Time : 3 hours   *Maximum Marks : 80*

Answer all questions.

1. Read the following passage carefully and answer the questions that follows.

   "The new danger resulting from our more organic Society call for a certain changes in the paid of character that is admired. The bold buccaneer or the great conqueror such as Alexander or Nepolean, has been admired and is still admired although the world can no longer afford This type of character. We come here upon a diffidently. It is good thing that people should be adventurous and that there should be scope for indivisual enterprise, but the adventure and enterprise, if they are not to bring total disaster, must steer clear of certain fields. in which they were formally possible. you can still, without harm to your fellow men wish to be the first man to reach the moon. you may wish to be a great poet or a great composer or a man who advances the boundaries of scientific knowledge. Such adventure injures no one. But if Nepoleon is your ideal, you must be restrained. Certain kinds of anarchic self-assertion which are splended in the literature of tragedy have come to involve to much risk. A motorist alone on an empty road may drive as he pleases, but in crowd traffic he must obey the rules. More or more the lives of the individual come to resemble the motorist in traffic rather than lonely driver in an empty desert",

   Questions: 2x5=10
   (a) Choose a Suitable tittle to the passage.
   (b) Why can not the modern world afford to have adventurous character like Alexander or Nepoleon?
   (c) What is Splendid in the literature of tragedy?
   (d) What ideas the writer want to convey by giving the analogy of the motorist.
   (e) What kind of adventure injures no one.

2. (a) Change the voice.   2
      (i)   Who wrote this poem?
      (ii) The new girl's hostel was inaugurated by V.C.
   (b) Correct the following sentences.   2
      (i)   I have finished reading the novel yesterday.
      (ii) I have ran a race.
   (c) Change into indirect speech.   2
      (i)   He said, "do you play cricket, Ramesh?
      (ii) The teacher said "The sun rises in the east."
   (d) Combine the sentence into one sentence by using 'too to'   2
      (i)   He is very week. He can not walk.
      (ii) I am vary tired. I can not work.
   (e) Use the given phrasal verb in sentence of your own   2
       look after, called for

3. (a) Combine the following into a single sentence using no sooner .... than   2
       (i) He reached the station
       (ii) The train steamed in.
   (b) Fill in the blanks with correct form of tense of the verbs given in brackets.   2
       (i) He .... (work) very hard since morning.
       (ii) My father .... (plant) this tree
   (c) Complete the sentence with a suitable question tag.   1
       This house is for sale ....?

4. Write an essay of about 400 words on any one of the following: 20
   (a) Computer revolution
   (b) Right to service

(c) World is changing rapidly.
(d) pleasure of reading.

5. Write a paragraph in about 200 words on any one of the following.   15
   (a)   Wealth and happiness do not go together.
   (b)   Science has brought about a rapid change in human life.
   (c)   Educated parents can bring up their children much better than un educated parents.

6. Make the following words negative by adding the appropriate prefix.   10
   (a) Just   (b) collegiate (c) Deed   (d) courage   (e) Possible
   (f) correct   (g) Legal   (h) Fortune   (i) Balanced   (j) Active

7. Match the word of list 'A' with list 'B'   5

A	B
Strife	Avoid
Shirk	Pampering
Surpassed	apparent
Indulgence	Conflicts
Obvious	Exceeded.

8. Fill in the blank in the following sentences the verb given below adding 'ing' in each verb
   before using it.   5
   Revolve, Smile, Slid, nag, move

   (a)   We need a .... door here.
   (b)   He has a serious accident while getting off a .... bus.
   (c)   A .... chair is better than ordinary one but it is much more expensive.
   (d)   He is as uncommon for a peevish person to have a .... face as it is far
         cheerful person to have a peevish one.
   (e)   His wife is always complaining about some thing. No wonder people call him the
         husband of a .... wife.

* * *

Time : 3 hours   *Maximum Marks : 80*

Answer any five questions. All questions carry equal marks.

1.   Find the limits.

(a) $\underset{x \to -3}{Lt} \dfrac{x^3 + 27}{x^5 + 243}$ (b) $\underset{x \to 0}{Lt} \dfrac{a^x - 1}{x}$ (c) $\underset{x \to \alpha}{Lt} \dfrac{x \sin \alpha - \alpha \sin x}{x - \alpha}$

2.   Find dy/dx

(a) $y = \log\left(x^2 \sqrt{x^2 + 1}\right)$ (b) $xy = x^3 + y^3$

(c)   x = a (Cos t + t Sin t) and y = a(Sin t – t Cost), t being a parameter.

