on the south lawn?

- (1) F, G and H (2) F, J and S  
 (3) G, H and S (4) G, H and U

**174.** Pointing towards Neela, Nitin said "I am the only son of her mother's son." How is Neela related to Nitin?

- (1) Mother (2) Cousin  
 (3) Niece (4) Aunt

**170.** If S and U are placed on the south lawn, each of the following must be placed on the north lawn EXCEPT

- (1) F (2) G  
 (3) H (4) J

**175.** "Buses for Delhi leave every  $3\frac{1}{2}$  hours. The bus for Delhi left 20 minutes ago. The next bus for Delhi will leave at 6 : 30 p.m." At what time was this announcement made?

- (1) 3 : 00 p.m. (2) 3 : 20 p.m.  
 (3) 3 : 30 p.m. (4) 4 : 00 p.m.

**171.** If S and R are placed on the south lawn, which of the following following must also be placed on the south lawn?

- (1) F (2) G  
 (3) H (4) J

**172.** If G and H are placed on the south lawn, which of the following must also be placed on the south lawn?

- (1) F (2) J  
 (3) R (4) S

**176.** If (i) is taller than Q, (ii) R is shorter than P, (iii) S is taller than T but shorter than Q, then who among them is the tallest?

- (1) P (2) Q  
 (3) S (4) T

**Directions :** For Questions 177 to 181, consider the following information.

- (i) M and S are good in Dramatics and computer Science
- (ii) A and M are good in Computer Science and Physics
- (iii) A, P and N are good in Physics and History
- (iv) N and A are good in Physics and Mathematics
- (v) P and S are good in History and Dramatics

**177.** Who is good in Physics, History and Mathematics, but not in Computer Science?

- (1) P
- (2) A
- (3) M
- (4) N

**178.** Who is good in History, Physics, Computer Science and Mathematics?

- (1) A
- (2) M
- (3) N
- (4) P

**179.** Who is good in Physics, History and Dramatics?

- (1) M
- (2) P
- (3) A
- (4) S

**180.** Who is good in Physics, Dramatics and Computer Science?

- (1) S
- (2) P
- (3) M
- (4) A

**181.** Who is good in Computer Science, History and Dramatics?

- (1) M
- (2) A
- (3) N
- (4) S

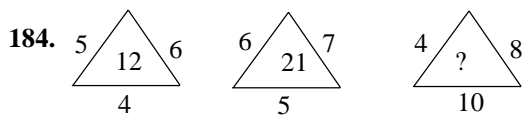
**182.** Drama is related to Director in the same way as Magazine is related to \_\_\_\_\_?

- (1) Reader
- (2) Printer
- (3) Editor
- (4) Story

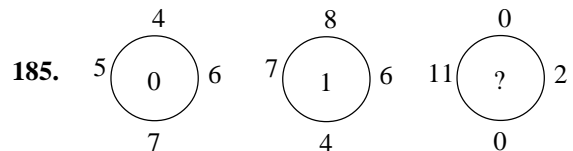
**183.** Three of the following four are alike in a certain way and so form a group. Which one does **not** belong to that group?

- (1) Beam
- (2) Roof
- (3) Wall
- (4) House

**Directions :** For Questions 184 and 185, find the missing number.



- (1) 30
- (2) 32
- (3) 320
- (4) 22



- (1) 12
- (2) 10
- (3) 11
- (4) 0

**Directions :** For Questions 186 to 191, consider the following information.

- (i) Nine people – F, G, H, I, J, K, L, M and N – are the only people who can serve on three committees designated X, Y and Z and each person must serve on exactly one of the committees.
- (ii) Committee X must have exactly one more member than does committee Y.
- (iii) It is possible that there are no members of committee Z.
- (iv) Neither F nor G nor H can serve on committee X.
- (v) Neither I nor J nor K can serve on committee Y.
- (vi) Neither L nor M nor N can serve on committee Z.

**186.** If L and F are the only persons serving on committee Y, how many of the nine people must serve on committee Z?

- (1) 3
- (2) 4
- (3) 5
- (4) 6

**187.** Of the nine people, the greatest number that can serve together on committee Z is

- (1) 9
- (2) 8
- (3) 7
- (4) 6

**188.** If N is the only person serving on committee Y, Which of the following must serve on committee X?

- (1) L and M                      (2) J and K  
(3) J and L                      (4) K and M

**189.** If none of the nine people serves on committee Z, which of the following must be a person who serves on committee X?

- (1) F                                (2) G  
(3) I                                (4) L

**190.** If L, M and H are the only persons serving on committee Y, the complete membership of committee Z must be

- (1) F and G                      (2) F and I  
(3) G and J                      (4) G and K

**191.** Which of the following groups could constitute the membership of committee Z?

- (1) G and L                      (2) H and K  
(3) G, H and I                  (4) I, J and K

**Directions :** For Questions 192 to 194, unscramble the letters in the following words, and find the last word of the sentence/question.

**192.** (1) SI                              (2) REENG  
(3) ETH                              (4) RSASG

(3) SI                              (4) ALET

**193.** (1) OTO                            (2) TI

**194.** (1) AMEN                      (2) HTAW  
(3) SI                                (4) ROUY

**Directions :** For Questions 195 to 200, consider the following information.

H, J, K, L, M, N and O are the only legislators eligible to vote on bills 1, 2 and 3, each of which will be passed if at least four legislators vote in favour of it. Each legislator must vote on all three bills; no abstentions are possible. The following is known :

- (i) H must vote against all three bills; each of the other legislators must vote in favour of at least one bill and against at least one bill.  
(ii) J must vote against bill 1.  
(iii) O must vote against bills 2 and 3.  
(iv) L must vote the same way that K does on all three bills.  
(v) N must vote the same way that O does on all three bills.

**195.** Which of the following must vote in favour of bill 1 ?

- (1) K                                (2) L  
(3) M                                (4) O

**198.** If any bill is to be passed, which of the following must be among the legislators who vote in favour of it?

- (1) J                                (2) K  
(3) M                                (4) N

**196.** The maximum number of favourable votes that bill 2 could receive is

- (1) two                              (2) three  
(3) four                              (4) five

**199.** If M votes the same way that O does on all three bills, which of the following can be determined?

- (1) Bill 1 will be passed (2) Bill 1 will be defeated  
(3) Bill 2 will be passed (4) Bill 2 will be defeated

**197.** Which of the following *cannot* be true?

- (1) J and K vote in favour of the same bill  
(2) J and O vote in favour of the same bill  
(3) J votes in favour of one bill and against two bills  
(4) K votes in favour of two bills and against one bill

**200.** If K votes in favour of bills 2 and 3, which of the following can be determined?

- (1) Bill 1 will be passed (2) Bill 1 will be defeated  
(3) Bill 2 will be passed (4) Bill 3 will be passed

# OPENMAT (XIII) ENTRANCE TEST FOR MANAGEMENT PROGRAMMES 2003

## TEST I General Awareness

1. What is the minimum age laid down for a person to seek election to the Lok Sabha ?  
(1) 18 years                      (2) 21 years  
(3) 25 years                      (4) 30 years
2. The chronological order of the three dynasties that ruled India is  
(1) Slave, Khilji, Tughlaq  
(2) Tughlaq, Slave, Khilji  
(3) Khilji Tughlaq, Slave  
(4) Slave, Tughlaq, Khilji
3. Human Genome Project endeavours to  
(1) Decode DNA  
(2) Invent AIDS treatment  
(3) Study evolution of humans  
(4) Study fingerprints
4. Which sport has been nominated for the Nobel Peace Prize 2001 for promoting understanding among nations ?  
(1) Basketball                      (2) Tennis  
(3) Soccer                              (4) Hockey
5. In India, what fraction of the members of the State Legislative Council (Vidhan Parishads) are elected by the local bodies ?  
(1) One-third                      (2) One-fourth  
(3) One-sixth                      (4) One-twelfth
6. The President of the UN General Assembly is elected for a period of  
(1) One year                      (2) Two years  
(3) Three years                      (4) Four years
7. The acid rains usually contain large amounts of  
(1) Carbonic acid                      (2) Hydrochloric acid  
(3) Nitric acid                      (4) Sulphuric acid
8. Seedless fruits are developed by the technique of  
(1) Tissue culture  
(2) Hybridisation  
(3) Clonal selection  
(4) Pure-line selection
9. Out of the following, the velocity of sound is maximum in  
(1) Water                              (2) Air  
(3) Steel                              (4) Wood
10. A liquid drop tends to assume a spherical shape because of the  
(1) Viscous force                      (2) Gravitational force  
(3) Elastic force                      (4) Surface tension
11. The stethoscope used by doctors works on the principle of  
(1) Interference of sound  
(2) Reflection of sound  
(3) Refraction of sound  
(4) Superposition of sound
12. Modern powerful magnets are made from  
(1) Iron compounds  
(2) Ferromagnetic materials  
(3) Alloys containing aluminium, cobalt and nickel  
(4) Alloys containing iron, cobalt and nickel
13. When any foreign body enters in the human blood system then the reaction is initiated by  
(1) R.B.Cs.                      (2) W.B.Cs.  
(3) Blood Platelets                      (4) Plasma
14. 'Athlete's foot' is caused by  
(1) Bacterial infection                      (2) Allergy  
(3) Virus                              (4) Fungus

15. Ethnobotany is a branch of Botany dealing with the study of  
 (1) Crop plants  
 (2) Old and Extinct plants  
 (3) Ether forming plants  
 (4) Plants in relation to tribal medicine
16. Which of the following states accounted for the highest share of total Foreign Direct Investment in India between August 1991 and October 2001?  
 (1) Tamil Nadu (2) Karnataka  
 (3) Delhi (4) Maharashtra
17. Which among the following is the Mascot of the 150th year of Railways in India ?  
 (1) Teju, the driver  
 (2) Bholu, the guard  
 (3) Chintu, the signalman  
 (4) Sonu, the securityman
18. What is the first country in the world to adopt Euthansia (mercy killing) legally ?  
 (1) Belgium (2) Australia  
 (3) Norway (4) The Netherlands
19. Who among the following was the first lady Governor of any state in India ?  
 (1) Rajkumari Amrit Kaur  
 (2) Padmaja Naidu  
 (3) Sarojini Naidu  
 (4) Sarla Grewal
20. In India the first Television Programme was broadcasted in  
 (1) 1959 (2) 1965  
 (3) 1976 (4) 1957
21. Who wrote 'Dragon's Seed' ?  
 (1) Pearl S. Buck (2) Shakespeare  
 (3) Shelley (4) Keats
22. The largest organ in the human body is  
 (1) Brain (2) Liver  
 (3) Kidney (4) Heart
23. The Golden Jubilee of the Indian Parliament was celebrated on  
 (1) April 26, 2002 (2) May 8, 2002  
 (3) May 13, 2002 (4) May 18, 2002
24. Who among the following was the creator of Barbie, the world's most popular doll ?  
 (1) Elliot Handler (2) Daniela Ullyett  
 (3) Ruth Handler (4) Ann Johnson
25. Names of which of the following airports were changed in 2002 to Raja Bhoj Airport and Veer Sawarkar Airport respectively ?  
 (1) Jaipur and Bhopal  
 (2) Indore and Bhopal  
 (3) Nagpur and Port Blair  
 (4) Bhopal and Port Blair
26. During April 2002, the five brightest planets visible from the Earth lined up to form a dramatic celestial array. Which of the following was *not* part of this array ?  
 (1) Jupiter (2) Saturn  
 (3) Venus (4) Uranus
27. Mohammad Zahir Shah, deposed monarch, returned to Afghanistan in April 2002 after —— years of exile in Italy.  
 (1) 26 years (2) 29 years  
 (3) 32 years (4) 35 years
28. Who among the following Indians has been elected as Chairman of the UN Panel on Climate Change ?  
 (1) Dr. S.R. Nadig  
 (2) Narendra Sharma  
 (3) Rajendra K. Pachauri  
 (4) M. Damodaran
29. Who among the following is the world's second space tourist ?  
 (1) Yuri Gidzenka  
 (2) Roberto Vittori  
 (3) Johnny Koroma  
 (4) Mark Shuttleworth
30. On the path of disinvestment, the Government of India has given the management control of IPCL to which of the following companies ?  
 (1) Indian Oil Corporation  
 (2) Tata Chemicals Ltd.  
 (3) IBP  
 (4) Reliance Industries



## TEST II

### ENGLISH LANGUAGE

*Directions for Questions 31 to 45. Read the two passages given below carefully. Each passage is followed by questions based on the contents of the passage. Answer the questions by selecting the best alternative from among those given in the questions.*

#### PASSAGE I

Anybody could be excused for slipping over bananas. But fighting over them? Consider the current spat between the EU and USA over the pulpy fruit. The EU imports about 3.75 million tonnes of this commodity every year, but restricts the supply from US companies to 2.35 million tonnes. The remainder is acquired largely from countries from Africa and South-east Asia, mostly from former colonies. US firms would like to increase their share and are prepared to supply bananas nearly 15 per cent cheaper than their competitors. However, they are constrained by banana quotas imposed by the EU.

The US has challenged these restrictions three times before the WTO, winning twice. The new ruling is expected soon. In 1996 and 1997 the WTO's Dispute Settlement Body ruled that the EU's quota barriers be dismantled. To arm twist, or to pre-empt this judgement, the US has declared a trade offensive against the EU. On 3rd March, it announced the use of the controversial Section 301 of the US Trade Act against 16 types of EU exports including biscuits, war products, fine woollen clothing, coffee percolators and more. These goods have been placed under a 100 per cent import duty regime. As it turns out, such EU exports as have been targeted by the US do not amount to much. In 1998, the value of such imports into the US was under \$ 600 million. Not surprisingly, the US administration has held out the threat of extending this regime to a wide range of dairy and agricultural products.

There is baser aspect to the story as well. The EU banana imports from African and Asian countries are primarily in the hands of Western firms who had established themselves as traders in the former colonies. In contrast, almost the entire US exports of bananas to the EU markets are controlled by just one business, Carl Linder's Chiqita Inc., and the two sides have been exerting great pressure on their respective governments.

On a surface view the conflict might mean little for India. While it is the largest producer of bananas involved — it trades little of that commodity internationally. Last year India exported a meagre 28 tonnes to the US, and 18 tonnes to EU. However, analysts and policy makers would do well to consider the spat from three perspectives. First, it sharply highlights the manner in which the industrialised countries violate and stretch the rules of the WTO whenever convenient. This reality is in complete contrast to the impression that these countries are the real upholders of the fine principles of international trade. Second, the US and the EU could use the banana precedent to bypass the WTO, or ignore it altogether, for many more goods and services. The US is also fretting for retaliatory action against the EU's ban on hormone-treated beef from the US, which itself could be extended to other genetically modified foods. It has also been fuming over the manner in which several large European airlines are subsidised by their respective governments. There are also signs of a long-lasting war over steel between the EU and the US, which will have a definite impact on producers in developing countries as well.

The third aspect is perhaps the most important. The arbitrary ways of banana war being used by the big boys of global trade are very often used against the developing countries as well. This is particularly true for imports of commodities, manufactures or services from the developing countries. In lip service to the WTO, the industrialised countries have reduced many of their general tariff barriers to imports from developing countries. In real content, exporters from developing countries repeatedly run non-tariff barriers including discretionary countervailing duties. Many of these barriers have to be combated not at the WTO but in the national courts of US and Western Europe, involving huge legal expenses. Indian exporters will readily testify that these non-tariff barriers are the biggest obstacles that they face in their business.

It is very much in the interest of India and other countries to make efforts to prevail upon the industrialised countries to conduct their trading practices entirely within the ambit of WTO. In this regard, the Indian Government's request to be granted third-party status in the US-EU dispute over bananas is a praiseworthy move.

31. This passage is most likely to be an excerpt from
- (1) a research paper on International Trade trends
  - (2) a communique from the US Trade Consulate
  - (3) the text of the EU Chairman's speech
  - (4) a business publication
32. The author's main aim is to
- (1) highlight the potential that exists for exporting bananas from India
  - (2) portray the grave portents for India and the developing world that conflicts like the one over banana exports to EU carry
  - (3) show that the WTO is an ineffective body
  - (4) show that advanced industrialised nations have scant respect for any international convention
33. The percentage of India's total produce of bananas that is exported is
- |         |                              |
|---------|------------------------------|
| (1) 28% | (2) 18%                      |
| (3) 21% | (4) not given in the passage |
34. According to the passage, the US is unhappy with the EU for
- (1) the ban that EU has put on hormone-treated American beef
  - (2) the subsidies given by European governments to their airlines
  - (3) the targetting of American exports by the US
  - (4) Both (1) and (2) above
35. The gravest fallout of the banana war could be that
- (1) the banana imports in EU from African countries could be badly hit
  - (2) Chiqita Inc. may bring severe lobbying pressure on the US government
  - (3) the unprincipled ways being used may be used against the developing countries to affect the imports of commodities, products and services from them
  - (4) a long lasting steel war between US and EU may get activated
36. Which is *not* mentioned as a serious trade dispute by the author, between the EU and the US ?
- (1) steel
  - (2) Genetically modified food
  - (3) Euro money
  - (4) Airlines
37. Which option, according to the author, are the industrialised countries using to restrict imports from the developing countries in lieu of tariff barriers ?
- (1) Discretionary non-tariff barriers
  - (2) Ordinance against imports from developing countries
  - (3) Specifying minimum quality criterion
  - (4) Specifying quantity criterion

## PASSAGE II

Getting the facts and thinking — that is a fairly good five-word definition of creativity. Every worthwhile thing in the world was created by getting the facts and thinking. Thinking is mental manufacturing. Facts are the raw materials. And the products are ideas, methods and things. Every improvement in civilization began in some man's brain. It was a thought before it became a thing.

The progress of every nation depends upon the development of thinkers — men who have creative thoughts. It does not at all depend on great armies because militarists have only destructive thoughts. An army is only an organization of men who are trained to kill and destroy.

The man who thinks of a better way to do some useful work — he is the man who ought to have the medals and honours. Some day, history will be re-written. It will tell the story of the creative men, not the destructionists. It will tell the story of thinking.

In every nation, in every business form and even in every small shop, success depends more upon ideas than upon any other thing. Every businessman should have more or less thinking time every week. A business that is run only by memory will soon be stuck fast in a rut. We must get facts and ideas from others, by reading and by conversation, and we should try to originate as many ideas as we can.

All this seems self-evident when it is written down, but the last thing that most men do is to get the facts and think. Edison had this sign hung up on the wall of his workshop — "It is remarkable to what lengths people will go to avoid thought." Some of us think, more of us think we think, and most of us don't even think of thinking. How many firms try to stimulate their employees to think — offer rewards for useful suggestions ? Not one out of twenty.

No firm can afford to pay attention only to the automaticity of its routine. Sooner or later, a thinking competitor will push ahead and leave it in the rear. There can be no progress without thought. The firm that wins is the one that gives the most time to getting the facts and thinking.

- 38.** Which of the following is true about thinking ?
- (1) Most people are fond of thinking
  - (2) Thinking improves memory
  - (3) People think only when in trouble
  - (4) Most people avoid thinking
- 39.** Which, according to the passage, is the most important competitive edge for a firm ?
- (1) Mechanisation
  - (2) Market knowledge
  - (3) Ideas
  - (4) Automation
- 40.** Which of the following should be followed by a businessman in order to be successful ?
- (1) Get all the ideas from his people
  - (2) Memorise every detail of his business
  - (3) Keep some time for thinking
  - (4) Try to automate operations
- 41.** According to the passage, when history will be re-written, which of the following will be the hero ?
- (1) Businessman
  - (2) Creative man
  - (3) Politician
  - (4) Military leader
- 42.** Which of the following, in the context of the passage, is a desirable course of action ?
- (1) Organisations should give reward for useful suggestions
  - (2) Routine matters should not be paid any attention
  - (3) Thinking men should hold administrative positions in the firm
  - (4) Irrational ideas should not be encouraged
- 43.** The two basic elements of creativity, as per the passage, are
- (1) Facts and thinking
  - (2) Thinking and rewards
  - (3) Thinking and ideas
  - (4) Facts and analysis
- 44.** According to the passage, which of the following is common among firms ?
- (1) They encourage ideas from all levels of employees
  - (2) All firms look for thinking employees
  - (3) Most of them do not provide incentives for good suggestions
  - (4) They do not pay attention to routine matters
- 45.** The main purpose of the above passage is to
- (1) Highlight the difference between individuals
  - (2) Develop skills of thinking
  - (3) Establish relationship between thinking and creativity
  - (4) Emphasise importance of thinking

*Directions for questions 46 to 50. Each of these questions consists of a capitalized word followed by 4 alternatives. From the given alternatives, choose the one that is most similar in meaning to the capitalized word.*

- 46.** ABASE
- (1) incur
  - (2) estimate
  - (3) elope
  - (4) humiliate
- 47.** BALEFUL
- (1) doubtful
  - (2) virtual
  - (3) deadly
  - (4) virtuous
- 48.** CHOLERIC
- (1) episodic
  - (2) global
  - (3) hot headed
  - (4) seasonal
- 49.** FULMINATE
- (1) fulfil
  - (2) contemplate
  - (3) talk nonsense
  - (4) protest loudly
- 50.** INDUBITABLY
- (1) flagrantly
  - (2) doubtfully
  - (3) carefully
  - (4) certainly

**Directions for questions 51 to 55.** These questions consist of a capitalized word followed by four alternatives. Select from among the alternatives, the word which is most nearly opposite in meaning to the capitalized word.

- |  |   |
|--|---|
| <p><b>51. LACONIC</b><br/>         (1) verbose (2) wicked<br/>         (3) flagrant (4) derelict</p>       | <p><b>54. DIMINUTION</b><br/>         (1) expectation<br/>         (2) validity<br/>         (3) appreciation<br/>         (4) difficulty</p> |
| <p><b>52. OBDURATE</b><br/>         (1) yielding (2) fleeting<br/>         (3) finite (4) permanent</p>    | <p><b>55. CAPTIOUS</b><br/>         (1) tolerant<br/>         (2) capable<br/>         (3) frivolous<br/>         (4) winning</p>             |
| <p><b>53. EXCORIATE</b><br/>         (1) scandalize (2) encourage<br/>         (3) praise (4) vanquish</p> |   |

**Directions for questions 56 to 60.** Each of the questions below consists of a sentence with one or two blank spaces. Each sentence is followed by four alternative sets of words. Choose the words or set of words from among the alternatives given, which when inserted in the sentence best fit(s) the meaning of the sentence.

- |  |  |
|--|--|
| <p><b>56.</b> The mind of the bigot is like the _____ of the eye, the more light you pour upon it the more it will _____<br/>         (1) cornea, blink (2) eyelid, veer<br/>         (3) eyeball, reflect (4) pupil, contract</p>   | <p><b>59.</b> No act of _____ was more pronounced than his _____ of any awards for his discovery.<br/>         (1) abeyance, renunciation<br/>         (2) submission, avarice<br/>         (3) egoism, portrayal<br/>         (4) abnegation, refusal</p>   |
| <p><b>57.</b> A _____ statement is an _____ comparison; it does not compare things explicitly, but suggests a likeness between them.<br/>         (1) sarcastic, unfair<br/>         (2) blatant, overt<br/>         (3) metaphorical, implied<br/>         (4) sanguine, inherent</p> | <p><b>60.</b> As _____ head of the company, he attended social functions and civic meetings, but had no _____ in the formulation of the company policy.<br/>         (1) titular, voice<br/>         (2) hypothetical, vote<br/>         (3) actual, say<br/>         (4) nominal, competition</p> |
| <p><b>58.</b> We must try to understand his momentary _____ for he has _____ more strain and anxiety than any among us.<br/>         (1) senility, understood (2) generosity, desired<br/>         (3) aberration, undergone<br/>         (4) anger, unvisioned</p>                    |  |

**Directions for questions 61 to 65.** In each of the following sentences, four words or phrases have been underlined. Choose the underlined word or phrase that has been used inappropriately.

