

Dear Candidates,

Please go through the following points relating to WOS-C 2011.

- The educational qualifications required, outline of the programme and terms and conditions are all mentioned in the advertisement below.
- It is mandatory that the candidates have the required degree by 1st May 2011. Candidates who are due to graduate after that may apply for WOS-C 2012 since this is an annual scheme.
- Application form format is also given. You may type out or handwrite the form in the same format and send it to the correct address.
- The programme outlines a one year rigorous training in IPR. The timings are from 9 to 6 and hence cannot be pursued along with a job or full time course.
- We are not responsible for further placement.
- The entrance exam will be held on 20th of Feb. 2011. Shortlisted candidates will be duly informed by mail.
- The format of the paper is objective type questions with multiple choice. It is a common test for all. There is no prescribed syllabus.
- Sample questions are pasted for reference.



TIFAC

Women Scientist Scholarship Scheme (WOS-C)

TECHNOLOGY INFORMATION, FORECASTING AND ASSESSMENT COUNCIL (TIFAC)

DEPARTMENT OF SCIENCE & TECHNOLOGY (DST)

GOVERNMENT OF INDIA

FOR WOMEN HAVING SCIENCE QUALIFICATIONS

If you have a hunger to deal with latest scientific and technological inventions, this advertisement may be for you.

A scheme of Government of India for the women scientists, **“Women Scientists Scholarship Scheme (WOS-C)”** is being operated by the Department of Science & Technology (DST). The scheme aims to train women having qualifications in science/ engineering / medicine or allied areas in the area of intellectual property rights (IPR) and their management for a period of one year. Government is interested in retaining the scientific talent of Indian women seeking scientific pursuits and keen to encourage women to work from their homes and enabling them to draw a good balance between professional and domestic demands. The scheme is being coordinated and implemented by Patent Facilitating Centre (PFC) of Technology Information, Forecasting and Assessment Council (TIFAC) on behalf of DST.

The selection of the candidates is done by an all India level written test followed by a rigorous interview. Selected candidates will be given stipend for one year. Training will include one month of an intensive orientation programme on IPR followed by specialized workshops and hands-on-training in agencies engaged in IPR protection and management.

SCHOLARSHIP

The scholarship will be admissible for a period of one year and the amount of scholarship will be Rs. 12,500 per month for candidates having MSc/BTech/MBBS/BPharma or equivalent qualification and Rs.17,500 per month for PhD/ MTech/ MPharma/ MVSc/ MS/MD or equivalent.

LONG TERM OBJECTIVES

1. Empower talented and skilled women who have studied science, engineering, medicine and allied areas to contribute effectively in the advancement of science and technology in the country.
2. Develop a pool of women scientists geared up in creating, protecting and managing intellectual property in India.

SHORT TERM OBJECTIVES

1. Train talented and meritorious women, who have studied science, engineering, medicine and allied areas, in laws related to protection of intellectual property (IP), management of IPR, determination of novelty and originality of IP, ascertaining patentability of an invention, searches of databases

related to patents and allied databases and other aspects of IPR; enabling them to seek specialized employment or be self employed.

2. Develop a core of professionals for preparing specialized reports based on IPR such as technology scan and freedom to operate reports.

ELIGIBILITY CRITERIA

Essential

A candidate should be:

1. An Indian citizen.
2. Master of Science in physical sciences, chemical sciences, life sciences or allied areas; or Bachelor or Master degree holder in engineering, medicine, pharmaceutical science, veterinary science or allied areas or doctorate in any of the above areas. Candidates with higher qualifications are welcome to apply.
3. Familiar with handling of computerized databases, surfing the net and information searches.
4. A candidate should not be more than 50 years of age on the date of advertisement in the Employment News on October 31, 2010.

Desirable

Experience in research, preparation of project reports, term papers and similar activities.