3. (a)   To find the cube roots of unity.

(b)   To find differential coefficient of tan x with respect to x with the help of first principle.

4.   Integrate the following:

(a) $\int (\log x)^2 \, dx$ (b) $\int \dfrac{Sin \sqrt{x}}{\sqrt{x}} dx$ (c) $\int \dfrac{Cos\, 2x - Cos\, 2\alpha}{Cos x - Cos\, \alpha} dx$

5.   Find the eccentricity, foci and centre for the ellipse $2x^2 + 3y^2 = 1$.

6. (a)   Find the maximum or minimum radius of the following functions.
        $2x^3 - 15x^2 + 36x + 11$

(b)   Find the value of C in mean value theorem $\dfrac{f(b) - f(a)}{b - a} = f'(c) \, if$

        $f(x) = x^2 + 3x - 4, \qquad a = 1, \ b = 2.$

7.   Trace the Conic $4x^2 - 4xy + y^2 - 8x - 6y + 5 = 0$.

8.   Solve the cubic equation
        $x^3 + x^2 - 16x + 20 = 0$ by Cardan's method.

9. (a)   Find the projection of the line–segment joining the points (2,3,4) and (3,4,5) on the line whose direction ratio are (6,6,–7).

(b)   Find the acute angle between the planes
        2x – y + z + 8 = 0 and x + y + 2z – 14 = 0.

10.   Find the equation of the tangent to the hyperbola $4x^2 - 9y^2 = 1$ which is parallel to the line 4y = 5x + 7.

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Time: 3.00 Hrs.   Full marks: 100 (80+20)

Answer all the questions.
Section -A (20 Marks)

1. Define a Computer. Draw its Von Neumann Architecture, briefly explaining its various components.

2. Explain Star, Bus and Ring topologies with the help of diagram.

Section-B (80 Marks)
Write all the steps in the answer copy

3. Perform the following tasks using MS-Word document:
   (a) Write a letter using mail-merge of at least 5 addresses.
   (b) Insert a table giving details of your educational qualification in chronological order.
   (c) Insert footer and a header. The footer should have the current date and page number and header should have "My Personal Details".

4. Perform the following tasks using MS-Windows:
   (a) Hide the icons on the desktop.
   (b) Find the configuration of the system that you are using.
   (c) Change the speed of the mouse buttons..
   (d) Create a shortcut for Ms-word on the desktop.

5. Create a macro using Toolbar option. Save the macro with your own name.

6. What are the advantages and disadvantages of using Internet. Name some Search Engines.

******

Time: 3 hours   MaximumMarks:100(20+80)

Answer any five questions. All questions carry equal marks.

1. Explain various components of MS–Excel that makes it easier to use.

2. How Internet is useful. Explain the Working of an Internet and the devices used to run internet.

3. What is DNS? How are they used for network addressing? Name come commonly used domain names.

4. What are Decision Trees? What kind of problems can be best solved using decision trees. Assuming one such problem, show its proof.

5. Write the steps to create a chart in MS–Excel. Also, explain the different types of charts that can be created in Excel.

6. What is an Address Book, and why is it required? How are addresses add to the Address Book?

7. What are Macros? Explain their utility in MS–Excel. Write steps for recording and running a macro in MS–Excel.

8. What is the utility of viewing a worksheet in multiple windows? Explain four ways of arranging the windows on the screen. How can data in a database be filtered?

9. Comment on the statement "Every graph is not an Euler's graph". Using a diagram, illustrate different parameters which decide that a graph can have an Eulerian walk or not.

10. What is "Alignment"? Explain the four alignment options which can be used for document alignment. Difference between a Worksheet and Workbook.

*****

Nalanda Open University
Annual Examination - 2012
Bachelor in Computer Application (BCA) Part-I
Paper-III (COMPUTER FUNDAMENTALS AND PC SOFTWARE) CS-611
Time: 3.00 Hrs. Full marks: 100 (80+20)
Answer all the questions.
Section -A (20 Marks)

1. What is an Operating System? Explain all the four types of operating systems.
2. Explain the OSI model and explain the working of its various layers.