- 61.** A man may like to go alone for a walk but hate to stand alone in his opinions.  
 (1) (2) (3) (4)
- 62.** The opposite of to skirt something is address directly or to deal directly.  
 (1) (2) (3) (4)
- 63.** Some firms merge to attain economy of scale, others to expand and diversify.  
 (1) (2) (3) (4)

64. The plane stood on its belly for a second, flipped down and came to rest on its spine.  
 (1) (2) (3) (4)
65. The task of educating children rests in the state, but others can make a contribution towards it.  
 (1) (2) (3) (4)

*Directions for questions 66 to 70. Find the odd man out among each of the following.*

66. (1) connoisseur (2) expert (3) gourmand (4) gourmet
67. (1) garnish (2) paint (3) adorn (4) banish
68. (1) summary (2) gist (3) precis (4) commentary
69. (1) illusive (2) chimeral (3) obvious (4) mirage
70. (1) guffaw (2) smirk (3) laughter (4) merriment

*Directions for questions 71 to 75. Each of these questions has a sentence with a highlighted word or phrase which can be correctly substituted by one of the alternative choices that follow the sentence. Choose the alternative which can most appropriately substitute the highlighted phrase, without changing the meaning of the sentence.*

71. He is naive, simple and **without deceit**; he cannot be guilty of fraud.  
 (1) guileless (2) clueless (3) ignorant (4) artless
72. The man was **hoary** and wrinkled when he was seventy.  
 (1) bent over (2) white with age (3) weak and feeble (4) enfeebled
73. The **delicate skill** and adroitness of the surgeon impressed all the observers in the operating room.  
 (1) exactitude (2) finesse (3) intricacy (4) sagacity
74. Her great fear was that she might **by oversight** omit a question on the exam and miscalculate her whole answer sheet.  
 (1) inalienably (2) inadvertently (3) improperly (4) impulsively
75. From the way the rich get away with everything, you might think we are a **society ruled by the wealthy** rather than a democracy.  
 (1) oligarchy (2) plutocracy (3) aristocracy (4) hierarchy

*Directions for questions 76 to 80. Each of these questions consists of a related pair of capitalized words, followed by four alternative pairs of words. Select the pair that best expresses a relationship similar to that expressed in the pair of capitalized words.*

76. AVER : AFFIRMATION  
 (1) proclaim : objection (2) demur : protest (3) nonplus : resistance (4) refuse : distress
77. DEFLECT : MISSILE  
 (1) defend : fortress (2) reflect : mirror (3) distract : attention (4) diversify : portfolio
78. GLINT : LIGHT  
 (1) whiff : scent (2) glare : sound (3) shade : colour (4) wave : tide
79. SCOTCH : RUMOUR  
 (1) divert : traffic (2) broach : topic (3) quash : riot (4) singe : fire
80. QUALIFY : PARTICULAR  
 (1) restrain : effusive (2) flout : arbitrary (3) mollify : agreeable (4) burnish : dull

**TEST III**  
**QUANTITATIVE APTITUDE**

- 81.** Rs. 275 is required to arrange a party for a cricket team of 11 players. What amount will be required if 2 umpires and 5 extra players are also to be invited to the party?  
(1) Rs. 400 (2) Rs. 410  
(3) Rs. 440 (4) Rs. 450.
- 82.** 5 men, 3 women and 8 boys share Rs. 580 between them. Each woman gets twice what each boy gets and each man gets what a boy and a woman get. How much does each man get?  
(1) Rs. 55 (2) Rs. 60  
(3) Rs. 64 (4) Rs. 75.
- 83.**  $100.5^2 - 99.5^2 = ?$   
(1) 0.50 (2) 1  
(3) 100 (4) 200
- 84.**  $1 - \left[ \frac{3}{4} \times \frac{7}{9} \text{ of } \left\{ 1 - \left( 1 - \frac{10}{3} \div 4 \frac{4}{9} \right) \right\} \right] = ?$   
(1) 0 (2) 1  
(3) 10 (4)  $\frac{11}{36}$
- 85.** The compound interest on a certain sum at 5% p.a. for 2 years is Rs. 102.50. What is the compound interest at 4% p.a.?  
(1) Rs. 75.00 (2) Rs. 79.60  
(3) Rs. 80.00 (4) Rs. 81.60
- 86.** What is the least number when divided by 35 leaves a remainder of 25 and when divided by 46 leaves a remainder of 35?  
(1) 115 (2) 210  
(3) 305 (4) 345
- 87.** Two equal glasses filled with mixtures of alcohol and water in the proportions of 2 : 1 and 1 : 1 respectively are emptied into a third glass. What is the proportion of alcohol and water in the third glass?  
(1) 7 : 5 (2) 7 : 3  
(3) 3 : 7 (4) 5 : 7
- 88.** To obtain 30% of a number, the number should be  
(1) multiplied by  $\frac{10}{3}$  (2) divided by  $\frac{100}{3}$   
(3) multiplied by  $\frac{3}{10}$  (4) divided by  $\frac{3}{10}$ .
- 89.** The average temperature of all 7 days of the week is  $30^\circ$  that of the first 3 days is  $28^\circ$  and of the next 3 days is  $31^\circ$ . What is the temperature on the last day of the week?  
(1)  $28^\circ$  (2)  $30^\circ$   
(3)  $31^\circ$  (4)  $33^\circ$
- 90.** How much above cost should the marked price be, if even after a discount of 10%, a profit of 10% is to be made?  
(1) 20% (2) 21%  
(3)  $22\frac{2}{9}\%$  (4)  $33\frac{1}{3}\%$
- 91.**  $\frac{(0.3)^2 + (0.03)^2}{(0.1)^2 + (0.01)^2} = ?$   
(1) 27 (2) 9  
(3) 3 (4) 0.3
- 92.** If the pass percentage at an examination is 35 and a candidate securing 150 marks fails by 25 marks, what is the maximum number of marks?  
(1) 400 (2) 500  
(3) 600 (4) 750
- 93.** What part of 1 sq m is 1 sq cm?  
(1)  $\frac{1}{100}$  th (2)  $\frac{1}{1000}$  th  
(3)  $100^{\text{th}}$  (4)  $10000^{\text{th}}$
- 94.** A's and B's investments in a business are in the ratio of 2 : 1. If A's share of the profit increases by Rs. 400 when the rate of profit increases from 5% to 10%, what is B's capital?  
(1) Rs. 4,000 (2) Rs. 6,000  
(3) Rs. 7,200 (4) Rs. 9,600
- 95.** When a rebate of 20% was given on cloth, the sales went up by 25%. What was the effect on receipts?  
(1) Same as before (2) Increased by 5%  
(3) Decreased by 5% (4) Increased by 1%
- 96.** Rs. 180 contained in a box is made up of Rs. 1, 50 p and 25 p coins in the proportion of 2 : 3 : 4. What is the number of 50 p coins?  
(1) 60 (2) 100  
(3) 120 (4) 150

97.  $1 - [8 + \{15 - (6 - 2 - 20)\}] = ?$   
 (1) 0 (2) 2  
 (3) 4 (4) 5
98. How long will a train 150 m long travelling at 40 kmph, take to pass a man walking in the same direction at 4 kmph ?  
 (1) 12.22 sec (2) 15 sec  
 (3) 18 (4) 20 sec
99. At how many minutes past 5 p.m. are the hands of a clock at right angles to one another between 5 p.m. and 6 p.m. ?  
 (1) 10 mins and 40 mins  
 (2)  $11\frac{1}{10}$  mins and  $43\frac{4}{11}$  mins  
 (3)  $10\frac{10}{11}$  mins  
 (4)  $43\frac{7}{11}$  mins and  $10\frac{10}{11}$  mins

100.  $8.32 \times 0.999 = ?$   
 (1) 0.831168 (2) 0.831866  
 (3) 8.31618 (4) 8.31168

101. A cricketer has an average score of 30 runs for 42 innings. His highest score exceeds his lowest score by 100 runs. If these 2 innings are excluded, his average is 28 runs. What was his highest score ?  
 (1) 120 (2) 125  
 (3) 100 (4) 105

102. What is the length of the longest rod which can be accommodated in a room 8 m long, 6 m broad and 10 m high ?  
 (1) 10 m (2)  $8\sqrt{2}$  m  
 (3)  $10\sqrt{2}$  m (4) 18 m

103.  $\frac{0.1}{0.3} : \frac{0.1}{0.2} :: \frac{1}{6} : ?$   
 (1)  $\frac{1}{5}$  (2)  $\frac{1}{4}$   
 (3)  $\frac{1}{3}$  (4)  $\frac{1}{2}$

104.  $\frac{8^2 \times 16^4}{2^{16}} = ?$   
 (1) 8 (2) 64  
 (3) 512 (4) 1024

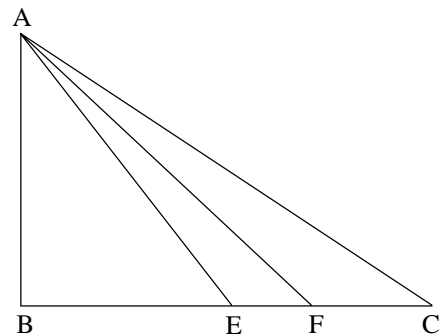
105. Two numbers are respectively 20% and 10% lower than the third. What percentage is the first number of the second ?

- (1) 45 (2) 50  
 (3) 66.67 (4) 88.88

106. 10% less students pass in Mathematics than in English. If totally 304 students pass in both the subjects, how many students pass in Mathematics ?

- (1) 112 (2) 114  
 (3) 144 (4) 176

107. If the figure below, ABC is right angled triangle with AB = 2 units and BC = 6 units;  $\angle CAF = \angle FAE$  and the area of the triangle ABE is equal to 2 sq units. What is the length of AF ?



- (1) 2 units (2) 4 units  
 (3)  $2\sqrt{5}$  units (4)  $\sqrt{41}$  units

108.  $\frac{\sqrt{5}}{\sqrt{5} + \sqrt{3}} = ?$

- (1) 0.4845 (2) 0.5635  
 (3) 1.581 (4) 4.4365

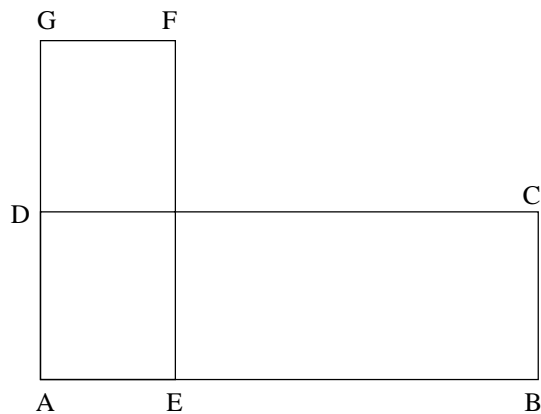
109.  $\frac{1848 \times 8604 + 7392 \times 349}{77 \times 24} = ?$

- (1) 100 (2) 500  
 (3) 1000 (4) 10000

110.  $X^6 = ?$

- (1)  $X^2 \cdot X^4$   
 (2)  $(X^3)^3$   
 (3)  $X^{2^2} \cdot X^2 \cdot X$   
 (4)  $X^3 \cdot X^2$

111. In the accompanying figure,  $AE = \frac{1}{2} BE$  and  $AD = \frac{1}{2} AG$ . What is the ratio of the areas of rectangle AEFG and ABCD ?



- (1) 1 : 2                      (2) 2 : 3  
 (3) 3 : 2                      (4) 4 : 9

112.  $0.01 \times 0.01 + 0.01 \times 99.99 = ?$

- (1) 0.01  
 (2) 0.1  
 (3) 1  
 (4) 100

113. What is the value of x if

$$2x - y = 20 \text{ and}$$

$$x - 2y = 4 ?$$

- (1)  $\frac{3}{16}$   
 (2)  $\frac{16}{3}$   
 (3) 6  
 (4) 12

114.  $\frac{1}{5} \div \frac{1}{5} \text{ of } \frac{1}{5} = ?$   
 $\frac{1}{5} \text{ of } \frac{1}{5} \div \frac{1}{5} = ?$

- (1) 1                              (2)  $\frac{1}{25}$   
 (3)  $\frac{1}{25}$                           (4) 25

115.  $\frac{\text{Rs.12 paisa } 20}{\text{Rs.36 paisa } 60}$  is equal to

- (1)  $\frac{1}{3}$                               (2)  $\frac{2}{3}$   
 (3)  $\frac{1}{2}$                               (4)  $\frac{2}{5}$

116. The wheels of a bus are 1 m in diameter. What is the number of revolutions made by the wheels per minute when the bus is travelling at 33 kmph ?

- (1) 175                              (2) 200  
 (3) 1050                            (4) 1750

117.  $0.1 \times 0.1 + 0.99$  is equal to

- (1) 0.01                            (2) 2  
 (3) 0.109                          (4) 1

118. A man covers 'd' miles in 't' hours. At that rate how long (in hours) will it take him to cover 'm' miles ?

- (1) dmt                              (2)  $\frac{mt}{t}$   
 (3)  $\frac{mt}{d}$                               (4)  $\frac{dt}{m}$

119. In a right triangle ABC, if  $\angle A > \angle B$  and  $\angle B > \angle C$  then

- (1)  $\angle C > 45^\circ$                       (2)  $\angle B = 90^\circ$   
 (3)  $\angle A = 170^\circ$                       (4)  $\angle A = 90^\circ$

**Directions :** For questions 120 to 124 refer to the following table.

Relative sweetness of different substances	
Lactose	0.16
Maltose	0.32
Glucose	0.74
Sucrose	1.00
Fructose	1.70
Saccharin	67.50



120. About how many times sweeter than lactose is fructose ?

- (1) 0.09                      (2) 0.1  
(3) 1.86                      (4) 10.6

121. What per cent increase in sweetness is obtained by substituting equal amounts of maltose for lactose ?

- (1) 16                              (2) 50  
(3) 100                          (4) 200

122. How many grams of sucrose (to the nearest gram) must be added to one gram of saccharin to make a mixture that will be 100 times as sweet as glucose ?

- (1) 7                                (2) 8  
(3) 9                                (4) 10

123. What is the ratio of glucose to lactose in a mixture as sweet as maltose ?

- (1) 8 : 21                      (2) 21 : 8  
(3) 25 : 9                      (4) 29 : 8

124. Approximately how many times sweeter than sucrose is a mixture of glucose, sucrose and fructose in the ratio of 1 : 2 : 3 : ?

- (1) 0.6                              (2) 1  
(3) 1.3                              (4) 2.9

125. The expression  $\frac{6}{x} \div \frac{3}{x}$  is equivalent to

- (1)  $\frac{1}{2}$                               (2)  $2x$   
(3)  $\frac{x^2}{18}$                           (4) 2

126. Using formulae  
Circumference =  $2\pi r$   
Area =  $\pi r^2$

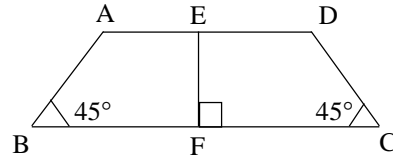
where  $r$  = radius, find the area of a circle whose circumference is  $x$ .

- (1)  $\pi x^2$                       (2)  $\frac{x^2}{4\pi^2}$   
(3)  $\frac{x^2}{4\pi}$                           (4)  $\pi x$

127. C is the midpoint of line AE. B and D are on line AE so that AB = BC and CD = DE. What per cent of AC is AD ?

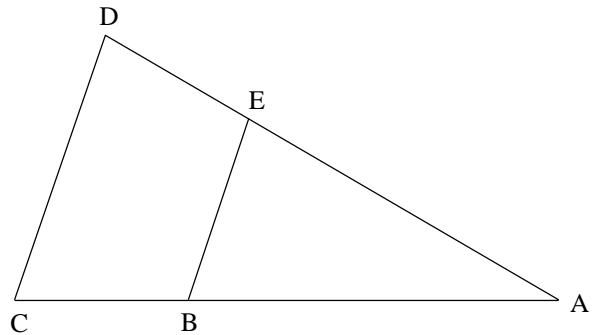
- (1) 33  
(2) 50  
(3) 133  
(4) 150

128. AD = 14, EF = 6, BC = ?



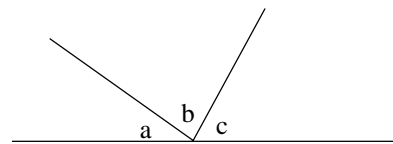
- (1) 8                                  (2) 12  
(3) 20                              (4) 26

129. BA = 2BC  
BE = 14  
EA = 2DE  
DC = ?



- (1) 7                                  (2) 18  
(3) 21                              (4) 24

130. Angles a, b, c are in ratio of 1 : 3 : 2. How many degrees is angle b ?



- (1) 30°                              (2) 50°  
(3) 90°                              (4) 100°

## TEST IV REASONING

**Directions for questions 131-134.** Consider the following information

Seven offices in an office building are to be painted. The offices, which are on one side of a hallway, are numbered consecutively, one to seven, from the front of the building to the back. Each office is to be painted one colour only according to the following conditions:

- (i) Two offices must be painted white; two offices must be painted blue; two offices must be painted green; and one office must be painted yellow.
- (ii) The two offices painted green must be next to each other.
- (iii) The two offices painted blue cannot be next to each other.
- (iv) The office painted yellow cannot be next to an office painted white.
- (v) Office 3 must be painted white.

**131.** If office 2 is painted green, which of the following offices must also be painted green?

- (1) 1
- (2) 3
- (3) 4
- (4) 5

**132.** If office 5 is painted white, which of the following could be true?

- (1) Office 2 is painted yellow
- (2) Office 4 is painted green
- (3) Office 4 is painted yellow
- (4) Office 6 is painted blue

**133.** If office 4 is painted white and an office that is painted green is next to an office that is painted white, which of the following must be true?

- (1) Office 1 is painted yellow
- (2) Office 5 is painted blue
- (3) Office 6 is painted yellow
- (4) Office 7 is painted blue

**134.** Which of the following conditions, when combined with the original conditions, has the consequence of completely determining the colour that each office is painted?

- (1) Office 6 must be painted white
- (2) Office 1 must be painted yellow
- (3) Office 1 must be painted green
- (4) Office 4 must be painted blue

**Directions for questions 135–139.** Unscramble the letters in the following words and find the odd man out.

**135.** (1) OLOTLABF                      (2) YKEOCH  
(3) TBAMNDONIO                (4) TASL

**136.** (1) DOLNNO                      (2) OLMOBOCO  
(3) IAFOS                            (4) LOOHSC

**137.** (1) RGAEN                        (2) RDHATE  
(3) LCENPI                        (4) WROOSR

**138.** (1) SHAPSNI                      (2) MNALIA  
(3) TIINLAA                        (4) CFENRH

**139.** (1) RICHA                         (2) TISHR  
(3) BLATE                         (4) EDB

**140.** My watch is 8 minutes slow and my train leaves at 10:45, but it is 5 minutes late. I reached the station at 10:45 by my watch.

- (1) I am just in time
- (2) I missed the train by 3 minutes
- (3) I have to wait for 13 minutes
- (4) I have to wait for 3 minutes

**141.** Which number should replace both the question

marks in  $\frac{49}{?} = \frac{?}{64}$

- (1) 28
- (2) 38
- (3) 48
- (4) 56

**142.** If  $x$  is less than 10 and  $y$  is less than 30, it follows that

- (1)  $y$  is greater than  $x$       (2)  $y$  is equal to  $x$   
(3)  $x$  is equal to  $\frac{1}{3}y$       (4)  $x + y$  is less than 40

**143.** One number is wrong in the following series. Find out the *wrong* number.

- 4, 10, 28, 82, 243  
(1) 10                                      (2) 28  
(3) 82                                      (4) 243

**Directions for questions 144 – 147.** In each of the following groups of letters, three follow a particular pattern while one does not. Find the odd one out.

**144.** (1) MNO                                      (2) NOP  
(3) PQR                                      (4) RQP

**146.** (1) EV                                      (2) IZ  
(3) WX                                      (4) AF

**145.** (1) IF                                      (2) ZX  
(3) TR                                      (4) OM

**147.** (1) QRP                                      (2) IOU  
(3) TUS                                      (4) KLJ

**Directions for questions 148 – 153.** Consider the following information.

The consumer complaint department of a firm employs exactly six people who answer letter : G, H, I, J, K and L. Every complaint letter received by the department is classified as either red or blue. The following procedures for answering the letters are used :

- (a) Red letters are given first to G or H.  
(b) Blue letters are given first to any one of the following : G, J or I.

If a letter raises a problem that cannot be resolved by the persons to whom it is given, it must be forwarded until it reaches someone who can resolve the problem and answer the letter. A letter must be forwarded as follow :

- (i) By G to I if the letter is red, but to J if the letter is blue;  
(ii) By H to either G or I  
(iii) By I to J if the letter is red, but to K if the letter is blue;  
(iv) By J to either I or K whether the letter is red or blue;  
(v) By K to L whether the letter is red or blue;  
(vi) L answers every letter given to him.

**148.** Any of the following can be true *except*

- (1) G forwards a red letter to I  
(2) H forwards a red letter to G  
(3) H forwards a red letter to I  
(4) I forwards a red letter to K

**151.** Which of the following could be given to each of the six members of the consumer complaint department in turn ?

- (1) A red letter that is first given to H  
(2) A red letter that is first given to G  
(3) A blue letter that is first given to G  
(4) A blue letter that is first given to I

**149.** A blue letter could reach L via which of the following sequences of people ?

- (1) G to H to K                                      (2) G to I to J  
(3) G to J to K                                      (4) I to H to J

**152.** Any letter that reaches L must have been given to a minimum of how many members of the consumer complaint department before reaching L ?

- (1) 1  
(2) 2  
(3) 3  
(4) 4

**150.** Any letter that reaches L must have been previously given to

- (1) K                                      (2) G  
(3) H                                      (4) I

153. If a member of the consumer complaint department is given a letter that he or she had previously given to some other member of the department, the person who is given the letter a second time could be

- (1) G (2) H  
(3) J (4) K

154. 20% of a number when added to 20 becomes the number itself. Find the number.

- (1) 20 (2) 25  
(3) 50 (4) 80

155. A boy was asked to multiply a number by  $\frac{5}{7}$

Instead, he divided the number by  $\frac{5}{7}$  and got the

answer  $\frac{25}{5}$  more than what he should have got if he

had multiplied the number by  $\frac{5}{7}$ . The number is

- (1) 5 (2) 7  
(3) 17 (4) 24

**Directions for questions 156–159.**

Two children are playing a game with marbles of three colours — white, blue and red. One child calls ‘one’, ‘two’, ‘three’ and ‘four’; when he calls ‘one’ the other child puts one white marble in a box, when he calls ‘two’ one marble of blue colour is put in the box and when he calls ‘three’ one red coloured marble is put in the box. On calling ‘four’ one white and one blue marble is taken out from the box. The numbers called are in the following sequence:

1 2 3 3 2 1 4 2 3 1 4 2 2 3 3 1 4 1 1 3 2 3 4

156. How many marbles will be in the box when all the numbers have been called?

- (1) 8 (2) 9  
(3) 10 (4) 11

158. How many white coloured marbles were in the box at the end of the game?

- (1) 2 (2) 5  
(3) 7 (4) 9

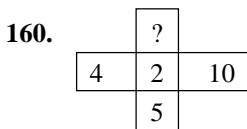
157. How many blue coloured marbles were in the box at the end of the game?

- (1) 1 (2) 2  
(3) 3 (4) 4

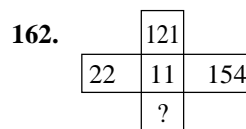
159. How many red coloured marbles were in the box at the end of the game?

- (1) 7 (2) 9  
(3) 11 (4) 13

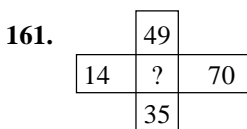
**Directions for questions 160–163.** Numbers in questions 160 to 163 follow the same arrangement. Find out the missing number. (Study the pattern in all the four questions before attempting the answers)



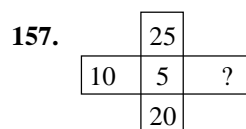
- (1) 12 (2) 4  
(3) 6 (4) 7



- (1) 1 (2) 77  
(3) 308 (4) 33



- (1) 7 (2) 84  
(3) 42 (4) 21



- (1) 20 (2) 15  
(3) 30 (4) 40

164. If  $5.4 = 2025$   
 $3.2 = 69$   
 $1.4 = 41$

then the value of 2.1 is

- (1) 42 (2) 24  
(3) 12 (4) 21

165. If  $12.14 = 76$   
 $20.12 = 610$   
 $4.8 = 42$

then the value of 16.8 is

- (1) 42 (2) 36  
(3) 84 (4) 48

166. If  $5 \times 4 = 171$   
 $15 \times 6 = 189$   
 $7 \times 16 = 207$

then the value of  $5 \times 4$  is

- (1) 9  
(2) -9  
(3) 11  
(4) 216

**Directions for questions 167 – 170.** Read the passage given below and answer the questions that follow.

Four girls — A, B, C and D have studied French, German, Persian and Russian. Each girl has studied two languages and each language has been studied by two candidates only. A and B do not know Persian. C and D do not know French. A and C do not know Russian.

167. Which two languages does 'A' know ?

- (1) German and Russian  
(2) French and Persian  
(3) French and German  
(4) Russian and French

169. Which two candidates know Russian ?

- (1) B and D  
(2) B and C  
(3) C and D  
(4) A and C

168. Which two languages does 'C' know ?

- (1) Russian and German  
(2) German and Persian  
(3) German and French  
(4) French and Russian

170. Which two candidates know German ?

- (1) B and A  
(2) A and D  
(3) C and D  
(4) A and C

**Directions for questions 171 – 175.** Unscramble the letters in the following words, form a sentence/question, and find the last word of the same.

171. (1) NIME (2) SSRED  
(3) TSIH (4) SI

172. (1) OTO (2) TI  
(3) SI (4) ALET

173. (1) HET (2) HES  
(3) ZIPER (4) NOW

174. (1) PISSATUR  
(2) YM  
(3) SI  
(4) RINFED

175. (1) TI (2) IDD  
(3) UOY (4) EKIL

**Directions for questions 176 – 179.** Consider the following information.

Seven meetings — J, K, L, M, N, O and P — are to be scheduled, one on each day of a week that begins on Sunday.