COORDINATION CENTRES

PFC is the nodal office having the overall responsibility of implementing the scheme throughout the country including training of selected candidates. It has set up three coordination centres, namely, Centre for International Cooperation in Science (CICS), Chennai; Indian Institute of Technology (IIT), Kharagpur and Unit for Research & Development of Information Products (URDIP), Pune for facilitating training of candidates.

HANDS-ON-TRAINING

Hands-on-training would be provided at partner agencies of the scheme such as law firms, Knowledge Processing Organisations (KPOs), companies and government agencies. The period of hands-on-training would be about 10 months.

SELECTION PROCEDURE

Selection will be through an all India written examination and interview. The written test will be conducted in four cities namely, Delhi, Chennai, Kharagpur and Pune under the supervision of PFC and respective coordination centres. Similarly, interview of successful candidates in the written test will be held at these centres.

HOW TO APPLY

1. Application must be sent in the format given at the end of the advertisement. The application must be complete in all aspects. Incomplete applications will be rejected.
2. No column should be left blank. Write 'not applicable/nil' if no details are available.
3. The declaration at the end of the application must be signed. Unsigned applications will be rejected.
4. Affix a recent self attested photograph in the space provided.
5. Applications sent through e-mail or fax will not be accepted.
6. **Choose only one coordination centre for the written test and interview. The chosen centre will be responsible for arranging your hands-on-training in consultation with PFC.**

LAST DATE FOR RECEIPT OF APPLICATIONS

The application must reach the coordination centre opted for by December 20, 2010.

In case of applications received only by post (by post/speed post) from the candidates residing in Assam, Meghalaya, Arunachal Pradesh, Mizoram, Manipur, Nagaland, Tripura, Sikkim, Jammu &

Kashmir, Lahaul and Spiti District and Pangi Sub-Division of Chamba District of Himachal Pradesh, Andaman and Nicobar Islands or Lakshadweep, the last date for receipt of applications is December 27, 2010.

The benefit of extended time will be available only in respect of applications received by Post/Speed Post from the above-mentioned areas/regions. In the case of applications received by hand or through Courier Service, benefit of extended time will not be available, regardless of the place of residence of the applicant.

COORDINATION CENTRES

DELHI CENTRE

Director

Patent Facilitating Centre (PFC)

Technology Information, Forecasting & Assessment Council (TIFAC)

Vishwakarma Bhavan, A-Wing, Shaheed Jeet Singh Marg

New Delhi-110016

Tel : 011 42525802, 42525815, 42525803

E-mail: s_nagar@tifac.org.in

CHENNAI CENTRE

Honorary Director

Centre for International Cooperation in Science (CICS)

2, Gandhi Mandapam Road

Chennai-600025

Tel : 044-24430228, 24419466, 24901367

E-mail: cics2010@vsnl.net, ccstds@vsnl.net

KHARAGPUR CENTRE

Dean, Continuing Education Programme
“Women Scientist Scholarship Scheme-TIFAC-PFC-DST”
Continuing Education Programme
Indian Institute of Technology, Kharagpur
West Bengal-721302
Telephone: 03222-28211/282112
e-mail: cep-off@hijli.iitkgp.ernet.in

PUNE CENTRE

Head

Unit for Research & Development of Information Products (URDIP)

Council of Scientific & Industrial Research

Jopasana, 85/1

Paud Road, Kothrud

Pune-411038

Tel: 020 25382296, 25383557-58, 25387209

E-mail: hirwani@urdip.res.in

TERMS AND CONDITIONS

1. Only 8 days of leave will be permitted during the training for one year. A candidate going on long term leave (beyond 15 days) will not be allowed to pursue the training further & no certificate would be given.
2. Candidates should be prepared for relocating themselves for training in and around coordination centres.
3. Candidates have to report to the Coordination Centre within one week of the orientation programme.
4. Candidates deciding not to join the training programme after the orientation programme, will not be given internship for the orientation programme.
5. No leave will be permitted during the orientation programme.