Section-B (80 Marks)
Write all the steps in the answer copy

3. Perform the following tasks using MS-Word document:
   (a) Use the Page Setup command and its various sub-options in MS-Word to make a proper page format.
   (b) Insert a table in a document giving details of the subjects studied by you in BCA Part-I of Nalanda Open University.
   (c) Insert a header - "Details of BCA Part-I" and a footer containing current date and page number.

4. Perform the following activities using MS-Windows:
   (a) Find out the configuration of the computer you are using.
   (b) Sort the icons on the desktop according to their sizes.
   (c) Recover a file from the recycle bin.
   (d) Change the display settings of your Desktop.

5. Write a letter using mail-merge options. It should contain at least a list of five addresses.
6. Explain some applications of Internet. What are Web Browsers.

Nalanda Open University
Annual Examination - 2012
Bachelor in Computer Application (BCA) Part-I
Paper-II (Foundation Course in Humanities and Social Sciences) BHSF –101
(New Syllabus For current Batch 2011-12)

New Course

Time: 3.00 Hrs. Full marks: 80

Answer five questions. Question No.1 is compulsory.
पाँच प्रश्नों के उत्तर दीजिए । प्रश्न संख्या एक अनिवार्य है ।

1. (a) Fill up in the blanks. 8 × 1 = 8

रिक्त स्थानों की पूर्ति की कीजिए ।

(i) Two essential engredients of knowledge are ....

ज्ञान के दो आवश्यक .... तत्त्व हैं ।

(ii) Neolithic period began .... years ago.

नियोलिथिक काल .... वर्षों पूर्व शुरू हुआ था ।

(iii) The term Renaissance means ....

रेनेशाँ शब्द का तात्पर्य .... से है ।

(iv) India during .... century was the centre of world Trade.

भारत .... शताब्दी में मुख्य व्यापार केन्द्र था ।

(v) Lord Cornwalis introduced Permanent Lord Settlement in the year ....

स्थायी भूमि बन्दोवस्ती .... वर्ष में लार्ड कार्नवालिस द्वारा शुरू की गयी

(vi) The Indian Constitution was enforced on ....

भारतीय संविधान को...................... लागू किया गया ।

(vii) The population of India as per 2011 census is ....

2011 जनगणना के अनुसार भारत की जनसंख्या .... है ।

(viii) ---

(b) Mark correct √ or Wrong X. as the case may against each of the following sentence 8×1=8

अधोलिखित में से प्रत्येक, के सामने सही (√), अथवा गलत (×), जैसी स्थिति हो, का चिह्न लगावें ।

(i) The use of varnacular Language became popular during Renaissance. (true/false)

पुनर्जागरण काल में देशी भाषाओं का प्रयोग जनप्रिय हो गया (सही/गलत)

(ii) Galileo was honoured by the church for his invention. (true/false)

गैलीलियो को उनके अनुसंधान के लिए चर्च ने सम्मानित किया । (सही/गलत)

(iii) Copernicus book was published in the year........................ (true/false)

कापर निकस की पुस्तक .... वर्ष में प्रकाशित हुयी (सही/गलत)

(iv) Democracy was the leading Political System of medieval times (true/false)

मध्ययुग में लोकतंत्र अग्रणी शासकीय व्यवस्था थी। (सही/गलत)

(v) Marsiglo of Podua advocated a theory of Popular Sovereignty. (true/false)

मारिसिलिओ आफ पडुआ ने लोक संप्रभुता का सिद्धांत को प्रतिपादित। (सही/गलत)

(vi) Luther Supported the Peasant Revolt. (true/false)

लूथर ने कृषक आन्दोलन के पक्षधर थे । (सही/गलत)

P.T.O

(vii) The Right to equility has been guaranteed under .... the Article 14 of the constitutions   (true/false)

संविधान की धारा 14 में समानता के अधिकारों को प्रत्याभूत किया गया है ।

(viii) India has a Presidential model of government.   (true/false)

भारत में शासन का राष्ट्रपतीय प्रतिमान है ।   (सही⁄गलत)