- (i) Meeting J must take place on Sunday.
- (ii) Meeting K must take place after both meeting L and meeting M.
- (iii) Meetings N, O and P must take place on three consecutive days, not necessarily in that order.

**176.** Which is the latest day of the week on which meeting L can take place ?

- (1) Tuesday
- (2) Wednesday
- (3) Thursday
- (4) Friday

**177.** Which of the following must be true about the order of meetings ?

- (1) L takes place after J
- (2) L takes place after O
- (3) N takes place after O
- (4) N takes place after P

**178.** If meeting O is on Saturday, then meeting K must take place on

- (1) Monday
- (2) Tuesday
- (3) Wednesday
- (4) Friday

**179.** Which of the following represents a possible ordering of meetings on three consecutive days ?

- (1) POM
- (2) JMK
- (3) KLO
- (4) MNJ

**180.** A man moves 4 kms towards east and turns to his right 2 kms. He now turns to west 8 kms and then turns to his right 2 kms. How far is he from the starting point ?

- (1) 16 kms
- (2) 8 kms
- (3) 4 kms
- (4) 6 kms

**Directions for questions 181 – 184.** Consider the following information.

Eight adjacent offices completely enclose a circular central courtyard. The offices are numbered consecutively, beginning at one for the offices with 1 and proceeding clockwise to 8. Eight junior executives — J, K, L, M, N, O, P and R — are to occupy the offices, one to an office. The assignment of offices is subject to the following restrictions:

- (i) J is allowed first choice of any of the offices.
- (ii) K and P must be assigned to adjacent offices.
- (iii) L and P must be assigned to adjacent offices.
- (iv) M and O must be assigned to adjacent offices.
- (v) M and N cannot be assigned to adjacent offices.
- (vi) O is assigned to office 2 unless J chooses it; in that case, O will be assigned to office 3
- (vii) K is assigned to office 7 unless J chooses it; in that case, K will be assigned to office 5.

**181.** Which of the following is an assignment of executives to offices, beginning with office 1 and proceeding consecutively to office 8, that conforms to the restrictions above ?

- (1) J, O, M, R, L, P, K, N
- (2) J, R, O, M, L, P, K, N
- (3) M, O, N, K, P, L, R, J
- (4) M, O, R, J, L, K, P, N

**182.** If J chooses office 8, which of the following must be true ?

- (1) L is assigned to office 5
- (2) M is assigned to office 1
- (3) M is assigned to office 3
- (4) N is assigned to office 1

**183.** P could be assigned to which of the following offices ?

- (1) 1
- (2) 2
- (3) 3
- (4) 4

**184.** If N is assigned to office 5, which of the following can be true ?

- (1) M is assigned to office 4
- (2) O is assigned to office 3
- (3) P is assigned to office 1
- (4) R is assigned to office 6



- 192.** What is the code letter for A ?  
(1) P (2) R  
(3) Y (4) Z
- 193.** What is the code letter for E ?  
(1) C (2) F  
(3) I (4) L
- 194.** What is the code letter for U ?  
(1) O (2) S  
(3) C (4) K
- 195.** What is the code letter for N ?  
(1) G (2) O  
(3) T (4) R
- 196.** What is the code letter for O ?  
(1) K (2) O  
(3) S (4) E
- 197.** Which of the following could possibly be the code word for WET ?  
(1) CXG (2) CUY  
(3) PCS (4) RSC
- 198.** Which of the following could possibly be the code word for CURE ?  
(1) SCAI (2) CISO  
(3) KSCL (4) LOSK
- 199.** Which of the following words could TOS denote ?  
(1) NUN (2) RUN  
(3) RUT (2) ROT
- 200.** Which of the following words could EPB possibly denote ?  
(1) LAW (2) CAT  
(3) OWL (4) WOO



# OPENMAT (XIV) ENTRANCE TEST FOR MANAGEMENT PROGRAMMES 2004

## TEST I GENERAL AWARENESS

1. Match List I (Person) with List II (Well known as) and select the correct answer, using the codes given below the lists :

*List I*  
(Person)

- I. Karun Chandok  
II. Mira Nair  
III. Nirad C. Chaudhary  
IV. Ronu Mazumdar

*List II*  
(Well known as)

- A. Filmmaker  
B. Motor race sportsperson  
C. Musician  
D. Writer

**Codes:**

- (1) I-C, II-A, III-D, IV-B (2) I-C, II-D, III-A, IV-B  
(3) I-B, II-D, III-A, IV-C (4) I-B, II-A, III-D, IV-C

2. Who among the following was the winner of the Booker Prize for the book 'Disgrace'?

- (1) Arundhati Roy (2) Amitav Ghosh  
(3) Ian McEwan (4) J.M. Coetzee

3. During the Mughal period which traders were the first to come to India?

- (1) Portuguese (2) Dutch  
(3) Danish (4) English

4. With reference to Indian Parliament, consider the following statements :

- I. A member of Lok Sabha cannot be arrested by police under any case when the Parliament is in session.  
II. Members of the Indian Parliament have the privilege of exemption from attendance as witnesses in the law courts.

Which of these statements is/are correct?

- (1) I only (2) II only  
(3) Both I and II (4) Neither I nor II

5. Who are popularly known as 'Lokahitwadi'?

- (1) G.G. Agarkar (2) R.G. Bhandarkar  
(3) M.G. Ranade (4) G.H. Deshmukh

6. In the context of Panchayati Raj, which one of the following is true about Gram Sabha?

- (1) This is the topmost tier of the Panchayati Raj.  
(2) It consists of all the voters residing in the jurisdiction of a Village Panchayat  
(3) It is the executive body consisting of selected representatives from Village Panchayat  
(4) It consists of all adult males of the Village Panchayat

7. The decimal system was first known in India at the beginning of

- (1) 2nd century AD (2) 3rd century AD  
(3) 4th century AD (4) 5th century AD

8. With reference to Indian Freedom Struggle, consider the following statements :

- I. C.R. Das and Motilal Nehru formed the Congress Khilafat Swarajya Party.  
II. In 1919, Gandhiji was elected President of the Khilafat Conference.  
III. The Communist Party of India was banned by the Government in 1934.

Which of these statements is/are correct ?

- (1) I and II (2) II only  
(3) I and III (4) I, II and III

9. Consider the following events :

- I. Gandhi-Irwin Pact  
II. First Round Table Conference  
III. Simon Commission  
IV. Poona Pact

The correct chronological order of these events is

- (1) I, IV, III, II (2) II, I, III, IV  
(3) III, II, I, IV (4) II, III, I, IV

10. Who among the following Delhi Sultans is known for introducing market control mechanism ?

- (1) Iltutmish (2) Balban  
(3) Alauddin Khilji (4) Feroze Tughlaq

11. Rabindranath Tagore returned the title of Knighthood to the British Government to protest against the

- (1) Rowlatt Act of 1919  
(2) Introduction of Diarchy in the provinces  
(3) Partition of Bengal  
(4) Massacre in Jallianwalla Bagh

12. Consider the following events :

- I. American War of Independence  
II. Industrial Revolution  
III. French Revolution  
IV. Russian Revolution

The correct chronological sequence of these events is

- (1) II, I, III, IV (2) I, II, III, IV  
(3) IV, II, I, III (4) III, IV, II, I

13. Which one of the following mountain peaks of the Himalayas is **not** in India ?  
 (1) Annapurna (2) Nanda Devi  
 (3) Mt. Kamet (4) Kanchenjunga
14. Match List I (Type of Natural Region) with List II (Area Associated with the Natural Region) and select the correct answer using the codes given below the lists :
- | <i>List I</i><br>(Type of Natural Region) | <i>List II</i><br>Area Associated with the<br>Natural Region) |
|---|---|
| I. Dry Continental                        | A. Brazil   |
| II. Humid Subtropics                      | B. British Isles  |
| III. Marine West Coast                    | C. Canada   |
| IV. Subarctics                            | D. China  |
|   | E. Mongolia   |
- Codes :**  
 (1) I-B, II-D, III-B, IV-C  
 (2) I-B, II-C, III-A, IV-E  
 (3) I-B, II-C, III-A, IV-C  
 (4) I-E, II-C, III-B, IV-D
15. Consider the following statements :
- I. Troposphere varies in its thickness between Equator and Poles.
  - II. Stratosphere does not experience Normal Lapse Rate.
  - III. Ozone layer occurs in the Mesosphere.
  - IV. Ionosphere lies between Stratosphere and Mesosphere.
- Which of these statements are correct ?  
 (1) I and II (2) II and III  
 (3) II and IV (4) I, II and IV
16. Winter rains in north and north-west India are generally associated with the phenomenon of  
 (1) retreating monsoon  
 (2) temperate cyclones  
 (3) local thunderstorms  
 (4) shift in jet stream movement
17. Sal is a very important tree of  
 (1) Tropical dry deciduous forest  
 (2) Tropical rain forest  
 (3) Thorn forest  
 (4) Alpine forest
18. Water rises to a height of 15 cm in a capillary tube. If the tube is now dipped further in water so that only 12 cm of it is above the water level, then water will  
 (1) emerge as a fountain from the capillary tube  
 (2) stay at a height of 12 cm in the capillary tube  
 (3) stay at a height less than 12 cm in the capillary tube  
 (4) flow down the side of the capillary tube
19. When the moon is near the horizon, it appears bigger because of  
 (1) atmospheric refraction  
 (2) scattering of light  
 (3) diffraction  
 (4) total internal reflection
20. The image formed on the retina of a human eye is  
 (1) virtual and inverted (2) virtual and erect  
 (3) real and erect (4) real and inverted
21. If a clock based on oscillating pendulum is taken from the earth to the moon, it will  
 (1) become slow  
 (2) become fast  
 (3) give same time as on the earth  
 (4) stop working
22. The purest form of iron is  
 (1) cast iron (2) pig iron  
 (3) steel (4) wrought iron
23. Consider the following :  
 I. Blood  
 II. Bone  
 III. Ligaments  
 IV. Tendons
- Which of these are connective tissues ?  
 (1) III, II, III and IV (2) I and II  
 (3) I, III and IV (4) II and IV
24. Who among the following persons has been honoured with the Royal Order of the Polar Star by the Swedish Government in April, 2003 ?  
 (1) Ravi Uppal  
 (2) Anil Ambani  
 (3) Kumaramangalam Birla  
 (4) S.K. Singhanian

25. World Heritage Day was observed on  
 (1) April 26, 2003      (2) April 18, 2003  
 (3) April 12, 2003      (4) April 5, 2003
26. The 19th International Ramayana Conference was held in April 2003 in Lusaka, which is the capital of  
 (1) Nigeria                      (2) Morocco  
 (3) Zambia                      (4) Namibia
27. Which of the following films won six Oscar Awards, including the Best Film at the 75 Annual Academy Awards?  
 (1) Chicago                      (2) The Pianist  
 (3) The Hours                      (4) Adaptation
28. Which of the following statement about INSAT-3A which was launched by India in April, is *not* true ?  
 (1) It will support telecommunications, broadcasting and weather forecasts  
 (2) It has 25 transponders which will help bounce signals to and from the earth  
 (3) It was launched from Kourou, French Guyana  
 (4) It will be in service for 15 years after being placed in its final geo-stationary orbit
29. According to the World Economic Outlook Report released by International Monetary Fund (IMF) in April 2003, the growth projection for India for 2003 and 2004 are \_\_\_\_\_ and \_\_\_\_\_ respectively.  
 (1) 5.1 per cent; 5.9 per cent  
 (2) 4.7 per cent; 5.5 per cent  
 (3) 6.5 per cent; 6.0 per cent  
 (4) 6.5 per cent; 7.0 per cent
30. Who among the following was the commander in charge of the allied forces in Iraq ?  
 (1) Hans Blix                      (2) Peter Williams  
 (3) Tommy Franks                      (4) Alexander Graham

## TEST II

### English Language

*Directions for Q. Nos. 31 to 45. Given below are two passages (I and II) followed by the questions based on the contents of the passages. Answer the questions based on the contents of the passage.*

#### PASSAGE I

We are constantly told that information technology will take us to a gleaming, gigabyte infested other world called Cyberspace. Baloney ! The Industrial Revolution did not take us to Motorspace; it brought motors into our lives. The Information Revolution will do the same, introducing new tools which we will use to serve our ancient human needs. This new movement is not about multimedia, virtual reality or even the mighty World Wide Web. It is about an emerging information marketplace in which computers and their users everywhere will buy, sell and freely exchange information and “information work”.

When people talk about information they think of the traditional content of books, newspapers, television and radio which represent about 5% of the U.S. economy. No one talks about information work — the activity people and machines perform when they transform information which accounts for 60% of the U.S. economy. Information work will take many guises in the information marketplace. Imagine a doctor in Sri Lanka examining a homeless person in a San Francisco clinic who is connected by means of a few electrodes to a diagnostic kiosk with a nurse standing by. The doctor provides human information work — his medical diagnostic skill for \$2.00 a visit. The information marketplace will bring this and many other new tools into our lives through electronic bulldozers and electronic proximity.

In the industrial era, mechanical bulldozes allowed workers to throw away their shovels and offload their muscle work on machines. Today we squint our eyes and scorch our brains in front of inscrutable mail headers and pages of impenetrable text. We are still shovelling with our eyes and brains but dismiss the drudgery because our silicon-studded shovels make us feel modern. It is time we shed the shovels and exploited electronic bulldozers.

New tools like e-forms will make this easier than it sounds. To fill in a travel-form for example, all I have to type or say out loud is “Computer take us to Athens this weekend”. My machine knows that us means two and that we prefer business class. It calls the airline computer and after a few exchanges, the machines complete the booking. It takes me three seconds to give my command and it takes the machines ten minutes to finish the job — a 20,000% productivity gain. Electronic bulldozer tools like this will get much of our information work done. We will increase our productivity further by making our machines truly easier to use. One good way is to speak to them. Speech understanding systems are finally becoming technologically mature and affordable.

The changes arising from the second major new force — electronic proximity will be just as large. As the information marketplace develops we will be closer to a thousand times more people than we were with the automobile. Within a decade, half a billion people and machines will be squeezed into one gigantic electronic city block. The closeness will lead to powerful

benefits through groupwork and telework but also to info predators and new kinds of crimes. I don't expect the ratio of good to bad will change; the angels and devils are within us, not in our machines.

Electronic proximity will strengthen tribalism. Ethnic groups scattered across the globe will have a way to unite, perhaps even extending the meaning of a nation from a land mass to an ethnic network. At the same time, electronic proximity will strengthen diversity, because when people from different ethnic groups meet within a "tribe" of classical music buffs for example, they will get to know one another within that subgroup. This won't lead to a universal global culture but a thin veneer of shared norms. It will also give rise to new projects that have worthy human purposes like a Virtual Compassion Corps which could match the providers of human help with those worldwide who need it. Electronic proximity will ultimately lead to increased democratization not so much because information will traverse national borders but because even totalitarian nations will want to participate in the major new economic force of the 21st century. To do so they will have to play by the rules of engagement made by the predominantly democratic nations that will establish information marketplace.

The information marketplace will create problems too. Unless we intervene, it will increase the gap between rich and poor nations because the rich will be able to afford the electronic bulldozers while the poor will not. Electronic proximity will inundate us with info junk, creating a need for human intermediaries who can help us find what we want. And electronic proximity will be perceived by some as a license to attack cultures that took thousands of years to build. National leaders will not doubt use politics and technology to protect their cultures against such info-assaults. They will also need to negotiate how to handle cross border information violations as they did earlier with international crime and trade. Because of the widespread changes it will foster, the Information Revolution will earn its place in history as the socio-economic movement, following Agrarian and Industrial Revolution. May be then, having understood the plough, the motor and the computer, we will dare to go beyond artifacts and embark upon the fourth revolution — striving to understand ourselves.

31. According to the passage, if the information marketplace develops, how many times more people are we likely to be closer to ?
- (1) Hundred times
  - (2) Thousand times
  - (3) Twenty thousand times
  - (4) Ten thousand times
32. Which of the following will *not* be strengthened by electronic proximity ?
- (1) Tribalism
  - (2) Democratization
  - (3) Diversity
  - (4) Universal global culture
33. As inferred from the passage, the first major socio-economic movement was
- (1) Industrial Revolution
  - (2) Information Revolution
  - (3) Agrarian Revolution
  - (4) Electronic Revolution
34. Which of the following is *not* true, according to the passage ?
- (1) Travel e-form gives a productivity gain of 20,000%
  - (2) We have not fully understood ourselves
  - (3) Books, TV and Radio account for 5% of the US economy
  - (4) Within a decade half a billion people will form an electronic city block
35. In the passage, the author wishes to go to
- (1) Rome
  - (2) San Francisco
  - (3) Athens
  - (4) Sri Lanka
36. The fourth revolution will concern
- (1) Virtual compassion
  - (2) Mastering the mystery of life and death
  - (3) Self discovery
  - (4) Overcoming the gap between poor and rich
37. According to the passage the information technology movement is all about
- (1) advent of World Wide Web in our lives
  - (2) fulfilling our needs more productively
  - (3) an emerging information marketplace
  - (4) virtual reality
38. One good way to increase our productivity would be to
- (1) use electronic bulldozers
  - (2) use voice activated machines
  - (3) use electronic forms for everyday life
  - (4) create universal work cultures

## PASSAGE II

Dr. D'Costa died twice. The first time was in an ambulance as he rushed to the hospital after suffering a heart attack. His heart had stopped beating for several minutes before the paramedics were able to revive him. Afterwards, he described a vision he had as he lay without a pulse in the speeding ambulance. He saw his brother Joe, who had passed away some years earlier, dressed in flowing white robes sitting on a kind of throne at the top of a hill. As Dr. D'Costa approached, Joe was laughing uproariously and waiving his hand, urging him to turn around and go back. The second time Dr. D'Costa died was about three years later. Again it was his heart that failed him. This time, though his brother Joe wasn't there to wave him back to this world.

Dr. D'Costa encountered in the back of that ambulance was a classic example of a near death experience (NDE). According to statistics compiled by the International Association for Near-Death Studies, some 35 – 40% of people who have had a close brush with death later report a NDE. They commonly tell of a feeling that the self has left the body, a sensation of moving through a dark space or tunnel, a vision of golden or white light and the receipt in some form of the message "your time has not yet come".

Are NDEs evidence for life after death or are they just the last, desperate projections of the dying brain? While modern science can explain why we age, it tells us very little about why we die, much less about what happens, if anything, after death. "In death, science is pitted against an impenetrable information barrier", says David Darling, an astronomer and physicist who has written several books on death and dying. "When we die, each of us makes a solo flight across that barrier and gives up all possibility of sending back news of what we find."

Many people don't require hard evidence about what's on the other side. They are satisfied with the explanations provided for millennia by the world's religions. But for those not blessed with religious faith, science may never be able to prove whether the NDE is a news flash from the hereafter or just one of the mind's grandest illusions. Darling suggests, there are two events that approximate death; the near death experience itself and memory loss suffered by victims of Alzheimer's disease and traumatic brain injury. "Losing your memory is perhaps as close as we can come to death without actually dying", he says. "The person is dead because the memories are gone. And memories are the only things that give meaning and identity to our lives."

If the difference between life and death is a question of memory, could death's sting be parried by replacing the fragile human memory with an infallible computerized one? In his book, 'Design for Dying' completed earlier this year before he died from prostate cancer, psychologist and LSD guru Timothy Leary explored various strategies for achieving immortality. One of the most promising tactics, he suggested is to transfer an individual's consciousness into a supercomputer before death. This could be done by using multimedia technologies (video, audio, CDs) to record all your thoughts, feelings and experience onto a computer equipped with artificial intelligence. The result — a real life ghost in the machine. Endowed with all your memories, the new computerized you would be able to chart and interact with people just as you would — except it would be doing so long after you had died.

The idea is not as far out as it seems. According to Chris Winter, Peter Cochrane and Ian Pearson, futurologists at British Telecom's Advanced Research Department, computers (or soulcatchers) with storage and processing capacities equivalent to the human brain, will be developed within the next 20 years. "We will be able to transfer human minds into some machine form", says Pearson. Perhaps our only chance of making full use of such technology is to become part of the technology itself.

But are these imitations of immortality real? The silicon soul described by Leary is actually not a captured consciousness at all, but an elaborate interactive home video of history. As useful and entertaining as that might be, it's a far cry from life after death. And how big an improvement is it over, say, the good old-fashioned book? We can already make contact with some of the world's great lost simply by dipping into the novels of James Joyce or the poems of John Donne.

In his book 'Dancing on the Grave', British anthropologist Nigel Barely describes a trip to Africa during which a group of tribal elders explain their idea of reincarnation by visiting a local brewery. You could see returned bottles through a plate glass window, Barely writes, entering via one door, whirling from machine to machine being endlessly refilled with squirting beer, relabelled and pushed out through another door ... Life, death, spirit and body. Now you have seen, the elders said. Though it comes from Africa, this little episode is a fitting metaphor for Western attitudes towards death; the body is a machine and death is a spanner in the works. But you don't have to postulate the existence of an eternal soul to acknowledge that there may be some things in the universe, like death, that we just can't fix. Let's not be too proud that our technological prowess may one day bring immortality. Never send to know for whom the computer crashes, it crashes for thee.

39. Which of the following persons is *not* mentioned in the passage?

- (1) Peter Cochrane      (2) Timothy Leary  
(3) David Darling      (4) Chris Pearson

40. According to the passage, the computers with storage and processing capacities equivalent to the human brain will be developed in the

- (1) next ten years      (2) next year  
(3) next twenty years      (4) next fifty years

41. The only things that give meaning and identity to our lives are  
 (1) reincarnation  
 (2) powers to overcome mortality  
 (3) memories  
 (4) computers
42. A person who has an NDE, experience all of the following *except*  
 (1) a sensation of moving in a tunnel  
 (2) a message that your time has come  
 (3) the self leaving the body  
 (4) a vision of golden light
43. The silicon soul is  
 (1) a microchip  
 (2) a CD  
 (3) a 'real life' replicating chip  
 (4) a computer into which an individual's consciousness has been transferred
44. In the passage, Leary's idea of replacing human memory has been compared with  
 (1) an old fashioned movie  
 (2) a meticulous journal  
 (3) James Joyce's poems  
 (4) poems of John Donne
45. According to the passage we just *cannot* fix  
 (1) immortality (2) life after death  
 (3) death (4) All of the above

*Directors for Q. Nos. 46 to 50. Each of these questions consists of a capitalized word followed by four alternatives. Choose the alternative that is most similar in meaning to the capitalized work, in each case.*

46. PHLEGMATIC  
 (1) calm (2) cryptic  
 (3) practical (4) dishonest
47. COPIOUS  
 (1) cheating (2) plentiful  
 (3) inspired (4) adventurous
48. MORATORIUM  
 (1) delay (2) refusal  
 (3) burial (4) suspicion
49. BUCOLIC  
 (1) diseased (2) rustic  
 (3) repulsive (4) cold
50. AMELIORATE  
 (1) reprove (2) acquire  
 (3) avert (4) improve

*Directions for Q. Nos. 51 to 55. Each one of these questions consists of a word in capitalized letters followed by four alternatives. Choose the alternative that is most nearly opposite in meaning to the capitalized word, in each case.*

51. DESICCATE  
 (1) lengthen (2) exonerate  
 (3) saturate (4) anaesthetize
52. CAVIL  
 (1) discern (2) object  
 (3) commend (4) disclose
53. UNASSUAGED  
 (1) deceptive (2) soothed  
 (3) ruffled (4) presumed
54. JETTISON  
 (1) salvage (2) anchor  
 (3) accelerate (4) smoothen
55. FETTER  
 (1) liberate  
 (2) diminish  
 (3) obstruct  
 (4) heal

**Directions for Q. Nos. 56 to 60.** Each of these questions consists of a sentence two blank spaces. Beneath the sentence are four alternatives. Choose the set of words from among the alternatives given, which when inserted in the sentence best suit the meaning of the sentence.

56. The \_\_\_\_\_ of evidence was on the side of the plaintiff since all but one witness testified that his story was \_\_\_\_\_.
- (1) paucity, accurate  
 (2) propensity, far-fetched  
 (3) accuracy, insufficient  
 (4) preponderance, correct
57. The child was so \_\_\_\_\_ by her indulgent parents that she pouted and became \_\_\_\_\_ when she did not receive all their attention.
- (1) spoiled, sullen (2) protected, insecure  
 (3) sheltered, elated (4) pampered, tranquil
58. The \_\_\_\_\_ pittance that the destitute receive from the government cannot keep them from \_\_\_\_\_.
- (1) indulgent, desolation (2) meticulous, despair  
 (3) meagre, poverty (4) small, crime
59. We were amazed that a man who had so far been the most \_\_\_\_\_ of public speakers could \_\_\_\_\_ the audience and bring them cheering to their feet.
- (1) enthralling, anger  
 (2) accomplished, humour  
 (3) pedestrian, electrify  
 (4) masterful, bore
60. The \_\_\_\_\_ of time had left the castel \_\_\_\_\_, it towered high, looking much the same as it must have done centuries ago.
- (1) repairs, destroyed (2) lack, defended  
 (3) ravages, untouched (4) status, lonely

**Directions for Q. Nos. 61 to 70.** Each of these questions consists of a sentence with four underlined parts, one of which is incorrect as per standard use of English Language. Identify the part which is incorrect.