6. TIFAC will be authorized to recover paid internship from the candidates who leave the programme in between.

APPLICATION FORMAT

(To be filled by Office)

(To be filled by Office)

Application No	
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Roll No	7					
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1. Name of the Applicant

(in BLOCK LETTERS)

2. Category (GEN/SC/ST/OBC/PH)

3. Date of Birth (DD/MM/YYYY)

4. Nationality

5. Marital Status

6. Name of Parent/Spouse

7. Address for Correspondence (including pin code)

8. Permanent Address (including pin code)

9. Telephone No.

Mobile No.

10. E-mail

11. Educational Qualification

Space for photograph duly signed by the candidate
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Exam Passed	Name of Board/Institution/ University awarding certificate/degree with complete address	Subjects studied	Year of Passing	Percentage of Marks obtained	Division/ Class/ Grade

10					
10+2					
Graduation					
Post-Graduation					
Ph.D					
Any other (Please specify)					

12. Are you studying for any further degree?

Yes	No
-----	----

If 'Yes' give details regarding the same.

13. Do you have professional experience?

Yes	No
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If 'Yes' give following details:

Name & Address of the Employer	Nature of Work	Period	
		From	To

14. Do you have reasonable computer knowledge?

Yes	No
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If 'Yes' give names of databases, software programs handled by you and state the relevant experience.

15. Do you have any published research papers/term papers/project reports to your credit?

Yes	No
-----	----

If 'Yes' give only the titles.

16. Have you received any scholarship?

Yes	No
-----	----

If 'Yes' give details.

17. Have you filed any patent or been granted a patent?

Yes	No
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If 'Yes' give details.

18. Choice for Coordination Centre (**Delhi / Chennai / Kharagpur / Pune**) Tick (✓) the center opted

Declaration

I do hereby declare that the statements made in this application are true, complete and correct to the best of my knowledge and belief. In the event of any information being found false or incorrect or ineligibility detected before or after test/interview, my candidature will stand cancelled and my all claim for the scholarship will stand forfeited.

Place

Signature of Applicant

Date

The terms and conditions given in this advertisement are subject to change and should, therefore, be treated as guidelines only.

Note: The advertisement is also available on the websites : www.dst.gov.in, www.tifac.org.in and www.indianpatents.org.in.

Sample Questions

1. An atom with an orbital notation of $1s^2 2s^2 2p^6 3s^2 3p^4$ will probably exhibit which oxidation state?
 - (a) +2
 - (b) -2
 - (c) +3
 - (d) -3
 - (e) +5

2. A man has 53 socks in his drawer: 21 identical blue, 15 identical black and 17 identical red. The lights are fused and he is completely in the dark. How many socks must he take out to make 100 per cent certain he has a pair of black socks?
 - (a) 15
 - (b) 23
 - (c) 30
 - (d) 40

3. aplomb, dodge, graph, jerk ?
What comes next?
 - (a) laugh
 - (b) maroon
 - (c) link
 - (d) nickel
 - (e) midnight

4. Chanderi saree is an example of
 - (a) Geographical indication
 - (b) Patent
 - (c) Copyright
 - (d) All the above

5. The energy required to break a covalent bond in a semiconductor
 - (a) Is equal to 1 eV
 - (b) Is equal to the width of the forbidden gap
 - (c) Is greater in germanium than in silicon
 - (d) Is the same in germanium as in silicon

6. In the p-n-p transistor, electrons flow
 - (a) Into the transistor at the emitter and base leads
 - (b) Out of the transistor at the emitter and base leads
 - (c) Into the transistor at the collector and base leads