2. Discuss the importance of the Study of Humanities and Social Sciences.

मानविकी एवं समाजविज्ञान के अध्ययन के महत्व का विवेचना कीजिए ।

3. Examine the features of the Indian constitution.

भारतीय संविधान की विशेषताओं का परीक्षण कीजिए ।

4. Define Social change and discuss the various factors responsible for social change.

सामाजिक परिवर्त्तन को परिभाषित कीजिए तथा सामाजिक परिवर्तन के लिए उत्तरदायी कारकों की विवेचना कीजिए ।

5. Describe the fundamental Rights guaranteed under the Indian constitution.

भारतीय संविधान के अन्तर्गत प्रत्याभूत मौलिक अधिकारों का वर्णन कीजिए ।

6. What is Renaissance? Examine its importance.

पुनर्जागरण क्या है? इसके महत्व का परीक्षण कीजिए ।

7. Write an essay on Iron age.

लौह युग पर एक निबंध लिखिए ।

8. Define the concept of Economic reforms and discuss it with reference to India.

आर्थिक सुधारों को परिभाषित कीजिए एवं भारत के संदर्भ में इसका विवेचन कीजिए ।

9. Write an essay on the importance of the Bihar State Centenary celebration.

बिहार राज्य शताब्दी समारोह के महत्व पर एक निबंध लिखिए ।

10. Write short notes on any two of the following:
अद्योलिखित में से किन्हीं दो पर संक्षिप्त टिप्पणियाँ लिखिएः
(a) Constituent Assembly of India   भारत की संविधान सभा
(b) Types of Families   परिवार के प्रकार
(c) Indian National Congress   भारतीय राष्ट्रीय कॉंग्रेस

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Nalanda Open University
Annual Examination - 2012
Bachelor in Computer Application (BCA) Part-I
Paper-II (Foundation Course in Humanities and Social Sciences) FHS01
(For Old Batch Prior to 2011–12)
(2011-12 से पूर्व के परिक्षार्थियों के लिए)

Old Course

Time: 3.00 Hrs.   Full marks: 80

Answer five questions. Question No.1 is compulsory.
पाँच प्रश्नों के उत्तर दीजिए । प्रश्न संख्या एक अनिवार्य है ।

1. **(a)** **Fill up in the blanks**.   8 × 1 = 8

रिक्त स्थानों की पूर्ति कीजिए ।

(i) The book "Social Development " has been written by ....

सोशल डेवलपमेन्ट नामक पुस्तक .... द्वारा लिखी गयी है ।

(ii) The river Tigris causes ....

टिगरिस नदी .... का कारक है ।

(iii) M Block is .... historian.

एम ब्लाक एक .... इतिहासकार है ।

(iv) The full name of Gandhiji is ....

गाँधी जी का पूरा नाम .... है ।

(v) Right to equality has been guaranteed under article .... of the Indian Constitution.

भारतीय संविधान के -------------- अनुच्छेद में स्वतंत्रता का अधिकार प्रत्याभूत है ।

(vi) Planning Commission of India was established on ....
.... को भारत के योजना आयोग की स्थापना हुयी थी ।

(vii) Population of India as per 2011 census is ....

2011 जनगणना के अनुसार भारत की जनसंख्या .... है ।

(viii) The word secularism was first of all used by ....

.... के द्वारा सर्वप्रथम पंथनिरपेक्षता शब्द का प्रयोग हुआ ।

(b) Examine the following sentences if right then put √ or incase it is wrong then put X. 8×1=8

अधोलिखित कथनों का परीक्षण कीजिए, सही कथा के सामने सही (√), अथवा गलत (X), जैसी स्थिति हो, का चिह्न लगावें ।

(i) The date of the implementation of the Indian Constitution is 26 Nov 1945.(true/false)

26 नवम्बर 1945 भारतीय संविधान के लागू होने की तिथि है ।   (सही/गलत)

(ii) The Right of freedom of Speech has been guaranteed under article 24 of the Indian Constitution.   (true/false)

भारतीय संविधान की 24वीं धारा द्वारा भाषण की स्वतंत्रता अभिरक्षित है ।   (सही/गलत)

(iii) There are 24 Indian Languages in the VIII Schedule.   (true/false)

8वीं अनुसूची में 24 भारतीय भाषाऐं हैं ।   (सही/गलत)