61. The teacher was tense when he entered the class which comprised of a hundred students.
- (1) (2) (3) (4)
62. There is no rule regarding the length of a precis with with relation to that of the original passage.
- (1) (2) (3) (4)
63. Had I realized your house was such a long way off I would take a taxi.
- (1) (2) (3) (4)
64. Scarcely we had reached the office when it started raining cats and dogs.
- (1) (2) (3) (4)
65. When I will get back, I shall pay back the money that I borrowed from you last month.
- (1) (2) (3) (4)
66. Choose only such friends that you can trust.
- (1) (2) (3) (4)
67. The book is well illustrated and attractively bound, making altogether an attractive volume.
- (1) (2) (3) (4)
68. He had no sooner arrived than he was asked to leave again.
- (1) (2) (3) (4)
69. If your jogging clothes were't made of permeable fibre you will drown in your own sweat.
- (1) (2) (3) (4)
70. The perquisites attached to this job make it even more attractive than the salary indicated.
- (1) (2) (3) (4)

**Directions for Q. Nos. 71 to 75.** Each of these questions consists of an idiom followed by four alternative words or phrases giving the possible meaning of the idiom. Select the alternative which gives the closest meaning of the idiom.

- 71.** To eat crow  
 (1) to become a non-vegetarian  
 (2) to quieten down  
 (3) made to feel small  
 (4) to swallow one's own words
- 72.** In mint condition  
 (1) flavoured with mint  
 (2) green in colour  
 (3) shining like new  
 (4) feeling envious
- 73.** Feathering one's nest  
 (1) taking adequate precaution against danger  
 (2) enriching oneself at the expense of the public
- (3) buying insurance in time  
 (4) making a new house
- 74.** In apple pie order  
 (1) last in the sequence  
 (2) by government order  
 (3) everything in its place  
 (4) neatly demolished
- 75.** Removing the cobwebs  
 (1) cleaning up the house  
 (2) throwing away waste material  
 (3) clearing one's mind of misunderstanding  
 (4) disinfecting everything

**Directions for Q. Nos. 76 to 80.** Each of the following questions consists of a capitalized pair of words followed by alternative pairs of words. Select the pair that best expresses a relationship similar to that expressed in the capitalized pair.

- 76.** MUSTER : CRES  
 (1) convene : committee (2) demobilize : troops  
 (3) cheer : team (4) dismiss : jury
- 77.** STICKLER : INSIST  
 (1) trickster : risk (2) haggler : concede  
 (3) braggart : boast (4) laggard : outlast
- 78.** PERJURY : OATH  
 (1) plagiarism : authority  
 (2) embezzlement : trust  
 (3) disrespect : age  
 (4) jury : vow
- 79.** TIRADE : ABUSIVE  
 (1) monologue : lengthy  
 (2) aphorism : boring  
 (3) encomium : laudatory  
 (4) critique : insolent
- 80.** DELICATE : FASTIDIOUS  
 (1) hardworking : deligent  
 (2) altruistic : mercenary  
 (3) demonstrative : effusive  
 (4) deceptive : false

### TEST III QUANTITATIVE APTITUDE

- 81.** A "CD" player having a price tag of Rs. 900 is sold for Rs. 729 after two successive discounts. If the first discount was 10%, what was the second discount.  
 (1) 8% (2) 10%  
 (3) 12% (4) 20%
- 82.** If  $a + b + c = 0$ , then the value of  $a(c + a)(a + b) - b(a + b)(b + c)$  is equal to  
 (1) 1 (2) abc  
 (3)  $\frac{a+b}{c}$  (3) 0
- 83.** The ratio of the area of a square to that of the square drawn on its diagonal is always  
 (1) 4 : 5 (2) 3 : 4  
 (3) 1 : 2 (4) 2 : 3
- 84.** A person's present age is two-fifth of the age of his mother. After 8 years, he will be one-half of the age of his mother. How old is the mother at present?  
 (1) 32 years (2) 40 years  
 (3) 36 years (4) 48 years



85. A frog tries to come out of a dried well 9 m deep with slippery walls. Every time the frog jumps 60 cm, he slides back 30 cm. How many jumps will the frog have to take to come out of the well ?  
 (1) 20 (2) 29  
 (3) 30 (4) 31
86. An uneducated retailer marks all his goods at 50% above the cost price and thinking he will still make 25% profit, offers a discount of 25% on the marked price. What is his actual profit on sales ?  
 (1) 25% (2) 15%  
 (3) 12.5% (4) 20%
87. A jogger running at 9 km per hour alongside a railway track is 240 metres ahead of the engine of a 120 metre long train running at 45 km per hour in the same direction. In how much time will the train pass the jogger ?  
 (1) 36 seconds (2) 3.6 seconds  
 (3) 72 seconds (4) 18 seconds
88. Zinc and copper are melted together in a furnace of a die casting machine fabricating utensils in the ratio of 9 : 11. What is the weight of the melted mixture, if 28.8 kg of zinc has been consumed in it ?  
 (1) 60 kg (2) 70 kg  
 (3) 64 kg (4) 58 kg
89. Sanjeev cycles to his college at an average speed of 12 km/hr. It takes him 20 minutes to reach the college. If he wants to reach his college in 15 minutes, what should be his average speed ?  
 (1) 15 km/hr (2) 18 km/hr  
 (3) 20 km/hr (4) 16 km/hr
90. Two trains approach each other at 30 km/hr and 27 km/hr from two places 342 km apart. When will they meet ?  
 (1) 5 hours (2) 7 hours  
 (3) 12 hours (4) 6 hours
91. How much time will it take for an amount of Rs. 450 to yield Rs. 81 as interest at 4.5% per annum of simple interest?  
 (1) 5 years (2) 3.5 years  
 (3) 4 years (4) 4.5 years
92. Reduce  $\frac{128352}{238368}$  to its lowest term.  
 (1)  $\frac{3}{4}$  (2)  $\frac{5}{13}$   
 (3)  $\frac{7}{13}$  (4)  $\frac{9}{13}$
93. A can do a certain work in the same time in which B and C together can do it. If A and B together could do it in 10 days and C alone in 50 days, in what time could B alone do it ?  
 (1) 25 days (2) 50 days  
 (3) 30 days (4) 40 days
94. How many cubes of 30 cm edge can be cut out of a cube of 18 cm edge ?  
 (1) 36 (2) 432  
 (3) 218 (4) 216
95. A path of uniform width surrounds a rectangular field 45 m x 35 m and occupies 900 sq. m. Find the width of the path.  
 (1) 2.5 m (2) 3 m  
 (3) 5 m (4) 4 m
96. The areas of two circular fields are in the ratio 16 : 49. If the radius of the latter is 14 m, what is the radius of the former ?  
 (1) 32 m (2) 8 m  
 (3) 18 m (4) 4 m
97. A man sold two pens at Rs. 20 each. He sold one at a loss of 10% and the other at a gain of 10%. His loss or gain in % is  
 (1) loss 1% (2) gain 1%  
 (3) no loss no gain (4) loss 5%
98. Find the number whose square root is twice its cube root.  
 (1) 27 (2) 64  
 (3) 125 (4) 81
99. The length of a room is 5.5 m and width is 3.75 m. Find the cost of paving the floor by slabs at the rate of Rs. 800 per sq. m.  
 (1) Rs. 15,600  
 (2) Rs. 16,500  
 (3) Rs. 15,550  
 (4) Rs. 15,000
100. The average score of a cricketer for ten matches is 38.9 runs. If the average for the first six matches is 42, find the average of the last four matches.  
 (1) 33.25 (2) 33.50  
 (3) 34.25 (4) 35.00
101. The area of a square field is 6050 sq. m. Find the length of its diagonal.  
 (1) 120 m (2) 135 m  
 (3) 110 m (4) 112 m

- 102.** A man earns Rs. 20 on the first day and spends Rs. 15 on the next day. He again earns Rs. 20 on the third day and spends Rs. 15 on the fourth day. If he continues to save like this, how soon will he have Rs. 60 in hand ?  
 (1) 30th day (2) 40th day  
 (3) 27th day (4) 17th day
- 103.** Simplify  $\frac{7+7+7/7}{(7+7+7)/7}$   
 (1)  $\frac{15}{21}$  (2) 5  
 (3)  $14\frac{2}{3}$  (4)  $15\frac{1}{3}$
- 104.** Find the value of  $4.7 \times 13.23 + 4.7 \times 9.43 + 4.7 \times 77.34$ .  
 (1) 4700 (2) 47  
 (3) 47000 (4) 470
- 105.** Find the ratio in which rice at Rs. 7.20 a kg be mixed with rice at Rs. 5.70 to produce a mixture worth Rs. 6.30 a kg.  
 (1) 1 : 3 (2) 2 : 3  
 (3) 3 : 4 (4) 4 : 5
- 106.** Income of C is 20% more than of B and income of B is 25% more than of A. Find out by how much % is the income of C more than of A.  
 (1) 25% (2) 75%  
 (3) 50% (4) 100%
- 107.** Out of a class of 38 girls, 3 were absent. 20% of the remainder failed to do home work. Find the number of girls that did the home work.  
 (1) 23 (2) 24  
 (3) 29 (4) 28
- 108.** It costs Re. 1 to photocopy a sheet of paper. However, 2% discount is allowed on all photocopies done after first 1000 sheets. How much will it cost to photocopy 5000 sheets of paper ?  
 (1) Rs. 4,920 (2) Rs. 3,920  
 (3) Rs. 4,900 (4) Rs. 3,980
- 109.** A shopkeeper had stock worth Rs. 1,000 and Rs. 100 in cash in the morning. He gave Rs. 20 to his son and contributed Rs. 11 for Puja. At the end of the day he found that he had stock of Rs. 750 and Rs. 450 in cash. What is his net revenue for the day ?  
 (1) Rs. 319 (2) Rs. 121  
 (3) Rs. 69 (4) Rs. 131
- 110.** The value of  $\sin 54^\circ \cos 37^\circ + \sin 37^\circ \cos 53^\circ$  is  
 (1) 1 (2) 0  
 (3) 3 (4) 2
- 111.** The value of  $2 \sin^2 30^\circ - 3 \cos^2 45^\circ + \tan^2 60^\circ$  is  
 (1) 1 (2) 4  
 (3) 2 (4) 5
- 112.** The sum of squares of three numbers which are in the ratio of 2 : 3 : 4 is 725. What are these numbers ?  
 (1) 20, 30, 40 (2) 20, 15, 30  
 (3) 10, 15, 20 (4) 14, 21, 28
- 113.** Successive discounts of 10% and 20% are equivalent to a single discount of  
 (1) 30% (2) 29%  
 (3) 31% (4) 28%
- 114.** Akash starts in a car from Delhi to Agra at 11 am. He travelled at 60 km an hour and covered half the distance in two hours. At what speed should he travel to reach Agra by 4 pm ?  
 (1) 40 km/hr (2) 50 km/hr  
 (3) 60 km/hr (4) 55 km/hr
- 115.** If  $A : B = 3 : 4$  and  $B : C = 5 : 6$  then  $A : B : C$  equals  
 (1) 20 : 25 : 30 (2) 15 : 20 : 24  
 (3) 15 : 20 : 28 (4) 21 : 28 : 30
- 116.** The population of a town was 1,60,000 three years ago. If it has increased by 3%, 2.5% and 5% in the last three years, the present population is  
 (1) 1,77,000 (2) 1,77,596  
 (3) 1,77,366 (4) 1,77,461
- 117.** The sum of two numbers is 2490. If 6.5% of one number is equal to 8.5% of the other, the numbers are  
 (1) 1411, 1079  
 (2) 1401, 1089  
 (3) 1011, 1479  
 (4) 989, 1501
- 118.** If Rs. 1,380 is divided between Rinku, Jaishree and Pallavi in such a manner that Rinku gets 5 times as much as Pallavi and 3 times as much as Jaishree, how much will each get ?  
 (1) Rs. 900, Rs. 400, Rs. 80  
 (2) Rs. 900, Rs. 300, Rs. 180  
 (3) Rs. 800, Rs. 400, Rs. 180  
 (4) Rs. 900, Rs. 200, Rs. 280

- 119.** What amount of money does John get on selling 14% debentures worth Rs. 16,000 at 10% discount when the face value of each debenture is Rs. 100 and brokerage is 1.5% ?  
 (1) Rs. 14300 (2) Rs. 15184  
 (3) Rs. 14384 (4) Rs. 14184
- 120.** If each side of an equilateral triangle is 4 cm, its area will be  
 (1)  $8\sqrt{3}$  cm<sup>2</sup> (2)  $4\sqrt{3}$  cm<sup>2</sup>  
 (3)  $6\sqrt{3}$  cm<sup>2</sup> (4)  $10\sqrt{3}$  cm<sup>2</sup>
- 121.** If value of  $[5(8^{1/3} + 27^{1/3})3]^{1/4}$  is  
 (1) 125 (2) 625  
 (3) 25 (4) 5
- 122.** The value of  $1.5^3 - 0.9^3 - 0.6^3$  is  
 (1) 2.430 (2) 24.30  
 (3) 1.430 (4) 14.30
- 123.** A shopkeeper offers 2.5% discount on cash purchases. What cash amount would Pinky pay for a cycle, the marked price of which is Rs. 650 ?  
 (1) Rs. 635  
 (2) Rs. 633.75  
 (3) Rs. 633.25  
 (4) Rs. 634
- 124.** By how much is two-fifth of 200 greater than three-fifth of 125 ?  
 (1) 15 (2) 10  
 (3) 5 (4) 8
- 125.**  $a^2 + b^2 + c^2 = 20$  and  $a + b + c = 0$ , then  $ab + bc + ca$  is  
 (1) -10 (2) -20  
 (3) 10 (4) 15

**Directions for Q. Nos. 126 to 130.** Answer the questions on the basis of the following information.

Year	No. of loans sanctioned	Total value of loans in crore Rs.
2000-01	4345	2607
2001-02	6431	5032
2002-03	5273	7305

- 126.** What is the % increase in number of loans sanctioned during 2001-02 as compared to 2000-01 ?  
 (1) 32% (2) 44%  
 (3) 48% (4) 52%
- 127.** What is the total value of loans sanctioned by authorities during 2000-01 to 2002-03 ?  
 (1) 16049 (2) 15004  
 (3) 14804 (4) 14944
- 128.** What is the average number of loans sanctioned annually during the period under consideration ?  
 (1) 5350 (2) 8029  
 (3) 5400 (4) 5300
- 129.** What is the average value of loans during 2002-03 ?  
 (1) Approx Rs. 1.3 crores  
 (2) Approx Rs. 1.4 crores  
 (3) Approx Rs. 1.2 crores  
 (4) Approx Rs. 1.8 crores
- 130.** The number of loans sanctioned in 2002-03 is what % less than in 2001-02 ?  
 (1) 17%  
 (2) 20%  
 (3) 18%  
 (4) 25%

## TEST IV REASONING

**Directions for Q. No. 131 to 134.** Consider the following information.

Each of exactly six objects — S, T, U, V, W and X — is to be placed in one of six slots numbered consecutively one through six. Each slot must have one of the objects placed in it. The arrangements of these objects in the six slots is subject to the following conditions :

- (i) If S is to be in a lower-numbered slot than U, then T must be in a lower-numbered slot than X.
- (ii) If T is to be in a lower-numbered slot than V, then W must be in a lower-numbered slot than X.
- (iii) If X is to be in a lower-numbered slot than S, then U must be in a lower-numbered slot than V.

**131.** Which of the following arrangements of the objects in slots one through six, beginning with slot one, conforms to the conditions ?

- (1) S, U, T, W, V, X      (2) S, X, W, U, T, V
- (3) V, U, T, X, W, S      (4) W, S, T, V, X, U

**132.** If the six objects have erroneously been placed in slots one through six in the order W, X, S, U, T, V and if the error is to be rectified by reversing the placement of exactly two objects in two immediately adjacent slots, those objects are the ones in slots

- (1) one and two              (2) two and three
- (3) three and four          (4) four and five

**133.** If X, S and U are to be in the first, the second, and the third slot, respectively, the other three objects must be in which of the following orders, beginning with slot four ?

- (1) T, V, W                      (2) T, W, V
- (3) V, T, W                      (4) V, W, T

**134.** If V is to be in the first slot, each of the following could be in the sixth slot *except*

- (1) S                                  (2) T
- (3) U                                  (4) W

**135.** Three of the following four are alike in a certain way and so form a group. Which of the following does *not* belong to that group ?

- (1) Carrot                          (2) Potato
- (3) Beetroot                        (4) Cabbage

**136.** A clock is so placed that at 12 noon, the minute hand points towards north-east. In which direction does its hour hand point at 1.30 p.m. ?

- (1) East                              (2) West
- (3) North                            (4) South

**Directions for Q. Nos. 137 to 140.**

(i) Six boys A, B, C, D, E and F play a game of cards. Each has ten cards.

(ii) F borrows two cards from A and gives away five to C who in his turn gives three to B, while B gives six to D, who passes on one to E.

**137.** How many cards does A have ?

- (1) 8                                      (2) 9
- (3) 11                                    (4) 12

**138.** How many cards does B have ?

- (1) 7                                      (2) 11
- (3) 12                                    (4) 13

**139.** How many cards does C have ?

- (1) 7                                      (2) 9
- (3) 12                                    (4) 16

**140.** How many cards does D have ?

- (1) 8                                      (2) 11
- (3) 13                                    (4) 15

**Directions for Q. Nos. 141 to 145.**

Access to XRT computer's data sets is obtained by entering job names into the computer. Each job name must consist of a three-word sequence that conforms to the following rules :

- (i) Each word must consist of three, five, or seven letters.
- (ii) The letters R, T and X must appear exactly one in each job name, not necessarily in that order.
- (iii) The third word must contain more letters than the second word.
- (iv) Each word must begin with a different letter.

- 141.** Which of the following could be a job name for the XRT computer ?  
 (1) AXE DIVER BOAST  
 (2) BOX ROAM NEVER  
 (3) CALLS EXERT WINDOWS  
 (4) EXPECT ONE PICUTRE
- 142.** If BOXER is the second word in a job name for the XRT computer, which of the following could be the first and third words, respectively ?  
 (1) ARM, RUNNING  
 (2) BID, TAMES  
 (3) CAMPS, TRAINER  
 (4) DID, STEAMED
- 143.** If EXTRA is the third word in a job name for the XRT computer, which of the following *cannot* be the second word ?  
 (1) ACE  
 (2) BEE  
 (3) END  
 (4) FOE
- 144.** The sequence of words MOTHS, VEX, MAR is not a possible job name for the XRT computer. Which of the following procedures if performed on the sequence produces a sequence that could be a job name for the XRT computer?  
 (1) Reversing the order of the letter in a specific word and removing a specific letter from the longest word  
 (2) Reversing the order of the letters in a specific word and reversing the order of the three words  
 (3) Reversing the order of the letters in a specific word  
 (4) Reversing the order of the three words
- 145.** How many letters can the second word in job names for the XRT computer have ?  
 (1) Three, but they cannot have five or seven  
 (2) Five, but they cannot have three or seven  
 (3) Seven, but they cannot have three or five  
 (4) Three or five, but they cannot have seven

*Directions for Q. Nos. 146 to 150. Unscramble the letters in the following words and find the odd man out.*

- 146.** (1) EIWNTR (2) UMRSME  
 (3) PIGRSN (4) LCUOD
- 147.** (1) UPJM (2) WKLA  
 (3) PEELS (4) UNR
- 148.** (1) HHGI (2) SUTOH  
 (3) OTRNH (4) ETSW
- 149.** (1) MLNOE (2) RNEGOA  
 (3) OOTTAP (4) PPALE
- 150.** (1) RNAI (2) RIQA  
 (3) AIRYS (4) AAPJN
- 151.** Which letter be 8th from the right of the 3rd letter of the second half of the English alphabet ? (Letters A to Z arranged from left to right)  
 (1) V (2) W  
 (3) X (4) Y
- 152.** If 1st and 26th, 2nd and 25, 3rd and 24th and so on, letters of English alphabet are paired, which of the following pairs is correct ?  
 (1) GR  
 (2) CW  
 (3) IP  
 (4) EV

*Directions for Q. Nos. 153 to 158.*

Four persons — A, B, C and D — are camping at four separate campsites — E, F, G and H, not necessarily in that order. The campsites are located on four separate lakes — I, J, K and L, not necessarily in that order — which are in four separate states — M, N, O and P, not necessarily in that order.

- (i) B is camping on K lake.  
 (ii) H campsite is on J lake, which is in N.  
 (iii) The person at I lake, a native of P, camps only in that state.  
 (iv) D is at F compsite.  
 (v) A is camping in O.

- 153.** Where must B be camping ?  
 (i) In M (2) On L lake  
 (3) At F campsite (4) In N
- 154.** I lake is the site of  
 (1) F campsite (2) A's camp  
 (3) The camp in O (4) C's camp

155. On the basis of the information given, it is possible to deduce that

- I. A is not at H campsite  
 II. C is in P  
 III. D is not at E campsite  
 (1) I only (2) II only  
 (3) III only (4) I and III only

156. O is the site of

- I. L lake  
 II. F campsite  
 III. J lake  
 (1) I only (2) II only  
 (3) III only (4) I and II only

157. Which statement is true of L lake ?

- (1) C is camping there (2) D is camping there  
 (3) It is in M (4) A is camping there

158. Which *cannot* be determined on the basis of the information given ?

- (1) What state is K lake in  
 (2) Who is at E campsite  
 (3) What campsite is in P  
 (4) Who is camping in N

159. A is taller than B but shorter than C. D is taller than A but shorter than C. E is taller than B but shorter than A. Who is the tallest ?

- (1) A (2) B  
 (3) C (4) D

160. How many 7's are there which has a 7 preceded by it and 7 following it in the following sequence ?

- 7787778777776777977877778  
 (1) 8 (2) 2  
 (3) 6 (4) 4

**Directions for Q. Nos. 161 and 162.**

If FRANCE is coded as 9-21-4-17-6-8, code the following:

161. INDIA

- (1) 12-19-3-12-4  
 (2) 11-16-6-11-3  
 (3) 12-17-7-12-4  
 (4) 12-19-7-12-6

162. PERU

- (1) 19-8-21-24 (2) 19-9-21-24  
 (3) 18-8-21-24 (4) 19-8-20-23

**Directions for Q. Nos. 163 to 165.**

A commercial grower raises flowers in each of three different growing seasons every year — spring, summer and winter, with the year beginning in spring. Exactly seven different kinds of flowers — Q, R, S, T, W, X and Z — are grown every year. Each kind of flower is grown at least once a year. The flowers are grown according to the following rules:

- (i) No more than three different kinds of flowers are grown in any one growing season.  
 (ii) No kind of flower can be grown for two growing seasons in a row.  
 (iii) Q can be grown neither in the winter season nor in the same growing season as W or X.  
 (iv) S and T are always grown in the same growing season as each other.  
 (v) R can be grown in a growing season only if Q was grown in the preceding growing season.

163. Which of the following is an acceptable schedule for the three growing seasons ?

- |     | <u>Spring</u> | <u>Summer</u> | <u>Winter</u> |
|-----|---------------|---------------|---------------|
| (1) | Q             | S, T, R       | Q, X, Z       |
| (2) | S, X          | Q, T, Z       | R, W          |
| (3) | W, X          | Q             | Z, S, T R     |
| (4) | Q, S, T       | R, W, X       | Z             |

164. If Z and R alone are grown in the winter season, which of the following must be grown in the preceding spring ?

- (1) Q (2) R  
 (3) T (4) W

165. If Z is grown in the spring and W in the summer of one year, which of the following can also be grown in the summer ?

- (1) X (2) Q  
 (3) S (4) T

**Directions for Q. Nos. 166 to 171.**

Three local companies — F, G and H — and three out-of-state companies — X, Y and Z — must each be scheduled for a different one of six consecutive days from Monday through Saturday to make their presentations.

- (i) F's presentation must be made earlier than H's presentation  
 (ii) X's presentation must be made earlier than Z's presentation, but not on the day immediately preceding Z's presentation.

(iii) The three presentations by the local companies cannot all be made before any presentation by an out-of-state company is made, nor can the three presentations by the out-of-state companies all be made before any presentation by a local company is made.