- (d) Out of the transistor at the collector and base leads
7. The sugar unit present in DNA is derived from
- glucose
 - sucrose
 - fructose
 - ribose
8. A solenoid with a nickel core has 1000 turns on 0.5 m. The cross-sectional area of turn is 50 cm^2 . What is the magnetic field energy when a current 10 A passes through it ? Given permeability of nickel is 200.
- 0.13 Joule
 - 0.26 Joule
 - 0.52 Joule
 - 1.04 Joule
9. A public key encryption system
- allows anyone to decode the transmission
 - allows only the correct sender to decode the data
 - allows only the correct receiver to decode the data
 - does not encode the data before transmitting it
 - None of the above
10. Trojan-Horse programs
- are legitimate programs that allow unauthorized access
 - do not usually work
 - are hidden programs that do not show up on the system
 - usually are immediately discovered
 - None of the above
11. Conversion of binary number 1100011_2 to its decimal number is
- 29_{10}
 - 97_{10}
 - 99_{10}
 - 93_{10}
12. Two transparent media F and G are separated by a plane boundary. The speed of light in medium F is $2.0 \times 10^8 \text{ m/sec}$ and in medium G is $2.5 \times 10^8 \text{ m/sec}$. The critical angle for which a ray of light from F to G is totally internally reflected is
- $\sin^{-1} (1/2)$
 - $\sin^{-1} (2/3)$
 - $\sin^{-1} (2/45)$
 - $\sin^{-1} (4/5)$

13. If the circle and square have the same area, then magnetizing force at the center of the coil as a result of current flowing through the coil will be in the ratio
- (a) 1
 - (b) $\sqrt{\pi}$
 - (c) $\sqrt{\pi/16}$
 - (d) $\sqrt{\pi/32}$
14. When a man is standing in a lift and the lift is ascending with an upward acceleration f , then the man will appear to be heavier by
- (a) $(f + g)$ of his actual weight
 - (b) $(f - g)$ of his actual weight
 - (c) $(f \times g)$ of his actual weight
 - (d) $(f \div g)$ of his actual weight
15. A 30meter wide canal is flowing at the rate of 20 m/min. A boy can swim at the rate of 25 m/min in still water. The time taken by him to cross the canal perpendicular to the flow is
- (a) 2.5 min
 - (b) 2.0 min
 - (c) 1.5 min
 - (d) 1.0 min
16. Which of the following is an example of a deceptive trademark?
- (a) An image that does not accurately depict the product
 - (b) A label that includes the name of the region when the product is not really from that region (i.e.Bordeaux)
 - (c) A name that describes the product
 - (d) None of the above
17. An element used in semiconductors whose atoms have three valence electrons is
- (a) Germanium
 - (b) A donor
 - (c) An acceptor
 - (d) Silicon
18. The duration of protection for a patent specified in the Indian Patents Act is :
- (a) 25 years
 - (b) 20 years
 - (c) 15 years
 - (d) 17 years
19. Amount of information in a continuous signal is
- (a) Zero
 - (b) 2 bits
 - (c) 4 bits
 - (d) Infinite

20. The south-west monsoons end in India in
- (a) December
 - (b) October
 - (c) November
 - (d) July
21. The drug most widely tried against AIDS virus is
- (a) Zidovudine (azidothymidine)
 - (b) Miconazole
 - (c) Nonoxynol 9
 - (d) Virazole
22. If the radius of the earth were to shrink by one percent, its mass remaining the same, the value of 'g' on the earth's surface would
- (a) increase by 0.5%
 - (b) increase by 2%
 - (c) decrease by 0.5%
 - (d) decrease by 2%
23. Which one of the following statements is NOT correct?
- (a) The boiling point of an aqueous solution is higher than that of pure water
 - (b) Addition of solutes to a solution causes an increase in its water potential
 - (c) The vapour pressure of the water in a solution is lower than that of pure water
 - (d) When a solution is separated from water by a semipermeable membrane, water movement can be prevented by applying pressure to the solution
24. The virus that infects bacteria is
- (a) arbovirus
 - (b) viraemia
 - (c) bacteriophage
 - (d) baclofen
25. Rectifiers are used to convert
- (a) DC to AC
 - (b) AC to DC
 - (c) high voltage to low voltage
 - (d) low voltage to high voltage
26. A zener diode
- (a) has a high voltage characteristic
 - (b) has a sharp breakdown at low reverse voltage