- 166.** Which of the following is a list of the six companies in an order in which they could be scheduled to make their presentations ?
- (1) F, H, G, X, Y, Z
  - (2) F, H, Z, G, Y, X
  - (3) G, Y, F, X, Z, H
  - (4) X, G, Y, F, H, Z

- 167.** If F's presentation is to be made on Friday, the companies making their presentations in the three-day period Monday through Wednesday must include
- (1) G and X
  - (2) G and Y
  - (3) H and Z
  - (4) X and Y

- 168.** If X's presentation is to be made on Thursday, Friday's presentation must be made by either
- (1) F or Y
  - (2) F or Z
  - (3) G or H
  - (4) G or Z

- 169.** Which of the following is a list of all those days, and only those days, on which Z could make its presentation ?
- (1) Wednesday, Friday
  - (2) Wednesday, Thursday, Friday, Saturday
  - (3) Thursday, Friday, Saturday
  - (4) Tuesday, Wednesday, Friday, Saturday

- 170.** If F is to make its presentation after Z makes its presentation, which of the following is a day on which X could make its presentation ?
- (1) Tuesday
  - (2) Wednesday
  - (3) Thursday
  - (4) Friday

- 171.** If H is to make its presentation on Wednesday and Y's presentation is to be made earlier than H's presentation, then G must make its presentation on
- (1) Monday
  - (2) Tuesday
  - (3) Thursday
  - (4) Friday

*Directions for Q. Nos. 172 to 180. Find the number that comes next in the sequence.*

- 172.** 10, 4, 14, 18, 32, \_\_\_\_\_
- (1) 40
  - (2) 50
  - (3) 48
  - (4) 52

- 176.** 6, 18, 3, 21, 7, 56 \_\_\_\_\_
- (1) 8
  - (2) 64
  - (3) 9
  - (4) 63

- 173.** 7, 9, 13, 19, \_\_\_\_\_
- (1) 27
  - (2) 21
  - (3) 31
  - (4) 23

- 177.**  $1, \frac{1}{8}, -\frac{3}{4}, \text{_____}$
- (i)  $-\frac{4}{7}$
  - (2)  $\frac{1}{3}$

- 174.** 32, 27, 30, 29, 28, 31, \_\_\_\_\_
- (1) 34
  - (2) 38
  - (3) 26
  - (4) 40

- (3)  $-\frac{13}{8}$
- (4) -1

- 178.** 2, 12, 36, \_\_\_\_\_
- (1) 72
  - (2) 60
  - (3) 66
  - (4) 80

- 175.** 4, 6, 9,  $13\frac{1}{2}$ , \_\_\_\_\_
- (1) 19
  - (2)  $17\frac{1}{2}$
  - (3)  $20\frac{1}{2}$
  - (4)  $22\frac{3}{4}$

- 179.** 1.001, 0.991, 0.971, 0.941, 0.901, \_\_\_\_\_
- (1) 0.851
  - (2) 0.861
  - (3) 0.871
  - (4) 0.841

- 180.** 165, 195, 255, 285, \_\_\_\_\_
- (1) 310
  - (2) 325
  - (3) 345
  - (4) 225





- 189.** L  
 (1) is owned by F (2) is the Boxer  
 (3) is the Collie (4) wins third price
- 190.** On the basis of statements (i), (ii), (iii), (iv) and (vii) only, which of the following may be deduced ?
- I. M is the Boxer.  
 II. The Doberman is K or L.  
 III. J wins third prize.
- (1) I and II only (2) I and III only  
 (3) II and III only (4) I, II and III

- 191.** On the basis of statements (i), (ii), (iii), (iv) and (vii) only, which of the following may be deduced ?
- I. G's dog is J or L.  
 II. E's dog wins first or second prize.  
 III. K is the Collie
- (1) I only (2) II only  
 (3) I and II only (4) I, II and III

**Directions for Q. Nos. 192 to 195.** In each of the following questions, four groups of letters, marked (1) to (4) are given, of which three are alike in some way or the other and one is different. Find the one which is different.

- 192.** (1) ONP (2) LKM  
 (3) IHJ (4) STR
- 193.** (1) JIK (2) CDB  
 (3) MNL (4) PQO
- 194.** (1) PSRQ (2) UXWV  
 (3) MLNO (4) RUTS
- 195.** (1) XVTR (2) LJHF  
 (3) WUSQ (4) PNMJ

**Directions for Q. Nos. 196 to 200.**

The only persons who attended a meeting were four ship captains and the first mates of three of those captains. The captains were R, S, T and W; the first mates were L, N and V. Each person in turn delivered a report to the group as follows :

- (i) Each first mate present spoke immediately after his or her captain.  
 (ii) S was the first captain to speak, and T was the second captain to speak.

- 196.** All of the following are possible orders of speakers *except*
- (1) S, L, T, V, W, R, N (2) S, N, T, V, R, W, L  
 (2) S, T, L, R, N, W, V (4) S, T, V, N, W, R, L
- 197.** If R spoke after L, and L was the third of the first mates to speak, all of the following statements could be true *except*
- (1) W spoke immediately after V  
 (2) L was the fourth speaker after S  
 (3) W's first mate was present  
 (4) The captains spoke in the order S, T, W, R
- 198.** If L spoke immediately after R and immediately before W, and W was not the last speaker, R spoke
- (1) second (2) third  
 (3) fourth (4) sixth
- 199.** If V is S's mate, N could be the person who spoke immediately
- (1) before T  
 (2) before L  
 (3) before V  
 (4) after T
- 200.** If L was the third of the first mates to speak, and R was the captain whose first mate was not present, which of the following must be true.
- (1) L spoke some time before R  
 (2) N spoke some time before W  
 (3) R spoke some time before W  
 (4) W spoke some time before R

# OPENMAT (XV) ENTRANCE TEST FOR MANAGEMENT PROGRAMMES 2004

## TEST I General Awareness

1. Which is the correct sequence of the Indian cities in the increasing order of their longitude ?
  - (1) Gandhinagar — Jamnagar — Alwar — Jaipur
  - (2) Jamnagar — Gandhinagar — Jaipur — Alwar
  - (3) Gandhinagar — Jaipur — Jamnagar — Alwar
  - (4) Jamnagar — Jaipur — Alwar — Gandhinagar
2. Which of the following Indian state/states does/do *not* share border with Assam ?
  - (1) Sikkim and Tripura
  - (2) West Bengal
  - (3) Sikkim
  - (4) Mizoram
3. Which of the following state capitals takes its name from a mythical serpent ?
  - (1) Dispur
  - (2) Aizwal
  - (3) Agartala
  - (4) Thiruvananthapuram
4. Whose memoirs are titled “*Smriti Ki Rekhaben*” ?
  - (1) Harivansh Rai Bachchan
  - (2) Mahadevi Verma
  - (3) Sumitra Nandan Pant
  - (4) Suryakant Tripathi ‘Nirala’
5. The 93rd Constitution Amendment Bill seeks to establish
  - (1) Right to education as a Fundamental Right
  - (2) Right to minorities to establish educational institutions as their Fundamental Right
  - (3) Right to consumers to quality goods as their Fundamental Right
  - (4) Right of non-resident Indians to dual citizenship as a Fundamental Right
6. Demographic changes are *not* caused by
  - (1) Migration
  - (2) Fertility
  - (3) Femininity
  - (4) Mortality
7. Juvenile delinquency is *not* directly affected by
  - (1) Influence of mass media
  - (2) Intra familial disharmony
  - (3) Bio-psychological stresses of adolescence
  - (4) Consumerism
8. Net National Product means
  - (1) Gross National Product (GNP) minus Cost of production
  - (2) GNP minus Depreciation
  - (3) GNP multiplied by market prices
  - (4) GNP minus Capital stock
9. The Monetary Policy of India is announced by the
  - (1) Union Finance Minister
  - (2) Union Commerce Minister
  - (3) Prime Minister
  - (4) Governor of RBI
10. The concept of sustainable development was first defined by
  - (1) Royal Commission
  - (2) Brundtland Commission
  - (3) Hoover Commission
  - (4) Kaldor Commission
11. Which one of the following is the correct sequence of the four planets in the increasing order of their distance from the Sun ?
  - (1) Mercury — Venus — Earth — Pluto
  - (2) Venus — Earth — Mercury — Pluto
  - (3) Earth — Pluto — Venus — Mercury
  - (4) Venus — Mercury — Earth — Pluto
12. Which of the following places is associated with Jainism ?
  - (1) Kapilvastu
  - (2) Prayag
  - (3) Pava
  - (4) Shravasti
13. The principal objective of the “*Sarv Shiksha Abhiyan*” of the Ministry of HRD, Government of India, is to provide Elementary Education to
  - (1) All
  - (2) All the girls
  - (3) All in the minority groups
  - (4) All in the North Eastern States of the country

14. Who among the following was defeated by Babar in the First Battle of Panipat ?  
 (1) Bahlol Lodhi (2) Ibrahim Lodhi  
 (3) Sikandar Lodhi (4) Daulat Khan Lodhi
15. Which one of the following museums has the famous painting titled *Mona Lisa* ?  
 (1) British Museum  
 (2) New York City Museum  
 (3) Louvre Museum  
 (4) Borghese Gallery, Rome
16. Which of the following cities will host the Olympics in 2004 ?  
 (1) Adelaide (2) Brussels  
 (3) Vienna (4) Athens
17. Fundamental Duties were introduced in the Constitution by \_\_\_\_\_ Amendment.  
 (1) 40th (2) 42nd  
 (3) 43rd (4) 44th
18. Which of the following ocean currents is popularly known as “Warm Blanket” of Europe ?  
 (1) Benguela Current  
 (2) Canaries Current  
 (3) Gulf Stream  
 (4) West Wind Drift
19. Which one of the following mountain ranges is situated between Narmada and Tapti (Tapi) rivers ?  
 (1) Satpura Range (2) Vindhya Range  
 (3) Aravalli Range (4) Ajanta Range
20. Solder is an alloy of  
 (1) Tin, Lead and Zinc  
 (2) Tin, Copper and Zinc  
 (3) Tin and Copper  
 (4) Tin and Lead
21. In August 2003, North Atlantic Treaty Organisation (NATO) took over peace-keeping in which of the following places ?  
 (1) Amman (2) Baghdad  
 (3) Basra (4) Kabul
22. ‘*The Great Indian Dream*’ is jointly written by Malay Chaudhuri and  
 (1) Anita Desai (2) Arindam Chaudhuri  
 (3) Rafique Zakaria (4) Mulk Raj Anand
23. East Bengal became the first Indian Club to win a Soccer International Tournament on foreign soil by winning the  
 (1) Premier League Asia Cup  
 (2) SAARC — Under 19 Championship  
 (3) ASEAN — Club Championship.  
 (4) MM Ford Trophy
24. In August, 2003, the Union Government sanctioned the setting up of \_\_\_\_\_ Agri-Export Zones (AEZs) envisaging a total investment of Rs. 1326 crores including Centre’s assistance of Rs. 380 crores.  
 (1) 24 (2) 36  
 (3) 48 (4) 60
25. Who among the following won the Best Actor Award at the 50th National Film Awards ?  
 (1) Ajay Devgan (2) Mamooti  
 (3) Aamir Khan (4) Murali
26. ‘Losharik’ is the name of  
 (1) The world’s deepest and most silent nuclear submarine built by Russia  
 (2) A new missile built by Pakistan  
 (3) A ship built by Japan  
 (4) A book written by Shri J.N. Dixit
27. Which of the following committees has recommended death penalty for those who manufacture and distribute fake drugs ?  
 (1) Malimath Committee  
 (2) Y.V. Reddy Committee  
 (3) Alagh Committee  
 (4) Mashelkar Committee
28. What is the name of the world’s first cloned horse?  
 (1) Gem (2) Prometea  
 (3) Hawalin (4) Joyous
29. The tree whose bark yields quinine used against malaria and bacterial infections is  
 (1) Mangifera (2) Citrus  
 (3) Cinchona (4) Ficus
30. Healing of wound is accelerated by  
 (1) Vitamin A (2) Vitamin C  
 (3) Vitamin E (4) Vitamin K

## TEST II

### English Language

*Directions for Q. Nos. 31 to 45. Given below are two passages (I and II) followed by the questions based on the contents of the passages. Answer the questions based on the contents of the passage.*

#### PASSAGE I

The headlines proclaimed billions of dollars of debt relief for the world's poorest countries as a result of the decisions taken by the major industrial countries at their annual G-7 summit, held in Cologne. But as the saying goes, the devil is in the detail. And closer examination of the debt write-off plan reveals a yawning gap between rhetoric and reality. The G-7 has proposed to reduce the debt of the poorest nations by \$27 billion. But critics point out that much of the debt written off was not being serviced in any case. Even with the latest relief, poor countries will still be paying more interest and other payments to the banks and global financial institutions than they spend on education and health. Experience shows that extreme caution should be exercised when considering official pronouncements on debt relief plans. Three years ago the so-called Highly Indebted Poor Countries (HIPC) debt reduction initiative was greeted with similar headlines. World Bank president James Wolfensohn hailed it as a "breakthrough". US Treasury Secretary Robert Rubin said debt would be reduced to "manageable levels" and poor countries would be placed "on a sound footing for future development and growth". Even the aid agency, Oxfam called it a "real opportunity to bring down the curtain on the debt crisis". But the HIPC plan left the poorest nations deeper in debt and more tightly entrapped in the coils of the international financial system. This year, four million children under the age of five in the 41 nations classified as HIPCs will die as a result of preventable diseases, mainly due to lack of clean water and sanitation. Around 50 million children of primary school age are not in school, two-thirds of them girls. After carrying out stringent International Monetary Fund (IMF) restructuring measures, based on cutting government spending and opening up its economy to the operations of the "free market", Mozambique, one of the poorest nations in the world, qualified for debt relief under the HIPC programme. It cut just \$10 million from its debt burden and will still spend \$80 million a year on debt — more than twice the national budget for primary education and four times the budget for primary health.

The HIPC countries are concentrated in Sub-Saharan Africa, where the external debt has risen from \$3 billion in 1962 to \$250 billion. And the rise in debt has been accompanied by a series of conferences, initiatives and plans, all accompanied by claims that, this time, real measures had been taken to resolve the problem. The Cologne Summit is no exception. US hailed the latest agreement as "a historic step to help the world's poorest nations achieve sustained growth and independence". British Prime Minister Tony Blair, never one to be outdone in humanitarian rhetoric, said the summit "will probably mark the biggest step forward in debt relief and help to the poorest countries that we have seen in the international community for many years". Critics point out that poor countries will be faced with imposing even harsher measures under the IMF's "structural adjustment programme" in order to qualify for debt relief. Such measures include ending government subsidies, increased privatization, deregulation of the economy and currency devaluations. As the details of the plan were being released last week, Oxfam pointed out that even after the proposed reforms, HIPC states would still be spending more than one-fifth of their revenues on debt servicing. Another aspect of the plan to come under fire is the proposal for the IMF to sell part of its gold stocks in order to finance debt relief. The World Gold Council, a London-based organisation of gold mining companies, claimed that the recent fall in the price of gold was a result of plans by the IMF. The UK and Switzerland had to sell off stock that had costed HIPC countries more than \$150 million in export earnings. "The future growth of these nations is being undermined by precisely those who wish to proffer a helping hand — the IMF and governments of some well developed countries", it said.

- |   |  |
|---|--|
| <p><b>31.</b> According to the passage the promised debt relief announced at the G-7 summit</p> <ol style="list-style-type: none"><li>(1) will be a major step towards alleviating the debt burden of developing countries</li><li>(2) is a huge outlay and would cost the G-7 nations high</li><li>(3) is not quite so attractive for the debtor nations if one looks at the detailed plan</li><li>(4) is a major breakthrough</li></ol> | <p><b>32.</b> The yawning gap between rhetoric and reality refers to the gap between</p> <ol style="list-style-type: none"><li>(1) the declaration and the implementation</li><li>(2) the myth and the reality</li><li>(3) the interest burden pre and post relief package</li><li>(4) the size of the proclaimed relief package and the relief actually resulting</li></ol> |
|---|--|

33. The primary health budget of Mozambique, according to the passage is about
- (1) \$80 million           (2) \$40 million  
(3) \$20 million           (4) \$10 million
34. The debt relief promised to the poorest countries is likely to be counter productive as
- (1) countries will still be spending more than 20% of their total revenue on debt servicing  
(2) countries may have to sell part of their gold reserves to finance debt relief  
(3) countries will have to undergo structural adjustment programmes which may impose further hardship on their people  
(4) Both (1) and (3) above
35. According to the passage, the future growth of the HIPC countries
- (1) is likely to be accelerated by the sell-off of gold stocks by the developed countries  
(2) is likely to remain the same as a result of these reform measures  
(3) is being hampered by the International Monetary Fund  
(4) All of the above
36. The phrase “the devil is in the detail” used in the passage means
- (1) debt is a big evil  
(2) the full meaning dawns when you read the fine print, all of it  
(3) the plan has too many details which hamper understanding  
(4) whatever way you look, the detailed analysis of the debt burden hits you
37. The HIPC debt relief plan
- (1) reduced HIPC debts to manageable levels  
(2) gave an opportunity to bring down the debt crisis  
(3) bound the countries even more into higher debt commitment  
(4) made developed countries even more tense about HIPC debts

## PASSAGE II

The atmosphere is a mixture of several gases. There are about ten chemical elements which remain permanently in gaseous form in the atmosphere under all natural conditions. Of these permanent gases, oxygen makes up about 21 per cent and nitrogen about 78 per cent. Several other gases, such as argon, carbon dioxide, hydrogen, neon, krypton, and xenon, comprise the remaining 1 per cent of the volume of dry air. The amount of water vapour, and its variations in amount and distribution, are of extraordinary importance in weather changes. Atmospheric gases hold in suspension great quantities of dust, pollen, smoke, and other impurities which are always present in considerable, but variable amounts.

The atmosphere has no definite upper limits but gradually thins until it becomes imperceptible. Until recently it was assumed that the air above the first few miles gradually grew thinner and colder at a constant rate. It was also assumed that upper air had little influence on weather changes. Recent studies of the upper atmosphere, currently being conducted by earth satellites and missile probing, have shown these assumptions to be incorrect. The atmosphere has three well-defined strata.

The layer of the air next to the earth, which extends upward for about 10 miles, if known as the troposphere. On the whole, it makes up about 75 per cent of all the weight of the atmosphere. It is the warmest part of the atmosphere because most of the solar radiation is absorbed by the earth's surface, which warms the air immediately surrounding it. A steady decrease of temperature with increasing elevation is a most striking characteristic. The upper layers are colder because of their greater distance from the earth's surface and rapid radiation of heat into space. The temperatures within the troposphere decrease about 3.5 degrees per 1,000-foot increase in altitude. Within the troposphere, winds and air currents distribute heat and moisture. Strong winds, called jet streams, are located at the upper levels of the troposphere. These jet streams are both complex and widespread in occurrence. They normally show a wave shaped pattern and move from west to east at velocities of 150 mph, but velocities as high as 400 mph have been noted. The influences of changing locations and strengths of jet streams upon weather conditions and patterns are no doubt considerable. Current intensive research may eventually reveal their true significance.

Above the troposphere to a height of about 50 miles is a zone called the stratosphere. The stratosphere is separated from the troposphere by a zone of uniform temperatures called the tropopause. Within the lower portions of the stratosphere is a layer of ozone gases which filters out most of the ultraviolet rays from the sun. The ozone layer varies with air pressure. If this zone were not there, the full blast of the sun's ultraviolet light would burn our skins, blind our eyes, and eventually result in our destruction. Within the stratosphere, the temperature and atmospheric composition are relatively uniform.

The layer upward of about 50 miles is the most fascinating but the least known of these three strata. It is called the ionosphere because it consists of electrically charged particles called ions, thrown from the sun. The northern lights (aurora borealis) originate within this highly charged portion of the atmosphere. Its effect upon weather conditions, if any, is as yet unknown.

38. Which of the following titles best summarizes the contents of the passage ?
- (1) New Methods for Calculating the Composition of the Atmosphere
  - (2) New Evidence Concerning the Stratification of the Atmosphere
  - (3) The Atmosphere : Its Nature and Importance to our Weather
  - (4) The Underlying Causes of Atmospheric Turbulence
39. The passage supplied information that would answer which of the following questions ?
- I. How do the troposphere and the stratosphere differ?
  - II. How does the ionosphere affect the weather ?
  - III. How do earth satellites study the atmosphere ?
- (1) I only                      (2) III only
  - (3) I and II only           (4) I and III only
40. According to the passage, life as we know it exists on the earth because the atmosphere
- (1) contains a layer of ozone gases
  - (2) contains electrically charged particles
  - (3) is warmest at the bottom
  - (4) carries the ultraviolet rays of the sun
41. It can be inferred from the passage that a jet plane will usually have its best average rate of speed on its run from
- (1) New York to San Francisco
  - (2) Los Angeles to New York
  - (3) Boston to Miami
  - (4) Bermuda to New York
42. It can be inferred from the passage that at the top of Jungfrau, which is 12,000 feet above the town of Interlaken in Switzerland, the temperature is usually
- (1) below freezing
  - (2) about 42 degrees colder than in Interlaken
  - (3) affected by the ionosphere
  - (4) about 75 degrees colder than in Interlaken
43. The passage states that the troposphere is the warmest part of the atmosphere because it
- (1) is closest to the sun
  - (2) contains electrically charged particles
  - (3) radiates heat into space
  - (4) is warmed by the earth's heat
44. According to the passage, the atmosphere consists of all of the following *except*
- (1) 21 per cent oxygen
  - (2) a definite amount of waste products
  - (3) ten permanent elements
  - (4) less than 1 per cent of xenon
45. According to the passage, the tropopause is
- (1) a layer between the earth and the troposphere
  - (2) a layer upwards of about 50 miles from the earth
  - (3) the layer next to the stratosphere as we move upwards
  - (4) a zone of uniform temperature between the troposphere and the stratosphere

**Directions for Q. Nos. 46 to 50.** Each of the questions consists of a capitalized word followed by four alternatives. Choose the alternative that is most similar in meaning to the capitalized word, in each case.

46. POLEMIC
- (1) blackness                      (2) magnetism
  - (3) grimace                       (4) controversy
47. CONTRITE
- (1) smart                           (2) penitent
  - (3) restful                       (4) recognised
48. OPALESCENT
- (1) lustrous                       (2) transparent
  - (3) traditional                   (4) pretentious
49. ADHERENT
- (1) compulsive
  - (2) inflexible
  - (3) supporter
  - (4) temperate
50. ARCANE
- (1) mysterious
  - (2) fearful
  - (3) untrue
  - (4) attacking

**Directions for Q. Nos. 51 to 55.** Each one of these questions consists of a capitalized word followed by four alternatives. Choose the alternative that is most nearly opposite in meaning to the capitalized word, in each case.

**51. ENTRENCH**

- (1) defy (2) oust  
(3) extinguish (4) restrain

**52. ABROGATE**

- (1) signify (2) transgress  
(3) ratify (4) placate

**53. RAUCOUS**

- (1) orderly (2) buoyant  
(3) mellifluous (4) contentious

**54. STOIC**

- (1) savant  
(2) whiner  
(3) victor  
(4) onlooker

**55. SAGACIOUS**

- (1) foolish  
(2) veracious  
(3) fallacious  
(4) bitter

**Directions for Q. Nos. 56 to 60.** Each of these questions consists of a sentence with one or more blank spaces. Beneath the sentence are four alternatives. Choose the alternative that best suits the meaning of the sentence.

**56.** No act of \_\_\_\_\_ was more pronounced than his \_\_\_\_\_ of any reward for this discovery.

- (1) abeyance, denial  
(2) egoism, boasting  
(3) denunciation, refusal  
(4) abnegation, ignorance

**57.** Language, culture and personality may be considered \_\_\_\_\_ of each other in thought, but they are \_\_\_\_\_, in fact.

- (1) corollaries, autonomous  
(2) independent, inseparable  
(3) variable, connected  
(4) determinants, independent

**58.** The term 'rare earths' is in fact a \_\_\_\_\_, for rare earth elements are actually \_\_\_\_\_ being present in low concentrations in almost all minerals.

- (1) truism, essential  
(2) misnomer, ubiquitous  
(3) metaphor, infinite  
(4) disclaimer, feeble

**59.** Although several details of the hypothesis are open to \_\_\_\_\_, its general conclusion has not been \_\_\_\_\_.

- (1) conjecture, verified  
(2) criticism, refuted  
(3) variation, determined  
(4) ridicule, disregarded

**60.** Not only the \_\_\_\_\_ are fooled by propaganda; we can all be misled if we are not \_\_\_\_\_.

- (1) illiterate, analytical  
(2) credulous, cynical  
(3) ignorant, critical  
(4) gullible, wary

**Directions for Q. Nos. 61 to 70.** Each of these questions consists of a sequence with four underlined parts, one of which is incorrect as per standard use of English Language. Identify the part which is incorrect.

**61.** Saying that the stock was currently overpriced and would be a precarious investment, the broker  
(1) (2) (3)  
advised his client about purchasing it.  
(4)

**62.** The monarch spent more time at Monte Carlo than at home on his throne.  
(1) (2) (3) (4)

63. Levels of river water pollution is often indicated by algae distribution.  
 (1) (2) (3) (4)
64. He kept on inquiring from the police because he wanted to know why his brother was detained.  
 (1) (2) (3) (4)
65. Your ability to smile through your troubles is one of your stronger points.  
 (1) (2) (3) (4)
66. Despite my cajoling, my father only gave me a thousand rupees.  
 (1) (2) (3) (4)
67. In that one moment he got cured from his lifelong obsession with city politics.  
 (1) (2) (3) (4)
68. In the centigrade thermometer, the freezing point of water is zero degrees.  
 (1) (2) (3) (4)
69. As an arbiter in labour disputes, she has won both the confidence of employees and the labour.  
 (1) (2) (3) (4)
70. When the bank auditors arrive to conduct their annual audit, they discovered the embezzlement by the chief cashier.  
 (1) (2) (3) (4)

**Directions for Q. Nos. 71 to 75.** Each of these questions consists of an idiom followed by four alternative words or phrases giving the possible meanings of the idiom. Select the alternative which gives the closest meaning of the idiom.

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| <p>71. Wax eloquent<br/>         (1) talk while you clean<br/>         (2) praise lavishly<br/>         (3) shine brightly<br/>         (4) put a seal on</p>   | <p>73. Having green fingers<br/>         (1) being conscious of the environment<br/>         (2) being good with plants, naturally<br/>         (3) being a gardener<br/>         (4) having soiled hands</p>                               |
| <p>72. Paint yourself in a corner<br/>         (1) paint your house yourself<br/>         (2) get into a difficulty of your own making<br/>         (3) get adjusted<br/>         (4) become one with your surroundings</p> | <p>74. Pain in the neck<br/>         (1) being unwell (2) uncomfortable position<br/>         (3) irritating persons (4) a spinal condition</p>   |
|   | <p>75. Underground economy<br/>         (1) excavation related industrial sector<br/>         (2) dealing with the criminal underworld<br/>         (3) agricultural economy<br/>         (4) activities not accounted for tax purposes</p> |

**Directions for Q. Nos. 76 to 80.** Each of the following questions consists of a capitalized pair of words followed by four alternative pairs of words. Select the pair that best expresses a relationship similar to that expressed in the capitalized pair.

- |  |   |
|--|---|
| <p>76. ALARM : TRIGGER<br/>         (1) prison: escape (2) fright : allay<br/>         (3) trap : spring (4) criminal : corner</p> | <p>78. FEUD : ACRIMONY<br/>         (1) crusade : heresy<br/>         (2) dual : brevity<br/>         (3) scuffle : confusion<br/>         (4) siege : hunger</p> |
| <p>77. SKIRT : ISSUE<br/>         (1) vest : interest (2) dodge : encounter<br/>         (3) rig : wage (4) mask : purpose</p>     |   |



- 79. ARMATURE : STATUE**  
 (1) framework : building  
 (2) arsenal : weapon  
 (3) apparatus : experiment  
 (4) landscape : painting

- 80. VINDICTIVE : MERCY**  
 (1) avaricious : greed  
 (2) insightful : hope  
 (3) skeptical : trustfulness  
 (4) pathetic : sympathy

### TEST III QUANTITATIVE APTITUDE

- 81.** A man bought 7 oranges for a rupee and sold them at a profit of 40%. How many oranges for a rupee did he sell?  
 (1) 6 (2) 5  
 (3) 7 (4) 4
- 82.** Find the simple interest on Rs. 471 for 7 months at 2 paise per rupee per month ?  
 (1) Rs. 64.94 (2) Rs. 63.94  
 (3) Rs. 69.98 (4) Rs. 65.94
- 83.** A man had Rs. 2,000, part of which he lent at 5% and the rest for 4%. The total annual interest received was Rs. 92. The money he lent @ 5% was  
 (1) Rs. 1,100 (2) Rs. 1,300  
 (3) Rs. 1,260 (4) Rs. 1,200
- 84.** In what time will the simple interest on Rs. 900 @ 6% be equal to the interest on Rs. 540 for 8 years @ 5% ?  
 (1) 3 years (2) 4 years  
 (3) 5 years (4) 6 years
- 85.** Two men and a boy can do a piece of work in 5 days, while a man and two boys can do it in 6 days. If a man is paid @ Rs. 28 a week, what should be the wages of a boy?  
 (1) Rs. 14 (2) Rs. 18  
 (3) Rs. 16 (4) Rs. 20
- 86.** The cost of carpeting a room 20 m long is Rs. 40. Had the breadth been 3 metres less, the cost would have been Rs. 25. Find the area of the room.  
 (1) 100 sq. m  
 (2) 180 sq. m  
 (3) 120 sq. m  
 (4) 160 sq. m
- 87.** Find the number which when added to itself 17 times becomes 162.  
 (1) 13 (2) 7  
 (3) 9 (4) 18
- 88.** Find the greatest number that divides 204, 1190 and 1445 exactly.  
 (1) 17 (2) 15  
 (3) 27 (4) 13
- 89.** Find the value of  
 $7.55 \times 7.55 - 2 \times 7.55 \times 2.55 + 2.55 \times 2.55$   
 (1) 125 (2) 50  
 (3) 25 (4) 100
- 90.** In an examination every candidate took History or Geography or both. 74.8% took History and 50.2% took Geography. If the total number of candidates is 1500, how many took History and Geography both ?  
 (1) 400 (2) 350  
 (3) 750 (4) 375
- 91.** A train passes through a tunnel whose length is 500 metres in 1 minute moving at the speed of 72 km/hr. The length of the train is  
 (1) 300 m (2) 700 m  
 (3) 800 m (4) 850 m
- 92.** The population of a town is 6,000. Out of these 3,400 read 'Hindustan' and 2,700 persons read 'Dainik Jagran'. There are 700 persons who read both the papers. Find the number of persons who do not read either of the two papers.  
 (1) 650 (2) 700  
 (3) 600 (4) 800
- 93.** What is the total number of candidates at an examination if 31% fail and the number of those who pass exceeds the number of those who fail by 247 ?  
 (1) 550 (2) 600  
 (3) 650 (4) 700
- 94.** A sum of Rs. 6.25 is made of 80 coins which are either 10 paise or 5 paise. How many are there of each kind?  
 (1) 40, 40 (2) 50, 30  
 (3) 35, 45 (4) 45, 35

95. A garrison of 112 men has provisions for 5 months. How many men must leave so that the provisions now last for 7 months ?  
 (1) 50 (2) 45  
 (3) 40 (4) 32
96. A batsman in his 17th innings makes a score of 85 and thereby increases his average by 3. If he has never been 'not out', what is his average after 17 innings ?  
 (1) 34 (2) 35  
 (3) 37 (4) 39
97. Pipe A can fill an empty tank in 5 hours and pipe B can empty it in 7.5 hours. How long will it take to fill the tank when both the pipes are opened together ?  
 (1) 15 hours (2) 25 hours  
 (3) 10 hours (4) 20 hours
98. The area of a grassy plot is 480 sq. m. If each side had been 5 m longer, the area would have been increased by 245 sq. m. Find the length of the fence to surround it.  
 (1) 44 m (2) 88 m  
 (3) 132 m (4) 78 m
99. A man is 37 years old and his two sons are 8 years and 3 years old. After how many years will he be twice as old as their united age ?  
 (1) 4 years (2) 8 years  
 (3) 5 years (4) 9 years
100. Kalpana is thrice as old as Sanjeev. Akash will be twice as old as Kalpana 6 years hence. Six years ago Sanjeev was 5 years old. What is Akash's present age ?  
 (1) 65 years (2) 72 years  
 (3) 70 years (4) 78 years
101. A clock of an office gains uniformly. On Monday morning at 6.00 a.m. it was set slow by 5 minutes. On next Monday at 6.00 a.m., it was observed to be faster by 10 minutes. During this period, when did the clock give the correct time ?  
 (1) Tuesday at 6 p.m. (2) Wednesday at 6 p.m.  
 (3) Wednesday at 2 p.m. (4) Thursday at 6 p.m.
102. What is the value of  $\frac{\sqrt{98} - \sqrt{72} + \sqrt{50}}{\sqrt{18}}$  ?  
 (1) 6 (2)  $\frac{\sqrt{38}}{\sqrt{3}}$   
 (3)  $-\frac{4}{3}$  (4) 2
103. If  $a + b + c = 0$  then the value of  $a(c + a)(b + a) - b(a + b)(b + c)$  is equal to  
 (1) 1 (2)  $abc$   
 (3)  $\frac{a + b}{c}$  (4) 0
104. A company dealer sells home appliances on instalments and claims to make only 15% compound interest, interest being compounded annually. A man buys a geyser from the dealer and agrees to pay in two equal yearly instalments of Rs. 1058.00 each. What is the price of the geyser ?  
 (1) Rs. 1,800  
 (2) Rs. 2,000  
 (3) Rs. 1,820  
 (4) Rs. 1,720
105. If  $p^2 + \frac{1}{p^2} = a$  and  $p - \frac{1}{p} = b$  then which of the following is correctly expressed ?  
 (1)  $a - b^2 - 2 = 0$  (2)  $a^2 + b = 2$   
 (3)  $a^2 - b^2 = 1$  (4)  $a^2 = b^2$
106. The denominator of a rational number is one more than its numerator. In case the numerator is increased by 2 and the denominator is decreased by 2, we obtain the value 2. What is the rational number ?  
 (1)  $\frac{5}{6}$  (2)  $\frac{4}{5}$   
 (3)  $\frac{3}{4}$  (4)  $\frac{2}{3}$
107. A person sells a TV set costing him Rs. 9,000 to a trader at a loss of 10%. After a few days, he buys the same TV set back from the trader, where the trader gains 10%. The net result is  
 (1) no profit no loss to anyone  
 (2) Trader gains Rs. 900  
 (3) Person loses Rs. 90  
 (4) Person loses Rs. 810
108. In a recruitment test, 80% of the applicants qualified in Mathematics and 70% qualified in English while 10% of them failed in both the subjects. If a total of 30 applicants qualified in both the subjects, what was the total number of applicants who appeared in the test ?  
 (1) 400 (2) 540  
 (3) 600 (4) 630
109. The ratio of the area of a square to that of the square drawn on it diagonal is always  
 (1) 4 : 5 (2) 3 : 4  
 (3) 1 : 2 (4) 2 : 3
110. How many bricks 20 cm x 10 cm will be needed to pave the floor of a room 25 m long and 16 m wide ?  
 (1) 23000 (2) 25000  
 (3) 20000 (4) 15000

111. When the income tax is 3%, a man's net income is Rs. 2425. What will it be when the tax rate is raised to 4% ?

- (1) Rs. 2,300                      (2) Rs. 2,350  
(3) Rs. 2,400                      (4) Rs. 2,415

112. Find the least number which is exactly divisible by 4, 5, 6, 15, 18.

- (1) 600                                  (2) 900  
(3) 500                                  (4) 800

113. The area of four walls of a room is 660 sq. m and the length is twice the breadth. If the height is 11 m, find the area of the ceiling.

- (1) 200 sq. m                      (2) 150 sq. m  
(3) 250 sq. m                      (4) 300 sq. m

114. Charlie, Jack and Ram started a business by investing Rs. 2,700, Rs. 8,100 and Rs. 7,200 respectively. At the end of one year the profit was distributed. If Jack's share was Rs. 3,600, what was their total profit ?

- (1) Rs. 11,000                      (2) Rs. 8,000  
(3) Rs. 7,000                      (4) Rs. 5,000

115. If  $\tan \theta = \frac{3}{4}$  find the value of  $\frac{4 \sin \theta - 2 \cos \theta}{4 \sin \theta + 3 \cos \theta}$

- (1)  $\frac{1}{6}$                                       (2)  $\frac{1}{3}$   
(3)  $\frac{1}{4}$                                       (4)  $\frac{1}{8}$

116. If an isosceles triangle has base of 6 cm and the length of each equal side is 5 cm, its area is

- (1) 12 cm<sup>2</sup>                              (2) 14 cm<sup>2</sup>  
(3) 16 cm<sup>2</sup>                              (4) 25 cm<sup>2</sup>

117. The perimeter of a triangle field is 144 m and the ratio of the sides is 3 : 4 : 5, the area of the field will be

- (1) 1864 m<sup>2</sup>                              (2) 864 m<sup>2</sup>  
(3) 432 m<sup>2</sup>                              (4) 216 m<sup>2</sup>

118. If the diameter of the driving wheel of a bus is 140 cm, how many revolutions per minute must the wheel make in order to achieve a speed of 66 km per hour ?

- (1) 300                                      (2) 240  
(3) 100                                      (4) 250

119. If  $x + \frac{1}{x} = 5$ , what will be the value of  $x^3 + \frac{1}{x}$  ?

- (1) 125                                      (2) 110  
(3) 1025                                      (4) 975

120. The value of  $2 \times 27^{1/3} \times 216^{-2/3}$  is

- (1) -3                                      (2) -6  
(3)  $\frac{1}{6}$                                       (4) 8

121. If 8 labourers, digging 8 hours a day can dig a pond in 8 days, then how many days will 3 labourers digging 3 hours a day take in digging the same pond ?

- (1) 72 days                              (2)  $56\frac{8}{9}$  days  
(3)  $80\frac{8}{9}$  days                      (4)  $70\frac{8}{9}$  days

122. Rakesh sold his old dining table and chairs to Mohan for Rs. 950. If he loses 24%, what was the purchase cost of tables and chairs ?

- (1) Rs. 1,500                              (2) Rs. 1,300  
(3) Rs. 1,240                              (4) Rs. 1,250

123. If  $x + y + z = 1$ ,  $xy + yz + zx = -1$ ,  $xyz = -1$ , then  $x^3 + y^3 + z^3$  is equal to

- (1) 11                                      (2) 10  
(3) 1                                      (4) 7

124. If the price of tea is increased by 20%, find by how much % a lady must reduce consumption of tea so as to not increase her expenditure.

- (1) 14.67 %                              (2) 16.67 %  
(3) 15.67 %                              (4) 20 %

125. The diameter of a cone is 14 cm and its slant height is 9 cm. Find the area of its curved surface.

- (1) 256 cm<sup>2</sup>                              (2) 298 cm<sup>2</sup>  
(3) 198 cm<sup>2</sup>                              (4) 49 cm<sup>2</sup>

**Directions for Q. Nos. 126 to 130.** Answer these questions on the basis of the following information.

The value of net housing finance to various customers is given below :

Year	Rs. in crores
1996-97	4038
1997-98	3996
1998-99	2545
1999-2000	3987
2000-2001	6403
2001-2002	4823
2002-2003	5496

- 126.** What is the difference between the maximum and minimum loan to customers ?  
 (1) 3768 (2) 3858  
 (3) 3758 (4) 3407
- 127.** Keeping in view the loan in 1996-97 and 2002-03, find the annual increase.  
 (1) 245.7 (2) 234.5  
 (3) 243 (4) 234
- 128.** What is the % Increase of Loan in 2002 03 from 2001-02?  
 (1) 14 (2) 12  
 (3) 13 (4) 11
- 129.** What is the % decrease of loan in 1998-99 from that in 1997-98 ?  
 (1) 15  
 (2) 29  
 (3) 33  
 (4) 36
- 130.** Maximum loan is what % of minimum loan ?  
 (1) 159  
 (2) 239  
 (3) 129  
 (4) 151

### TEST IV REASONING

**Directions for Q. Nos. 131 to 133.** Find the number that comes next in the sequence.

- 131.** 8, 12, 24, 60, \_\_\_\_\_  
 (1) 168 (2) 120  
 (3) 90 (4) 144
- 132.** 0, 6, 24, 6-, \_\_\_\_\_  
 (1) 90 (2) 72  
 (3) 120 (4) 100
- 133.** 7, 5, 12, 17, 29, \_\_\_\_\_  
 (1) 30  
 (2) 41  
 (3) 49  
 (4) 46

**Directions for Q. Nos. 134 to 136.**

The cast of a benefit programme will consist of exactly four actors to be selected from the seven actors P, Q, R, S, T, U and V according to the following conditions :

- (i) Either P or T must be in the case; but they cannot both be in the cast.
- (ii) If T is in the cast, then Q must be in the cast.
- (iii) If U is in the cast, then neither P nor R can be in the cast.

- 134.** If U is in the cast, which of the following must also be in the cast ?  
 (1) P (2) Q  
 (3) R (4) S
- 135.** If P is in the cast, any of the following groups of three could make up the rest of the cast *except*  
 (1) Q, R and S (2) Q, R and V  
 (3) R, S and V (4) S, U and V
- 136.** If S is in the cast but needs to be replaced, which of the following actors, if not in the cast, is eligible to replace S regardless of the composition of the rest of the cast ?  
 (1) R  
 (2) P  
 (3) T  
 (4) V

**Directions for Q. Nos. 137 to 141.**

The office staff of the XYZ Corporation presently consists of three book-keepers (A, B and C) and five secretaries (D, E, F, G and H). Management is planning to open a new office in another city using three secretaries and two book-keepers of the present staff. To do so they plan to separate certain individuals who do not function well together. The following guidelines were established to set up the new office :

- (i) Book-keepers A and C are constantly finding fault with one another and should not be sent as a team to the new office.
- (ii) C and E function well alone but not as a team. They should be separated.
- (iii) D and G have not been on speaking terms for many months. They should not go together.
- (iv) Since D and F have been competing for promotion, they should not be a team.

**137.** If A is to be moved as one of the book-keepers, which of the following **cannot** be a possible working unit ?

- (1) A B D E H                      (2) A B D G H
- (3) A B E F H                      (4) A B E G H

**138.** If C and F are moved to the new office, how many combinations are possible ?

- (1) 1                                      (2) 2
- (3) 3                                      (4) 4

**139.** If C is sent to the new office which member of the staff **cannot** go with C ?

- (1) B                                      (2) D
- (3) F                                      (4) G

**140.** Under the guidelines developed, which of the following **must** go to the new office ?

- (1) B                                      (2) D
- (3) E                                      (4) G

**141.** If D goes to the new office which of the following is (are) true ?

- I. C cannot go.
- II. A cannot go.
- III. H must also go.

- (1) I only                                      (2) II only
- (3) I and II only                                      (4) I and III only

**Directions for Q. Nos. 142 to 146.**

- (i) A, B, C, D, E and F are six members of a family.
- (ii) There are two married couples among them.
- (iii) C is the mother of A and F.
- (iv) E is the father of D.
- (v) A is the grandson of B.
- (vi) The total number of female members in the family is three.

**142.** Which of the following pairs is one of the married couples ?

- (1) EF                                      (2) BD
- (3) EB                                      (4) AF

**143.** Who is the wife of E ?

- (1) B                                      (2) C
- (3) D                                      (4) F

**144.** How is B related to F ?

- (1) Sister                                      (2) Grandmother
- (3) Wife                                      (4) Daughter

**145.** How is F related to A ?

- (1) Sister
- (2) Brother
- (3) Daughter
- (4) Mother

**146.** Which of the following is a group of female members ?

- (1) BDE                                      (2) AFB
- (3) DCF                                      (4) BCF

**147.** One number is twice the second number, second is twice the third and the third is twice the fourth. How many times is the first number of the fourth number ?

- (1) 8 times
- (2) 4 times
- (3) 6 times
- (4) 2 times

**148.** Dormitories range from two to six stories in height. If a dormitory room is above the second-floor, it has a fire escape.

If the statements above are true, which of the following must also be true ?

- (1) Second-floor dormitory rooms do not have fire escapes
- (2) Third-floor dormitory rooms do not have fire escapes
- (3) Only dormitory rooms above the second-floor have fire escapes
- (4) Fourth-floor dormitory rooms have fire escapes

**Directions for Q. Nos. 149 to 152.**

- (i) D, R and M have some number of apples, mangoes and oranges.
- (ii) D has two more apples than M.
- (iii) R has the same number of apples, mangoes and oranges.
- (iv) The number of M's apples and D's mangoes is the same.
- (v) The total number of fruits is 58.
- (vi) R has two more fruits than D while M has three less than R.
- (vii) M has three oranges.
- (viii) The total number of mangoes is 22.
- (ix) D has two oranges less than R.
- (x) R has one more mango than D.

**149.** Who has the maximum number of mangoes and how many ?

- (1) M – 11
- (2) R – 8
- (3) M – 9
- (4) D – 9

**150.** What is the total number of apples ?

- (1) 21
- (2) 23
- (3) 19
- (4) 20

**151.** D has how many oranges more/less than apples ?

- (1) 3 more
- (2) 2 less
- (3) 2 more
- (4) 3 less

**152.** How many oranges does R have ?

- (1) 6
- (2) 7
- (3) 8
- (4) 9

**Directions for Q. Nos. 153 to 157.** Unscramble the letters in the following words and find the odd man out.

**153.** (1) UBS (2) RCTUK  
(3) HPIS (4) ACR

**154.** (1) RNTIALGE (2) QERUSA  
(3) RAGETNCLE (4) CCRIEL

**155.** (1) NOOTTC (2) KLSI  
(3) ETUJ (4) OOKB

**156.** (1) LABKC  
(2) ORULCO  
(3) THIEW  
(4) BULE

**157.** (1) WOTN (2) RRVEI  
(3) YITC (4) ILAEVLG

**Directions for Q. Nos. 158 to 163.**

The recipe for Hearty Noodle Soup calls for six ingredients — noodles, onions, potatoes, rosemary, sage, and tomatoes — to be added one at a time into a potful of water. The ingredients must be added according to the following directions :

- (i) The sage is added fourth.
- (ii) The onions are added immediately before the tomatoes are added.
- (iii) The noodles are added sometime before the sage is added and sometime before the rosemary is added.
- (iv) The potatoes are added sometime before the rosemary is added.

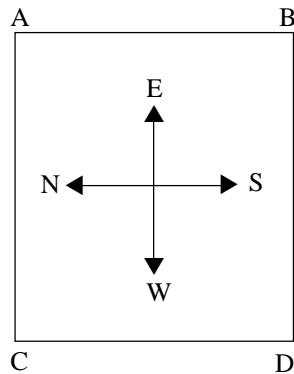
- 158.** Which of the following is an acceptable order, from first to last, in which the ingredients could be added ?
- (1) Noodles, Onions, Tomatoes, Sage, Potatoes, Rosemary
  - (2) Noodles, Potatoes, Rosemary, Sage, Tomatoes, Onions
  - (3) Noodles, Rosemary, Potatoes, Sage, Onions, Tomatoes
  - (4) Potatoes, Onions, Tomatoes, Sage, Noodles, Rosemary
- 159.** If the potatoes are added fifth, which of the following must be true ?
- (1) The noodles are added first
  - (2) The noodles are added second
  - (3) The onions are added first
  - (4) The rosemary is added sixth
- 160.** If the tomatoes are added sixth, which of the following can be true ?
- (1) The noodles are added third
  - (2) The onions are added second
  - (3) The potatoes are added first
  - (4) The potatoes are added fifth
- 161.** If the noodles are added third, which of the following must be true ?
- (1) The potatoes are added first
  - (2) The potatoes are added second
  - (3) The rosemary is added fifth
  - (4) The tomatoes are added second
- 162.** If the onions are added sometime before the sage is added, which of the following must be true ?
- (1) The noodles are added first
  - (2) The noodles are added third
  - (3) The potatoes are added third
  - (4) The potatoes are added fifth
- 163.** Which of the following is a complete and accurate list of the ingredients any one of which could be the first ingredient added ?
- (1) Noodles, Tomatoes
  - (2) Onions, Rosemary
  - (3) Noodles, Onions, Potatoes
  - (4) Noodles, Potatoes, Tomatoes

164. A rope is to be cut into six pieces. First it has been doubled. How many times does it have to be cut now?  
 (1) One (2) Two  
 (3) Three (4) Four

165. Today is Thursday. On the Monday last the date was 30th December 1974. The date today is  
 (1) 26 December 1974 (2) 2nd January 1975  
 (3) 3rd January 1975 (4) 1st January 1975

**Directions for Q. Nos. 166 to 168.**

In a square field four persons A, B, C, D are standing on the four corners as shown below:



Now they start walking in an anti-clockwise direction and occupy the position at the next corners.

166. Who is in the North-East position ?  
 (1) A (2) B  
 (3) C (4) D
167. Who is in the North-West position ?  
 (1) A (2) B  
 (3) C (4) D

168. Who is in the South-West position ?  
 (1) A  
 (2) B  
 (3) C  
 (4) D

**Directions for Q. Nos. 169 to 174.**

The art director of an advertising company is preparing a sales brochure for a boat-manufacturing company. To represent her client's line of products, she wants a separate full-page colour advertisement in the brochure for each of the following five types of boats : kayak, motorboat, pedal boat, raft, and sailboat. Thus, there will be exactly five printed pages, numbered consecutively one through five, in the brochure. Because she also wants to show the range of colours that the manufacturer uses, one of the boats pictured must be green, one must be orange, one must be tan, one must be white, and one must be yellow. In designing the brochure, she has made the following decisions :

- (i) The motorboat will be advertised on a lower-numbered page than the pedal boat.
- (ii) The sailboat will be advertised on a lower-numbered page than the kayak.
- (iii) The white boat will be advertised on a lower-numbered page than the yellow boat.
- (iv) The orange boat will be advertised on page three.
- (v) The pedal boat advertised will be tan.