- (c) is useful as controlled rectifier
 - (d) has a negative resistance
27. Montreal protocol is related to
- (a) Ozone depletion
 - (b) Nuclear weapons
 - (c) Landmines
 - (d) Sea-bed
28. Lysine is an essential amino acid for man and therefore, has to be essential component of human diet. The highest content of this amino acid is found in:
- (a) Wheat
 - (b) Rye
 - (c) Oat
 - (d) Barley
29. "Metastasis" is the process by which
- (a) cells divide rapidly under the influence of drugs
 - (b) cancer cells spread through the blood or lymphatic system to other sites or organs
 - (c) the chromosomes in cell nuclei are attached to the spindle before moving to the anaphase poles
 - (d) cancer cells are successfully inhibited to divide any further
30. Two wires have their lengths, diameter and resistivities, all in the ratio of 1:2. If the resistance of the thinner wire is 10 ohms, the resistance of the thicker wire is
- (a) 5 ohms
 - (b) 10 ohms
 - (c) 20 ohms
 - (d) 40 ohms
31. A city has a population of 3,00,000 out of which 1,80,000 are males, 50% of the populations is literate. If 70% of the males are literate, the number of literate females is
- (a) 24,000
 - (b) 30,000
 - (c) 54,000
 - (d) 60,000
32. The cellular and molecular control of programmed cell death is known as
- (a) Apoptosis
 - (b) Ageing
 - (c) Degeneration
 - (d) Necrosis
33. In a certain code, MARCH is written as OCTEJ, how is RETURN written in that code?

- (a) TFUVSM
- (b) QGSTQM
- (c) TGVWTP
- (d) TGRVSO

- 34.** Taxonomy is a science dealing with the
- (a) classification of all living organisms
 - (b) classification of plants
 - (c) identification, nomenclature, and classification of all living organisms
 - (d) structure and function of living organisms
- 35.** People who live at high altitudes have rosy cheeks because
- (a) haemoglobin has an increased binding affinity for oxygen to become deep red in colour
 - (b) red cell concentration becomes considerably above the average in response to lowered oxygen pressure
 - (c) the rate of capillary circulation increases in the skin to make it look pinkish
 - (d) all of these
- 36.** One fourth of the sum of the prime numbers, greater than 4 but less than 16, is the square of
- (a) 2
 - (b) 3
 - (c) 4
 - (d) 5
- 37.** 30% of 20 plus 20% of 30 equals
- (a) 10% of 600
 - (b) 10% of 1,200
 - (c) 1% of 1,200
 - (d) 1% of 600
- 38.** If BODMAS is coded as DQFOCU, then what would FORMULAE be coded as?
- (a) HQTOWNCG
 - (b) ENQLTKZD
 - (c) GPSNVMBF
 - (d) HQTOWKAD
- 39.** Statements:
- I All neighbours live in harmony
 - II Some neighbours live in harmony
 - III No neighbours live in harmony
 - IV Some neighbours do not live in harmony.

Choose any two statements from the above, which cannot be true together but can be false simultaneously

- (a) I and III
- (b) II and IV
- (c) II and III
- (d) III and IV

40. A micron is equivalent to

- (a) 0.01 mm
- (b) 0.01 m
- (c) 0.001 mm
- (d) 0.0001 mm

41. An electric heater made up of nichrome wire is connected to A.C. mains and generates some heat. Keeping the A.C. mains voltage constant, it is desired to double the quantity of heat. This is possible if

- (a) The radius of nichrome wire is doubled
- (b) The length of nichrome wire is doubled
- (c) Both the length and the radius of the nichrome wire are halved
- (d) Both the length and the radius of the nichrome wire are doubled

42. Polymerase Chain Reaction (PCR) is a technique to make copies of

- (a) DNA using living cells
- (b) DNA without using living cells
- (c) RNA using living cells
- (d) RNA without using living cells

Q 43-46 Read the passage below and select the right answers

The heart is not just a mass of pumping muscle, but a hotbed of electrical activity, as independent on a stable supply of power as a computer chip is. When the ventricles, which produce the heart's pumping action, do not get the right signals and beat inefficiently, oxygen-rich blood does not reach the vital organs. In a heart with irregular heart beats – or arrhythmia – one short circuit can trigger another speeding the organ into tachycardia – or 'racing heart'. In most severe cases, blacking out – caused by ventricular fibrillation, during which the heart quivers instead of beats, shock and sudden cardiac death follow.