169. Which of the following could be the colours of the boats advertised on pages 1 through 5 respectively ?  
 (1) White, tan, orange, green, yellow  
 (2) Green, orange, white, yellow, tan  
 (3) Green, tan, orange, yellow, white  
 (4) Orange, yellow, white, tan, green



170. Any of the boats could be advertised on page 3 *except* the

- (1) kayak
- (2) Motorboat
- (3) pedal boat
- (4) raft

171. If the kayak is advertised on a lower-numbered page than the orange boat, which of the following must be true ?

- (1) The kayak is advertised on page 1
- (2) The pedal boat is advertised on page 5
- (3) The raft is advertised on page 3
- (4) The sailboat is advertised on page 1

172. If the kayak is green, the boat advertised on page 1 must be

- (1) green
- (2) orange
- (3) tan
- (4) white

173. If the motorboat is green and is advertised on page 4, which of the following must be true ?

- (1) The raft is advertised on page 3
- (2) The sailboat is advertised on page 1
- (3) The white boat is advertised on page 1
- (4) The tan boat is advertised on page 2

174. If the sailboat is advertised on page 2 and the green boat is advertised on page 5, the sailboat must be

- (1) yellow
- (2) orange
- (3) tan
- (4) white

*Directions for Q. Nos. 175 to 177. Find the odd man out.*

175. (1) Jainism (2) Buddhism  
(3) Communism (4) Hinduism

176. (1) Gujarat (2) Kerala  
(3) Haryana (4) Orissa

177. (1) Edible oil  
(2) Groundnut oil  
(3) Coconut oil  
(4) Sunflower oil

*Directions for Q. Nos. 178 to 183. Given below are seven number series :*

- I. 4, 64, 5, 125, 6, x
- II. 6, 37, 7, 50, 8, 65, 9, x
- III. 5, 25, 125, 7, 49, 343, 9, 81, x
- IV. 9, -7, 18, -18, 31, x
- V. 4, 16, 80, 480, 3360, x
- VI. 25, 24, 22, 19, 15, 10, x
- VII. 100, 81, 64, 49, 36, x

178. In which of the above number series is the third power of a number the determining factor ?

- (1) I and III
- (2) I, IV and V
- (3) I, III and VII
- (4) II, III and VI

179. In which of the above number series is  $n^2 + 1$  the determining factor ?

- (1) I
- (2) II
- (3) III
- (4) V

180. In which of the above number series is it necessary to consider a pattern of three elements ?

- (1) I
- (2) II
- (3) III
- (4) IV

181. In which of the above number series is the use of powers of a number *not* a determining factor ?

- (1) V
- (2) VII
- (3) I
- (4) II

182. In which of the above number series is the determining factor the addition and subtraction of squares?

- (1) II
- (2) IV
- (3) VI
- (4) VII

183. In which of the above number series is the recognition of increasing multiples significant ?

- (1) II
- (2) V
- (3) VI
- (4) II and IV



**190.** Scientists who are politicians but not Indians

- (1) a                      (2) e  
(3) f                      (4) c

**191.** Indians who are politicians but not scientists

- (1) b                      (2) c  
(3) d                      (4) g

**192.** Scientists who are Indians but not politicians

- (1) f                      (2) b  
(3) c                      (4) d

**193.** Non-Indian scientists who are not politicians

- (1) f                      (2) d  
(3) e                      (4) c

**194.** Indians who are scientists as well as politicians

- (1) a  
(2) b  
(3) c  
(4) d

**Directions for Q. Nos. 195 to 200.**

A gallery owner is preparing to exhibit examples of an artist's paintings and sculptures. The artist has submitted one large sculpture, one small sculpture, two large paintings, and three small paintings. The gallery owner plans to show at least three, but no more than five works selected according to the following conditions :

- (i) At least one sculpture must be selected.  
(ii) At least one large work must be selected.  
(iii) The three large works cannot all be selected.  
(iv) The four small works cannot all be selected.  
(v) If the small sculpture is selected, at least one small painting must also be selected.

**195.** Which of the following could be a complete selection for the exhibit ?

- (1) Three small paintings  
(2) The two large paintings and two small paintings  
(3) The small sculpture, a large painting and two small paintings  
(4) The small sculpture and two small paintings

**196.** If the only sculpture selected for the exhibit is the large sculpture, which of the following must be true ?

- (1) Exactly three additional works are selected  
(2) The additional works selected are all small paintings  
(3) One of the large paintings is selected alongwith exactly three small paintings  
(4) Either two or more small paintings are selected, or one large painting and at least one small painting are selected

**197.** If five works are selected for the exhibit, which of the following must be true ?

- (1) Exactly two of the works selected are large  
(2) Exactly three small paintings are selected  
(3) Exactly four of the works selected are small  
(4) Both sculptures are selected

**198.** If three small paintings are selected for the exhibit, which of the following must also be selected ?

- (1) The small sculpture                      (2) The large sculpture  
(3) One large painting                      (4) One large painting and the large sculpture

**199.** If the small sculpture and one of the large paintings are selected, an acceptable exhibit can be made by the addition of each of the following selections *except* :

- (1) One small painting                      (2) Two small paintings  
(3) The other large painting                      (4) The other large painting and one small painting

**200.** If both sculptures are selected, an acceptable exhibit can be made by the addition of each of the following selections *except* :

- (1) One small painting                      (2) Two small paintings  
(3) Three small paintings                      (4) One large painting and one small painting

# OPENMAT (XVI) ENTRANCE TEST FOR MANAGEMENT PROGRAMMES 2005

## TEST I General Awareness

1. The Constitution provides that no Vidhan Sabha can have less than 60 members. Which of the following State Assemblies is an exception to it ?  
(1) Tripura (2) Meghalaya  
(3) Sikkim (4) Mizoram
2. Who will discharge the functions of the President of India, if for any reason both the offices of the President and the Vice President of India fall vacant?  
(1) Prime Minister  
(2) Speaker of Lok Sabha  
(3) The senior-most Governor of states  
(4) Attorney General of India
3. India is *not* a member of  
(1) G-20 (3) G-15  
(2) G-8 (4) United Nations
4. The distance between the Earth and the Sun is the greatest during  
(1) Summer Solstice  
(2) Winter Solstice  
(3) Aphelion  
(4) Perihelion
5. CDMA in telephony stands for  
(1) Cyclic Divided Microwave Access  
(2) Code Division Multiple Access  
(3) Centrally Distinct Multiple Access  
(4) Coded Dots Mobile Access
6. Which one of the following books is *not* written by Munshi Premchand ?  
(1) *Rangbhoomi* (2) *Prem Pachisi*  
(3) *Vishkanya* (4) *Kayakalp*
7. Which Taal has sixteen matras ?  
(1) Jhaptal (2) Roopak Taal  
(3) Teen Taal (4) Aadi Taal
8. Which of the following countries won the World Youth Football Championship 2004 ?  
(1) Brazil (2) Spain  
(3) Argentina (4) Germany
9. "World Development Report" is an annual publication of  
(1) United Nations Development Programme  
(2) International Bank of Reconstruction and Development  
(3) World Trade Organisation  
(4) International Monetary Fund
10. India's first Neutron Reactor 'Kamini' was built at the nuclear research centre located at  
(1) Chennai (2) Kalpakkam  
(3) Kolkata (4) Trombay
11. Who among the following has written the controversial book '*Shivaji: Hindu King in Islamic India*' ?  
(1) Arundhati Roy (2) Sumit Sarkar  
(3) James W. Laine (4) Arthur Clarke
12. Which of the following countries does *not* border the Mediterranean Sea?  
(1) Malta (2) Libya  
(3) Italy (4) Bulgaria
13. The deepest oceanic trench 'Mariana' is located in  
(1) Atlantic Ocean (2) Arctic Ocean  
(3) Pacific Ocean (4) Indian Ocean
14. Which of the following pairs is *not* correctly matched?  
(1) 'Purna Swaraj' Resolution : 1929  
(2) Martyrdom of Bhagat Singh : 1931  
(3) Formation of Congress Socialist Party : 1938  
(4) Shimla Conference : 1945
15. Which of the following states has the lowest Sex Ratio as per CENSUS - 2001 of India?  
(1) Haryana (2) Punjab  
(3) Sikkim (4) Uttar Pradesh
16. Which of the following newspapers has won five Pulitzer Prizes for 2004 ?  
(1) The New York Times  
(2) Washington Post  
(3) The Los Angeles Times  
(4) The Wall Street Journal

17. In which of the following countries, have scientists recently created mice by using two genetic mothers and no fathers?  
 (2) Canada (2) Russia  
 (3) Japan (4) Germany
18. In April 2004, the President of which of the following countries was impeached by its Parliament?  
 (1) South Korea (2) Brazil  
 (3) Thailand (4) Lithuania
19. 'Straight from the Heart' is the autobiography of  
 (1) Imran Khan (2) Kapil Dev  
 (3) Richard Hadlee (4) Ian Botham
20. Which chemical is mainly responsible for depletion of ozone layer in the atmosphere?  
 (1) Sulphur dioxide  
 (2) Chlorofluoro-carbon  
 (3) Carbon dioxide  
 (4) Nitrous oxide
21. Which of the following statements is *incorrect*?  
 (1) 'Hertz' is used to measure frequency  
 (2) 'Kelvin' is used to measure temperature  
 (3) 'Bel' is used to measure atmospheric pressure  
 (4) 'Ohm' is used to measure electrical resistance
22. Which of the following statements is *incorrect*?  
 (1) Cosmic describes anything occurring or located in outer space  
 (2) Lithosphere is the top crust of the earth which includes the land surface and the ocean floors  
 (3) Silicon constitutes the second most important element in the composition of the earth  
 (4) A tributary is a river which leaves the main river and flows separately
23. The first Summit of the Non-Aligned Movement (NAM) was held in  
 (1) Algiers (2) Belgrade  
 (3) Jakarta (4) New Delhi
24. How many members can be nominated to the Lok Sabha by the President of India?  
 (1) 2 (2) 4  
 (3) 8 (4) 12
25. The shape of the earth is best described as  
 (1) Spherical (2) Spheroid  
 (3) Geoid (4) Oblate spheroid
26. Ginger is an example of  
 (1) Tuber (2) Rhizome  
 (3) Bulb (4) Corm
27. The critical temperature at which unsaturated air becomes saturated, is called  
 (1) Absolute Humidity (2) Condensation  
 (3) Dew Point (4) Frost
28. Water glass is chemically  
 (1) Aluminium silicate (2) Calcium silicate  
 (3) Potassium silicate (4) Sodium silicate
29. Who among the following is the India's first Woman Grandmaster in Chess?  
 (1) Koneru Humpy  
 (2) Aarthie Ramaswamy  
 (3) S. Meenakshi  
 (4) S. Vijaya Lakshmi
30. Which of the following projects envisages to connect all the police stations in the country in one network?  
 (1) POL. COM (2) IPOL. COM  
 (3) POLNET (4) IPOLNET

## TEST II

### English Language

*Directions for Q. Nos. 31 to 45 : These questions are based on the contents of the passages and II given below. Read the passages carefully and answer the questions that follow them on the basis of the contents of the passage in each case.*

#### Passage I

War has escaped the battlefield and now can, with modern guidance systems on missiles, touch virtually every square meter of the earth's surface. War has also lost most of its utility in achieving the traditional goals of conflict. Control of territory carries with it the obligation to provide subject peoples certain administrative, health, education, and other social services; such obligations far outweigh the benefits of control. If the ruled population is ethnically or racially different from the rulers, tensions and chronic unrest often exist which further reduce the benefits and increase the costs of domination. Large

populations no longer necessarily enhance state power and, in the absence of high levels of economic development, can impose severe burden on food supply, jobs, and broad range of services expected of modern governments. The non-economic security reasons for the control of territory have been progressively undermined by the advances of modern technology. The benefits of forcing another nation to surrender its wealth are vastly outweighed by the benefits of persuading the nation to produce and exchange goods and services. In brief, imperialism no longer pays.

Making war has been one of the most persistent of human activities in the 80 centuries since men and women settled and thereby became “civilized” but the modernisation of the past 80 years has fundamentally changed the role and function of war. In pre-modernized societies successful warfare brought significant material rewards, the most obvious of which were the stored wealth of the defeated. Equally important was human labour – control over people as slaves or levies for the victor’s army, and there was the productive capacity – agricultural lands and mines. Successful warfare also produced psychic benefits. The removal or destruction of a threat brought a sense of security, and power gained over others created pride and national self-esteem.

War was accepted in the pre-modernised society as a part of the human condition, a mechanism of change and an unavoidable, even noble, aspect of life. The excitement and drama of war made it a vital part of literature and legends.

- |  |   |
|--|---|
| <p>31. According to the passage, leaders of pre-modernised society considered war to be</p> <ol style="list-style-type: none"> <li>(1) a valid tool of national policy</li> <li>(2) an important act of aggression</li> <li>(3) economically wasteful and socially unfeasible</li> <li>(4) restricted in scope to military participants</li> </ol>   | <p>36. War in the pre-modern society was often the subject of legend because</p> <ol style="list-style-type: none"> <li>(1) it was a noble aspect of life</li> <li>(2) it was required to be recorded for history</li> <li>(3) it was an unavoidable part of existence</li> <li>(4) it was considered an exciting and dramatic phenomenon</li> </ol>  |
| <p>32. Which of the following <i>cannot</i> be cited as a psychic advantage of war in the pre-modernized society, according to the author?</p> <ol style="list-style-type: none"> <li>(1) The creation of a sense of security</li> <li>(2) The perception of war as a noble aspect of life</li> <li>(3) The enhancement of national self-esteem</li> <li>(4) The pride that followed as a result of power over others</li> </ol> | <p>37. According to the passage, war in the modern time is no longer desirable because</p> <ol style="list-style-type: none"> <li>(1) people have realised the costs of going to war are enormous</li> <li>(2) there is far greater desire for peace and coexistence than for power</li> <li>(3) of the realisation that ruling over other countries is no longer economically advantageous</li> <li>(4) technological advances have obviated the need for war</li> </ol> |
| <p>33. The author most likely places the word “civilized” in quotation marks in order to</p> <ol style="list-style-type: none"> <li>(1) show dissatisfaction at not having found a better word</li> <li>(2) acknowledge that the word was borrowed from another source</li> <li>(3) express irony that war should be a part of civilisation</li> <li>(4) impress upon the reader the tragedy of war</li> </ol>                   | <p>38. The words ‘war has escaped the battlefield’ have been used in the passage to indicate that</p> <ol style="list-style-type: none"> <li>(1) technological advances have made the field of war all pervasive</li> <li>(2) the area of war is now not definable</li> <li>(3) war has become uncontrollable</li> <li>(4) battlefields are now extinct</li> </ol>  |
| <p>34. The author mentions all of the following as possible reasons for going to war in a pre-modernised society, <i>except</i></p> <ol style="list-style-type: none"> <li>(1) possibility of material gain</li> <li>(2) total annihilation of the enemy and destruction of enemy territory</li> <li>(3) potential for increasing the security of the nation</li> <li>(4) desire to capture productive farming lands</li> </ol>  | <p>39. The contents of the passage show that it has been written</p> <ol style="list-style-type: none"> <li>(1) very recently</li> <li>(2) about 5 years back</li> <li>(3) sometime in the 1980s</li> <li>(4) cannot be determined from the passage</li> </ol>  |
| <p>35. Which of the following best describes the tone of the passage?</p> <ol style="list-style-type: none"> <li>(1) Outraged and indignant</li> <li>(2) Humorous and wry</li> <li>(3) Concerned and optimistic</li> <li>(4) Scientific and detached</li> </ol>  |   |

## Passage II

Putting “people first” is easy to say. And its currently politically correct. What Manager, in his or her mind, is going to admit publicly that employees take a back seat to cost cutting or profitability? It is important, however, not to confuse talk with action.

Putting people first is not necessarily consistent with long-term competitiveness. Managers must recognise this fact and are increasingly acting on it. Today’s organisations are more typically pursuing a “labour-cost minimization” strategy rather than a people-first strategy. When you look beyond what managers say, you find most business firms place profits over people. They re-engineer processes and cut the size of their permanent workforce. And they substitute temporary workers for full-time permanent staff. Organisations with problems typically look to staffing cuts as a first response. And organisations without problems are regularly reviewing their staffing needs to identify redundancies and overstaffing. Their goal is to keep themselves “lean and mean”. In today’s competitive environment, few organisations have the luxury to be able to provide workers with implied “permanent employment” or to offer anything more than minimal job security. For almost all organisations today, employees are a variable cost. Staffing levels are kept to a minimum and employees are continually added or deleted as needed. Interestingly, the labour-cost-minimisation strategy appears to be spreading worldwide. It began in Canada and the United States in the early 1990s. Now it has become the model for companies in countries such as Japan, South Korea and Thailand - places that historically protected their employees in good times and bad. Many firms in these countries have abandoned their permanent employment, people-first policies. Why ? Because such policies are inconsistent with aggressive, low-cost global competition.

The above debate is ongoing in most organisations where management must make decisions regarding efficiencies and effectiveness. Indeed, a bottomline focus must be balanced with the need to create an environment for employees that facilitates an acceptable bottomline !

40. Putting people first, according to the passage is
- (1) easier said than done
  - (2) profitable
  - (3) politically though not economically defensible
  - (4) good for the company’s public image
41. The term ‘lean and mean organisation’, as used in the passage, means
- (1) a meaningful organisation
  - (2) an organisation staffed with slim and well meaning people
  - (3) a competitive organisation with no overstaffing
  - (4) an organisation which means business
42. Some countries have abandoned their traditional policy of permanent employment because
- (1) employees have become a variable cost
  - (2) it is no longer viable in a globally competitive environment
  - (3) employees are no longer keen on life-long employment in the same organisation
  - (4) they would like to take the benefit of outsourcing
43. The term ‘a bottomline focus’ is used in the passage to indicate
- (1) the organisational focus on profitability
  - (2) a concern for the lowest possible costs
  - (3) the ground reality
  - (4) the attention to breakeven point
44. As per the passage, staff reduction is the first response of
- (1) organisations getting into the competitive mode
  - (2) organisations with problems
  - (3) organisations seeking to reengineer
  - (4) organisations without problems
45. The author’s tone in the passage is
- (1) ironical and critical
  - (2) scientific and incisive
  - (3) pragmatic and informed
  - (4) humorous and entertaining

**Directions for Q. Nos. 46 to 50. Each of these questions consists of a capitalized word followed by four alternatives. Select the alternative that is most similar in meaning to the capitalized word, in each case.**

46. ABERRATION  
 (1) deviation (2) abhorrence  
 (3) dislike (4) absence
47. COPIUS  
 (1) cheating (2) plentiful  
 (3) dishonourable (4) inspired
48. DECIMATE  
 (1) disgrace (2) kill  
 (3) search (4) collide
49. GERMANE  
 (1) middle European (2) prominent  
 (3) warlike (4) relevant
50. PIQUE  
 (1) pyramid (2) revolt  
 (3) resentment (4) inventory

**Directions for Q. Nos. 51 to 55. Each of these questions consists of a capitalized word followed by four alternatives. Select the alternative that is most nearly opposite in meaning to the capitalized word, in each case.**

51. VANGUARD  
 (1) regiment (2) rear  
 (3) protection (4) loyalty
52. RETROGRADE  
 (1) directing (2) evaluating  
 (3) inclining (4) progressing
53. EXTRINSIC  
 (1) reputable (3) swift  
 (2) inherent (4) ambitious
54. ODIOUS  
 (1) fragrant (2) redolent  
 (3) fetid (4) delightful
55. LACONIC  
 (1) milky (2) verbose  
 (3) wicked (4) flagrant

**Directions for Q. Nos. 56 to 65. Each of these questions consists of a sentence with four parts underlined. Select the part (1, 2, 3 or 4) which is incorrect as per standard written English.**

56. Although I was not invited to the party, I would very much have liked to have gone.  
 (1) (2) (3) (4)
57. Every man, woman and child in this community are now aware of the terrible consequences of the habit of smoking.  
 (1) (2) (3) (4)
58. The question arises as to who should go out in this heat and dust to collect mail from the letter box, you or me.  
 (1) (2) (3) (4)
59. I appreciate you helping me to tidy up the table, but I wish you would stack all the loose paper neatly.  
 (1) (2) (3) (4)
60. No one who has seen him work in the library can deny that Purab has an interest and aptitude for academic research.  
 (1) (2) (3) (4)
61. Everyone is expected to attend the official dinner except the field's supervisor, the sales manager and I.  
 (1) (2) (3) (4)



62. After I listened to the singer and enjoyed her performance, I hurried home to finish my homework.  
 (1) (2) (3) (4)
63. No sooner had he begun to speak when a disturbing noise arose from the audience.  
 (1) (2) (3) (4)
64. A great many educators firmly believe that Mathematics is one of the poorest taught subjects in the high school today.  
 (1) (2) (3) (4)
65. Any modern writer would be delighted to have his plays compared with Shakespeare.  
 (1) (2) (3) (4)

**Directions for Q. Nos. 66 to 70. Each of these questions consists of a sentence with one or more blank spaces, followed by four alternative words or set of words. Choose the word or set words which best fit the meaning of the sentence as a whole, in each case.**

66. The children marvelled at the strange foliage, it was their \_\_\_\_\_ to the tropics.  
 (1) voyage (2) introduction  
 (3) conduit (4) exposure
67. A wave of self- \_\_\_\_\_ convulsed her as she realised the \_\_\_\_\_ she had caused others.  
 (1) pity-suffering (3) doubt-happiness  
 (3) contempt-pain (4) esteem-service
68. The innovations of the \_\_\_\_\_ age have had \_\_\_\_\_ effects on people in all walks life.  
 (1) atomic - irrelevant (2) electronic - universal  
 (3) bronze - pre (4) computer - marked
69. We should have \_\_\_\_\_ trouble ahead when the road \_\_\_\_\_ into a gravel path.  
 (1) interrogated - shrank  
 (2) anticipated - dwindled  
 (3) expected - grew  
 (4) seen - collapsed
70. In the \_\_\_\_\_ downpour, the girls managed to \_\_\_\_\_ us and disappear.  
 (1) ensuing - evade (2) incessant - pervade  
 (3) torrential - provoke (4) insipid - avoid

**Directions for Q. Nos. 71 to 75. Each of the following questions consists of a related pair words in capitalised letters, followed by four pairs of words. Select the pair that expresses a relationship similar to that expressed in the capitalised pair in each case.**

71. LINEAGE: PERSON  
 (1) foliage: tree (2) deviation: word  
 (3) title: book (4) adolescence: child
72. PHYSIQUE: STURDY  
 (1) intellect: noble (2) punctuality: tardy  
 (3) investment: sound (4) fabric: worn
73. FRAYED: FABRIC  
 (1) thawed: ice (2) renovated: building  
 (3) frazzled: nerves (4) cultivated: manner
74. DRUDGERY: IRKSOME  
 (1) compliance: forced  
 (2) encumbrance: burdensome  
 (3) journey: tiresome  
 (4) dissonance: harmonious
75. SURPRISE: EXCLAMATION  
 (1) insolence: bow  
 (2) dismay: groan  
 (3) happiness: grimace  
 (4) difference: nod

**Directions for Q. Nos. 76 to 80 :** These questions consist of an idiom or a phrase, followed by four alternatives. Select the alternative which is the most appropriate meaning of the idiom or phrase as per standard usage, in each case.