43. From the passage, it is clear that the heart is

- (a) a powerful muscle capable of producing electricity
- (b) a supplier of power to the muscles
- (c) an organ working on the principle of a computer
- (d) a pumping muscle requiring continuous supply of power

44. Oxygen-rich blood does not reach the vital organs when
- (a) the ventricles beat irregularly
 - (b) the ventricles fail to give right signals
 - (c) arrhythmia results
 - (d) the heart receives inadequate power
45. Ventricular fibrillation causes
- (a) heart quivers instead of beats
 - (b) black outs, shock and death
 - (c) tachycardia or “racing heart”
 - (d) arrhythmia and short circuits
46. It can be understood from the passage that what supports the heart most is
- (a) heart beats
 - (b) blood circulation
 - (c) ventricles
 - (d) muscles surrounding it
47. In a military code CAUTION is coded as UACITNO, How will you write MISUNDERSTAND?
- (a) SIMUNEDSRTAND
 - (b) SIMNUEDSRATDN
 - (c) SMIUNDERSTAND
 - (d) None of these above
48. The probability of a head and a tail of tossing four coins simultaneously is
- (a) $1/8$
 - (b) $1/16$
 - (c) $1/4$
 - (d) $1/64$
49. Which of the following is not an operating system?
- (a) DOS
 - (b) UNIX
 - (c) Macintosh OS
 - (d) Java
50. Lemon grass is known to have insecticidal properties. Extract of the grass contains chemicals other than citral. Citral acts against fungus and other pests. Some one finds that extract of lemon grass is effective against fungus as well. Would you conclude:
- (a) the discovery is new
 - (b) lemon grass has something else which is effective against fungus

- (c) citral is responsible for the fungicide effect of lemon grass
- (d) information is not adequate to conclude (a) or (b) or (c)

51. Four bonds of CCl_4 are directed in space at an angle of

- (a) 90°
- (b) 120°
- (c) $109^\circ 28'$
- (d) $128^\circ 09'$

52. The Heisenberg's uncertainly principle can be applied to

- (a) a flying concord
- (b) a moving cricket ball
- (c) an electron
- (d) a proton

Question 53-54 Directions:

The following items consist of two statements, one labeled as Assertion (A) and the other labeled as Reason (R). You are to examine these two statements carefully and decide if the Assertion A and Reason (R) are individually true and if so whether the Reason is a correct explanation of the Assertion. Select your answer to these items using the codes given below and mark your answer sheet accordingly.

Codes

- (a) Both A and R are true and R is the correct explanation of A
- (b) Both A and R are true but R is NOT a correct explanation of A
- (c) A is true but R is false
- (d) A is false but R is true

53. **A:** Electro negativity decreases down the group in the periodic table

R: Atomic size increases down the group in the periodic table

- (a) Both A and R are true and R is the correct explanation of A
- (b) Both A and R are true but R is NOT a correct explanation of A
- (c) A is true but R is false
- (d) A is false but R is true

54. **A:** Isomers are same compounds with different molecular formula

R: Isomers have different arrangement of their constituent atoms in the space

- (a) Both A and R are true and R is the correct explanation of A
- (b) Both A and R are true but R is NOT a correct explanation of A
- (c) A is true but R is false
- (d) A is false but R is true

55. Examine the following statements carefully

- i) All young persons are energetic

- ii) Some young persons are frank
- iii) Some frank persons are rude
- iv) All rude persons are social isolates

From the given what follows as the most logical outcome?

- (a) All frank persons are social isolates
- (b) All young persons are social isolates
- (c) Some non-energetic young persons are social isolates
- (d) Some frank young persons are social isolates