76. Lose one's shirt  
 (1) misplace one's clothes  
 (2) forget to dress properly  
 (3) lose one's courage  
 (4) lose everything one has
77. Make a beeline for  
 (1) form a neat queue (2) go straight for  
 (3) gather around (4) dance around
78. Give someone a wide berth  
 (1) provide someone with ample space  
 (2) help and facilitate someone  
 (3) avoid someone completely  
 (4) disbelieve someone
79. Dutch courage  
 (1) exemplary courage  
 (2) the courage of one's convictions  
 (3) false sense of bravery brought about by drinking alcohol  
 (4) foolish display of bravado
80. Bury the hatchet  
 (1) dispose off  
 (2) agree to terminate  
 (3) become friendly again  
 (4) complete the task

### TEST III Quantitative Aptitude

81. The area of the four walls of a hall is 660 sq. m, the length is twice the breadth and the height is 11 m. Find the area of the ceiling.  
 (1) 200 sq. m (2) 300 sq. m  
 (3) 400 sq. m (4) 500 sq. m
82. How many cubes each of surface 4 sq. cm can be made from a 8 cm cube?  
 (1) 16 (2) 3  
 (3) 64 (4) 12
83.  $1 + 5\frac{1}{4}$  of  $3\frac{1}{2} \div 12\frac{1}{4}$  of  $1\frac{1}{2}$  is equal to  
 (1) 1 (2) 2  
 (3) 3 (4) 6
84. The distance between the tops of two trees 20 m and 28 m high is 17 m. The horizontal distance between the trees is  
 (1) 9m (2) 12 m  
 (3) 15 m (4) 31 m
85. The average of 3 prime numbers between 50 and 75 is  $\frac{191}{1}$ . Find the difference between the largest and the smallest prime numbers.  
 (1) No unique value (2) 12  
 (3) 17 (4) 19
86. In a zoo 65% of the animals were mammals. Now after one year, only 60% mammals are alive. How many mammals are alive now if only 60% of the original 1200 animals are alive and no new animal is added to the zoo?  
 (1) 270 (2) 450  
 (2) 720 (4) 468
87. The compound interest on a certain sum for 2 years is Rs. 1100 and the simple interest is Rs. 1000. If this sum is invested such that simple interest is Rs. 400 and the number of years is equal to rate percent per annum, find the new rate per cent.  
 (1) 2% (2) 4%  
 (3) 8% (4) 16%
88. A sphere of radius 3 cm is dropped into a cylindrical vessel partly filled with water. The radius of the vessel is 6 cm. If the sphere is submerged completely, by how much will the surface of water be raised?  
 (1) 1 cm (2) 2 cm  
 (3) 3cm (4) 6cm
89. A grocer bought 10 kg of apples for Rs. 81 out of which one kg were found rotten. If he wishes to make a profit of 10%, then he should sell it at — per kg.  
 (1) Rs. 10 (2) Rs. 10.10  
 (3) Rs. 9.90 (4) Rs. 11

90. If  $A : B = 2 : 3$ ,  $B : C = 5 : 9$ , then  $A : B : C$  is  
 (1) 10 : 15 : 9 (2) 10 : 15 : 27  
 (3) 2 : 3 : 9 (4) 2 : 3 : 5
91. The smallest square number which is exactly divisible by 12, 18 and 27 is  
 (1) 144 (2) 729  
 (3) 324 (4) 288
92. The value of  $\cos^2 13^\circ - \sin^2 77^\circ$  is  
 (1) 2 (2) 1  
 (3) 0 (4) 3
93. A single discount equivalent to a discount series of 40% and 20% is  
 (1) 50% (2) 52%  
 (3) 48% (4) 55%
94. If A's salary is 25% higher than B's salary, how much percent is B's salary lower than A's?  
 (1) 15% (2) 20%  
 (3) 29% (4)  $33\frac{1}{3}\%$
95. A number is increased by 10% and then reduced by 10%. After this operation, the number  
 (1) does not change (2) decreases by 1%  
 (3) increases by 1% (4) increases by 0.1%
96. Two equal sums of money were invested, one at 4% and the other at  $4\frac{1}{4}\%$ . At the end of 7 years, the simple interest received by the latter was Rs. 31.50 more than the former. Each sum was  
 (1) Rs. 1000 (2) Rs. 6300  
 (3) Rs. 900 (4) Rs. 700
97. If the cost of 12 pencils is equal to the selling price of 10 pencils, the profit percent in the transaction is  
 (1)  $16\frac{2}{3}\%$  (2) 18%  
 (3) 20% (4) 25%
98. Teas worth Rs. 126 / kg and Rs. 135 / kg are mixed with a third variety in the ratio 1 : 1 : 2. If the mixture is worth Rs. 153 / kg, the price of the third variety per kg will be  
 (1) Rs. 169.50 (2) Rs. 170  
 (3) Rs. 180 (4) Rs. 175.50
99. The curved surface of a right circular cone of height 15 cm and base diameter 16 cm is  
 (1)  $120\pi\text{ cm}^2$  (2)  $60\pi\text{ cm}^2$   
 (3)  $136\pi\text{ cm}^2$  (4)  $68\pi\text{ cm}^2$
100. If Ajit can do  $\frac{1}{4}$  of a work in 3 days and Siddharth can do  $\frac{1}{6}$  of the same work in 4 days, how much will Ajit get if both work together and are paid Rs. 180 in all ?  
 (1) Rs. 120 (2) Rs. 108  
 (3) Rs. 60 (4) Rs. 36
101. Two pipes can fill a tank in 10 hours and 12 hours respectively, while the third can empty it in 20 hours. If all the pipes are opened together, then the tank will be filled in  
 (1)  $7\frac{1}{2}$  hours (2) 10 hours  
 (3) 8 hours (4)  $9\frac{1}{10}$
102. A and B weave a carpet in 10 days and 15 days respectively. They begin to work together but B leaves after 2 days. In what time will A complete the work?  
 (1)  $6\frac{1}{3}$  days (2)  $6\frac{2}{3}$  days  
 (3) 7 days (4) 8 days
103. X and Y start from the same point and run around a circular stadium, whose circumference is 4200 m, at the rate of 500 m and 700 m per minute respectively in the opposite directions. They will meet each other in  
 (1) 3.5 minutes (2) 6.0 minutes  
 (3) 8.4 minutes (4) 21 minutes
104. A cassette recorder having a tag price of Rs. 900 is sold for Rs. 648 after two successive discounts. If the first discount was 10%, what was the second discount?  
 (1) 8% (2) 20%  
 (3) 12% (4) 13%
105. Iron and copper are melted together in a furnace of a die casting machine in the ratio of 9 : 11. What is the weight of the melted mixture, if 28.8 kg of iron has been consumed in it?  
 (1) 64 kg (2) 35.2 kg  
 (3) 32 kg (4) 36 kg
106. A frog tries to come out of a dried well 9 m deep with slippery walls. Every time the frog jumps 60 cm it slides back by 30 cm. How many jumps will the frog have to take to come out of the well?  
 (1) 20 (2) 29  
 (3) 28 (4) 30

107. The ratio of the area of a square to that of the square drawn on its diagonal is always  
 (1) 4: 5 (2) 3: 4  
 (3) 1: 2 (4) 2: 3
108. A newspaper seller starts from his residence on a scooter at a uniform speed of 30 km/hr and reaches the distribution point in 1 hr. 30 minutes. If he takes 1 hr. 40 minutes for the return journey, what was his speed for the return journey?  
 (1) 45 km/hr (2) 27 km/hr  
 (3) 36 km/hr (4) 33 km/hr
109. The denominator of a rational number is one more than its numerator. In case the numerator is increased by 2 and the denominator is decreased by 2, we obtain the value 2. What is the rational number?  
 (1) 5/6 (2) 4/5  
 (3) 3/4 (4) 2/3
110.  $\frac{\sqrt{32} + \sqrt{48}}{\sqrt{8} + \sqrt{12}} = ?$   
 (1) 2 (2) 3  
 (3) 4 (4) 6
111. The ages of Manu and Bharat are in the ratio of 6 : 5 and the sum of ages in 44 years. What will be the ratio of their ages after 8 years ?  
 (1) 1: 2 (2) 9: 7  
 (3) 8: 7 (4) 11: 10
112. The population of a town is 32000 and the annual increase is 50 per thousand. What will be the number of people after 3 years?  
 (1) 38004 (2) 37044  
 (3) 39014 (4) 38444
113. Which of the following fractions is the largest?  
 (1)  $\frac{47}{51}$  (2)  $\frac{49}{54}$   
 (3)  $\frac{53}{71}$  (4)  $\frac{94}{96}$
114. In a group of 500 people, 300 can speak Hindi only and 120 can speak English only. How many can speak both Hindi and English?  
 (1) 80 (2) 60  
 (3) 90 (4) 420
115. In an election between two candidates, the candidate who gets 30% of the votes polled was defeated by 15000 votes. The number of votes polled by the winning candidate is  
 (1) 12250 (2) 37500  
 (3) 26250 (4) 28000
116. In an office each employee deposits an equal amount to the number of employees work for a welfare scheme. An outsider deposits Rs. 15 to make the total amount to Rs. 415. H many employees are there in the office?  
 (1) 10 (2) 14  
 (3) 20 (4) 17
117. Find the least number by which 968 be multiplied so that it may be a perfect square.  
 (1) 4 (2) 2  
 (3) 11 (4) 12
118. If two horses are worth 3 camels, 9 camels are worth 10 cows and 100 cows are worth 3 elephants, what is the price of a horse if the elephant costs Rs. 36000 ?  
 (1) Rs. 1600 (2) Rs. 1800  
 (3) Rs. 700 (4) Rs. 2000
119. A number is multiplied by 9 and 9 is added to the product. If the resulting number divisible by 17, the smallest of such numbers is  
 (1) 12 (2) 15  
 (3) 13 (4) 16
120. A bag contains 8 red, 7 green and 5 blue balls. What is the maximum number of balls which should be drawn to ensure that atleast one ball of each colour is drawn?  
 (1) 9 (2) 11  
 (3) 14 (4) 16

**Directions for Q. Nos. 121 to 125 : Study the following information and answer the Q. nos. 121 to 125.**

Export of Gems in the year	Amount (in crores of Rs.)
2003	6100
2002	4399
2001	2140
2000	1200
1999	1530
1998	835

121. What is the total export in 1998 to 2002 ?  
 (1) 10100 crores (2) 10104 crores  
 (3) 9104 crores (4) 10304 crores
122. What is the average monthly export of gems in 2001 (in crores of rupees) ?  
 (1) 200 crores (2) 150 crores  
 (3) 178.33 crores (4) 180 crores

123. What is the average annual increase in export from 2001 to 2003 ?  
 (1) 198crores (2) 2030 crores  
 (3) 2400 crores (4) 1733 crores
124. What is the percentage decrease in export in 2000 over 1999 ?  
 (1) 22% (2) 25%  
 (3) 21.57% (4) 25.17%
125. The export in 2003 is nearly how many times of the exports in 1998 ?  
 (1) 6.9 (2) 7.1  
 (3) 7.3 (4) 7.7

**Directions for Q. Nos. 126 to 130. The following table shows the distribution of expenditure by a family in percentage. Answer the Q. nos. 126 to 130 based on this information.**

Food	37%
Cloth	24.1%
Accommodation	26.4%
Education	4.9%
Travel	7.6%

126. What percent of expenditure on food is spent on travel (approx.) ?  
 (1) 20.5 (2) 25.1  
 (3) 27.2 (4) 30.3
127. Expenditure on cloth is what percent of the expenditure on education (approx.) ?  
 (1) 20 (2) 500  
 (3) 150 (4) 400
128. Expenditure on education is how much per cent less than the expenditure on food (approx.) ?  
 (1) 87% (2) 47%  
 (3) 32.1% (4) 49%
129. Expenditure on accommodation is how much percent more than the expenditure on travel (approx.) ?  
 (1) 18.8% (2) 247%  
 (3) 40% (4) 140%
130. What fraction is the expenditure on travel to the whole expenditure (approx.) ?  
 (1)  $\frac{3}{40}$   
 (2)  $\frac{19}{231}$   
 (3)  $\frac{31}{40}$   
 (4)  $\frac{47}{40}$

## TEST IV Reasoning

**Directions for Q. Nos. 131 to 135. Find the number that comes next in the sequence.**

131. 8,12,18,27,\_\_\_\_\_
- (1) 36 (2)  $37\frac{1}{2}$   
 (3) 44 (4)  $40\frac{1}{2}$
132. 40,45,33,38,27,32,22,27,\_\_\_\_\_
- (1) 18 (2) 19  
 (3) 39 (4) 22
133. 41, 31, 23, 17, 11,\_\_\_\_\_
- (1) 6 (2) 5  
 (3) 8 (4) 10
134. 2, 9, 28, 65, 126,\_\_\_\_\_
- (1) 261 (2) 198  
 (3) 217 (4) 187
135. 1, 10, 101, 100, 1001, 1000,\_\_\_\_\_
- (1) 10001 (2) 10000  
 (3) 1111 (4) 1001

**Directions for Q. Nos. 136 to 142.**

For a panel of professors to assess the budget speech, the producer must choose two Republicans and two Democrats. At least one professor must be an economist and at least one a military expert. Available Republicans are A, B, C, D and E; available Democrats are F, G, H and I. C, F and G are economists, D and I are military experts. F will not sit in the same room with C, and will take part only if A is on the panel. D refuses to take part with G, and E refuses to take part with I.

136. Which of the following is *not* an acceptable panel?  
(1) F,H,A,D                      (2) F, I, A, D  
(3) G, H, A, C                      (4) G, I, A, C
137. If A and B are chosen as the Republicans, who can be chosen as the Democrats ?  
(1) F and I only  
(2) F and I or G and I only  
(3) F and G or G and H only  
(4) F and I, G and I, or H and I
138. If G is chosen, which of the following must be true ?  
I. Any acceptable panel must contain I.  
II. Any acceptable panel must contain A.  
III. There is no acceptable panel which contains B.  
(1) I only                      (2) II only  
(3) I and II only                      (4) I, II and III
139. How many acceptable panels can the producer put together?  
(1) 6                      (2) 7  
(3) 8                      (4) 9
140. Which of the following pairs *cannot* be part of an acceptable panel?  
I. F and G  
II. Band D  
III. C and D  
(1) I only                      (2) III only  
(3) I and II only                      (4) I, II and III
141. Which Republican belongs to the smallest number of different acceptable panels?  
(1) .B                      (2) C  
(3) D                      (4) E
142. Which professor belongs to the greatest number of different acceptable panels?  
(1) I                      (2) A  
(3) H                      (4) B

**Directions for Q. Nos. 143 to 146.**

Four sisters - S, T, U and V are playing a game such that the loser doubles the money of each of the other players from her share. They played four games and each sister lost one game, in alphabetical order. At the end of the fourth game, each sister had Rs. 32.

143. How many rupees did S start with ?  
(1) Rs. 66                      (2) Rs. 70  
(3) Rs. 10                      (4) Rs. 60
144. Who started with the lowest amount?  
(1) S                      (2) T  
(3) U                      (4) V
145. Who started with the highest amount?  
(1) S                      (2) T  
(3) U                      (4) V
146. What was the amount with U at the end of the second round?  
(1) Rs. 36                      (2) Rs. 72  
(3) Rs. 84                      (4) Rs. 54

**Directions for Q Nos. 147 to 153.**

Seven musical selections - H, I, J, K, M, O and P - must appear on a single two-sided long-playing record. For a given side, any choice of selections and any sequence of selections will be acceptable so long as the following conditions are met:

- (i) P must be first or last on a side.
- (ii) H must be placed on the same side as M, either immediately before M or immediately after M.
- (iii) I cannot be placed on the same side as K.
- (iv) O can be placed on the same side as H, but neither immediately before nor immediately after H.
- (v) Side 1 cannot begin with K.
- (vi) Each side must have at least two selections.
- (vii) Each selection must appear on the record exactly one time.

147. If side 2 begins with K, which of the following selections must appear on side 1 ?

- (1) H (2) I  
(3) J (4) M

148. If side 1 has exactly three selections and the first is O, which of the following could be the other two selections on side 1 ?

- (1) H followed by I (2) I followed by K  
(3) J followed by H (4) K followed by P

149. Which of the following is a possible arrangement, in order, of the seven musical selections?

Side 1                      Side 2

- |                |            |
|----------------|------------|
| (1) H, M, K, P | 1, O, J    |
| (2) P, O, H, M | K, I, J    |
| (3) 1, O, J    | M, H, P, K |
| (4) J, O, M    | H, I, P, K |

150. If I and J are the only selections on side 1, which of the following is a possible order of the selections for side 2 ?

- (1) H, M, O, P, K  
(2) K, H, O, M, P  
(3) M, H, O, K, P  
(4) P, H, M, O, K

151. If side 2 contains exactly four selections, beginning with M and ending with K, which of the following must be true?

- (1) H appears on side 1  
(2) I appears on side 2  
(3) J appears on side 2  
(4) O is the first selection on side 1

152. If O, H and P are among the selections on side 1, which of the following must be true?

- (1) Side 1 has exactly five selections  
(2) I appears on side 1  
(3) K appears on side 2  
(4) J is the first selection on side 2

153. If I, J and P are all of the selections that appear on side 1, and side 2 begins with M, which of the following must be true?

- (1) The second selection on side 2 is K  
(2) The third selection on side 2 is H  
(3) The last selection on side 2 is H  
(4) The last selection on side 2 is O

**Directions for Q. Nos. 154 to 156. Find the odd man out.**

154. (1) Dagger (2) Knife  
(3) Sword (4) Shield
155. (1) Nilgiri (2) Simla  
(3) Ooty (4) Nainital
156. (1) Roar (2) Shout  
(3) Trumpet (4) Grunt

**Directions for Q. Nos. 157 to 160.**

- (i) A, B, C, D, E, F and G are sitting in a row facing North. (ii) F is to the immediate right of E.  
(iii) E is 4th to the right of G.  
(iv) C is the neighbour of B and D.  
(v) Person who is third to the left of D is at one of the ends.

157. What is the position of A ?

- (1) Between E and D (2) Extreme right  
(3) Extreme left (4) Centre

158. Who are to the left of C ?

- (1) G and B (2) Only B  
(3) G, B and D (4) D, E, F and A

159. Who are neighbours of B ?

- (1) C and D (2) G and F  
(3) C and G (4) F and G

160. Which of the following statements is *not* true?

- (1) G is to the immediate left of B  
(2) F is 2nd to the right of D  
(3) A is at one of the ends  
(4) E is to the immediate left of D

**Directions for Q. Nos. 161 to 163. Find the missing letter.**

161. D F I M R

- (1) X (2) S  
(3) Y (4) T

162. L N M O N P O Q

- (1) O (2) P  
(3) R (4) S

163. A E I O

- (1) M (2) T  
(3) W (4) U

**Directions for Q. Nos. 164 and 165.**

A boy is asked to put in a basket one mango when ordered 1, one orange when ordered 2, one apple when ordered 3 and is asked to take out from the basket one mango and one orange when ordered 4. A sequence of orders is given as :  
12332142314223314113234

164. How many oranges were in the basket at the end of the above sequence?  
(1) 1 (2) 4  
(3) 3 (4) 2
165. How many total fruits were in the basket at the end of the above sequence?  
(1) 11 (2) 10  
(3) 9 (4) 8
166. Out of two-thirds of the total number of basketball matches, a team won 17 matches and lost 3 of them. What is the maximum number of matches that the team can lose and still win more than three-fourths of the total number of matches? (No match can end in a tie.)  
(1) 4 (2) 5  
(3) 3 (4) 6
167. A person bought five mangoes and ten oranges for forty rupees. Subsequently he returned one mango and got two oranges in exchange. The price of an orange is  
(1) Re.1 (2) Rs.3  
(3) Rs.2 (4) Rs.4
168. If  $72 + 45 = 18$   
 $86 + 14 = 19$   
 $56 + 42 = 17$   
 $69 + 31 = ?$   
(1) 16 (2) 18  
(3) 19 (4) 20

**Directions for Q. Nos. 169 to 174.**

Every week the owner of a produce store offers a special sale on either one or two vegetables, charging half-price for vegetables that are on special. During one four-week period, week 1 through week 4, the owner will offer a special on each of six vegetables L, O, P, R, S and T. Each vegetable will be on special for exactly one of the four weeks according to the following conditions:

- (i) A week in which two vegetables are on special cannot be immediately followed by another week in which two vegetables are on special.  
(ii) R must be on special in week 3.  
(iii) T must be on special in a week in which two vegetables are on special.  
(iv) P must be on special in a week sometime before the week in which L is on special.  
(v) S must be on special in a week sometime before the week in which O is on special.
169. If only one vegetable is on special in week 1, that vegetable could be  
(1) L (2) O  
(3) P (4) R
170. Which of the following could be on special together in week 2?  
(1) L and O (2) O and P  
(3) O and S (4) P and R
171. If P is on special in the same week as R, which of the following must be true?  
(1) L is on special in week 2  
(2) O is on special in week 1  
(3) O is on special in week 2  
(4) S is on special in week 4.
172. If L is on special in the same week as O, which of the following must be true?  
(1) P is on special in week 1  
(2) L is on special in week 4  
(3) T is on special in week 2  
(4) T is on special in week 3
173. If S is on special in week 3, which of the following must be on special in a week in which only one vegetable is on special?  
(1) L (2) P  
(3) R (4) S



174. If L is on special in the same week as S, which of the following must be true?
- (1) P is on special in week 2
  - (2) S is on special in week 1
  - (3) T is on special in week 3
  - (4) T is on special in week 4

**Directions for Q. Nos. 175 to 178. Unscramble the letters in the following words and find the odd man out.**

175. (1) UDSNYA (2) A YM  
(3) UNJE (4) UYJL
176. (1) OERS (2) OUSTL  
(3) LLIY (4) AGMNO
177. (1) IVEF (2) OWT  
(3) OFRU (4) DDA
178. (1) 1ST (2) KPSI  
(3) UPMJ (4) URN

**Directions for Q. Nos. 179 to 185.**

A five person team is to be sent to a nearby gathering of voters. The team must contain two persons to distribute leaflets, one speaker to address the voters, and a two-person defense squad. A, B and C are possible leafletters; C, D and E are possible speakers; F, G and H are possible members of the defense guard. A and C prefer to work with each other on the same team. E prefers to work only if F works.

179. Which is a possible team if all preferences are respected?
- (1) A, B, C, D, F
  - (2) A, C, D, E, F
  - (3) A, B, C, F, G
  - (4) A, C, E, G, H
180. If A is chosen as a member of the team and all preferences are respected, which must be true?
- (1) B must be a leafletter
  - (2) C must be a leafletter
  - (3) F must go
  - (4) Any of the three defense personnel may go
181. Which choice of personnel is impossible if all preferences are respected?
- (1) A and B as leafletters, C as speaker
  - (2) B and C as leafletters
  - (3) A and C as leafletters, F and H on defense
  - (4) G and H on defense

182. If A and B are leafletters and all preferences are respected, which is (are) true?

- I. C is the speaker.
- II. F is on defense.
- III. Either F or G is on defense.

- (1) I only
- (2) II only
- (3) I and II only
- (4) I and III only

183. How many different possible teams can the organizer assemble, if all preferences are respected?

- (1) 5
- (2) 8
- (3) 9
- (4) 13

184. Which person(s) must be chosen as part of any team, if all preferences are respected?

- I. A
- II. E
- III. F

- (1) I only
- (2) III only
- (3) I and II only
- (4) I, II and III

185. Which person can be part of the smallest number of different possible teams, if everyone's preferences are respected?

- (1) A
- (2) B
- (3) D
- (4) E

**Directions for Q. Nos. 186 and 187.**

Eighty five children went to an amusement park where they could ride on the merry-go-round, roller coaster and giant wheel. It was known that 20 of them took all three rides, and 55 of them took at least two of the three rides. Each ride costs Re. 1 and the total receipts of the park were Rs. 145.

186. How many children did *not* try any of the rides?

- (1) 10
- (2) 15
- (3) 20
- (4) 25

187. How many children took exactly one ride?

- (1) 15
- (2) 20
- (3) 10
- (4) 12

**Directions for Q. Nos. 188 to 191.**

A training college has to conduct a refresher course for teachers of seven different subjects - Education, Psychology, Philosophy, Sociology, Economics, Science and Engineering from 22nd July to 29th July.

- (i) Course should start with Psychology and there should be a gap of 2 days between Sociology and Psychology.
- (ii) 23rd July, being Sunday, should be a holiday.
- (iii) Science should be on the previous day of Engineering.
- (iv) Course should end with Education.
- (v) Philosophy should be immediately after the holiday.
- (vi) There should be a gap of one day between Economics and Engineering.

188. Which subject will be on Tuesday?  
(1) Sociology (2) Economics  
(3) Education (4) Engineering
189. Which subject precedes Education?  
(1) Economics (2) Engineering  
(3) Philosophy (4) Psychology
190. How many days gap is in between Science and Philosophy?  
(1) 2 (2) 3  
(3) 4 (4) 5
191. Science follows which subject ?  
(1) Engineering (2) Psychology  
(3) Philosophy (4) Economics
192. Three of the following four are alike in a certain way and hence form a group. Which is the one that does *not* belong to the group ?  
(1) 51 (2) 144  
(3) 256 (4) 64

**Directions for Q. Nos. 193 to 197 : In each of these questions, five words, marked (a) to (e) are given. Arrange these words in alphabetic sequence as they appear in a dictionary. Select answers from the choices given under each set of words.**

193. (a) NEUTRALISE (1) d-a-c-e-b (2) a-d-c-e-b  
(b) NEUTRAL (3) d-c-a-e-b (4) a-c-d-e-b  
(c) NEUTRALITY  
(d) NEUTRON  
(e) NEUTRALISM  
(1) d-b-c-a-e (2) b-a-e-c-d  
(3) b-e-c-d-a (4) b-e-a-c-d
194. (a) ORGAN (1) c-a-d-b-e (2) c-a-e-b-d  
(b) ORIGIN (3) c-a-d-e-b (4) e-d-b-a-c  
(c) ORIENT  
(d) ORGANIC  
(e) ORGANISE
195. (a) HORRIBLE (1) a-e-c-d-b (2) b-c-d-a-e  
(b) HOSIERY (3) a-e-c-b-d (4) a-e-d-c-b  
(c) HORROR  
(d) HORRID  
(e) HORSE
196. (a) REFINE  
(b) REFRESH  
(c) REFILL  
(d) REFORM  
(e) REFRAIN
197. (a) FLOWER  
(b) FLUX  
(c) FLUID  
(d) FLUSH  
(e) FLUE

**Directions for Q. Nos. 198 to 200.**

A person who is drawing up a will has exactly five potential heirs - S, T, U, V and W. The estate will distribute exactly seven lots of land, which are numbered 1 through 7. All seven lots will be distributed, subject to the following restrictions:

- (i) No lot is to be shared, and no heir can inherit more than three lots.
- (ii) Whoever inherits lot 2 cannot inherit any other lot. (iii) No heir can inherit both lot 3 and lot 4.
- (iv) If S inherits one or more lots, then U cannot inherit any. (v) If S inherits lot 2, then T must inherit lot 4.
- (vi) W must inherit lot 6 but cannot inherit lot 3.

198. If S inherits lot 2, who must inherit lot 3 ?

- (1) T
- (2) U
- (3) V
- (4) W

200. If U and V inherit no lots, which of the following must inherit three lots? .

- (1) S only
- (2) W only
- (3) Both S and T
- (4) Both S and W

199. If S inherits lot 2 and three heirs inherit two lots each, no one can inherit both lots

- (1) 1 and 3
- (2) 1 and 7
- (3) 1 and 6
- (4) 4 and 5