(iv) The state of Arunachal Was created in 1989. (true/false)

1989 में अरूणाचल राज्य का गठन किया गया था । (सही/गलत)

(v) Ashok Mehta committee was set-up in 1977. (true/false)

1977 में अशोक मेहता समिति गठित की गयी थी । (सही/गलत)

(vi) Wood's despatch was prepared in 1954. (true/false)

वुड विज्ञप्ति 1854 में बनायी गयी । (सही/गलत)

(vii) Kampuchia was freed from France in 1953. (true/false)

1953 में कम्पूचिया को फ्रांस से आजादी मिली । (सही/गलत)

(viii) USA had prepared Atom Bomb in 1945. (true/false)

अमेरिका ने 1845 में परमाणु बम बनाया था । (सही/गलत)

2. What do you mean by Urban Revolution? Discuss it.

शहरीक्रान्ति से आप क्या समझते हैं? विवेचना कीजिए ।

3. Examine the features of Feudal Societies.

सामंतवादी समाज की विशेषताओं का परीक्षण कीजिए ।

4. Discuss the factors responsible for Industrial Revolution.

औद्योगिक क्रांति के लिए उत्तरदायी तत्वों का विवेचन कीजिए ।

5. Discuss the causes of the First war of Independence in India, 1857 .

भारत में प्रथम स्वतंत्रता संग्राम, 1857 के कारणों का विवेचन कीजिए ।

6. Trace the origin of the Indian National Congress.

भारतीय राष्ट्रीय कॉंग्रेस की स्थापना को रेखांकित कीजिए ।

7. Discuss the Directive Principles of State Policy.

राज्य नीति के निर्देशक सिद्धान्तों की विवेचना कीजिए ।

8. Write an essay on the status of woman in India.

भारत में महिलाओं की स्थिति पर एक निबंध लिखिए ।

9. Write an essay on the Centenary Celebration of Bihar.

बिहार के शताब्दी समारोह पर एक निबंध लिखिए ।

10. Write short notes on any *Two* of the following:

अधोलिखित में से किन्ही *दो* पर संक्षिप्त टिप्पणियाँ लिखिएः

(a) Entropy Law एन्ट्रापी का सिद्धांत

(b) Preamble of the Indian Constitution भारतीय संविधान की प्रस्तावना

(c) Quit India movement भारत छोड़ो आन्दोलन

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Time: 3.00 Hrs.   **For current batch: 80**
                                                                              For old batch: 75

Answer any five questions. All questions are of equal value.

किन्हीं पाँच प्रश्नों का उत्तर दीजिए । सभी प्रश्नों के अंक समान हैं ।

1. Discuss the social organisation in India during the Gupta Period.

   भारत में गुप्तकालीन सामाजिक संगठन का विवेचन कीजिए ।

2. Match the vitamins and minerals given in column I with their functions listed in column 2 of the following:

   निम्नलिखित स्तंभ 1 में वर्णित विटामिन एवं खनिज (मिनरल) को स्तंभ 2 में दिए गए कार्यों से मेल करवाएँ ।

	COLUMN -I (स्तंभ- I)		**COLUMN-II** (स्तंभ- II)
(a)	Vitamin B	(i)	Builds resistance to infection
	विटामिन बी		संक्रमण से प्रतिरोध निर्माण
(b)	Vitamin A	(ii)	Necessary for the formation of hemoglobin of the blood.
	विटामिन ए		रक्त में हेमोग्लोबिन के निर्माण के लिए आवश्यक
(c)	Vitamin D	(iii)	Its absence may cause bow legs
	विटामिन डी		इसके अभाव में पैरों का टेढ़ापन होना
(d)	Vitamin K	(iv)	For building strong bones and teeth
	विटामिन के		हड्डी एवं दाँत को मजबूत बनाना
(e)	Vitamin C	(v)	Help us to have healthy eyes, smooth skin and shiny hair.
	विटामिन सी		स्वस्थ नेत्र, कोमत त्वचा एवं चकमदार बाल के लिए सहायक
(f)	Calcium	(vi)	It prevents bleeding
	कैलसियम		रक्त प्रवाह को रोकना
(g)	Iron	(vii)	Important for proper functioning of nerves and brain.
	लौह		नस एवं मस्तिष्क के महत्वपूर्ण कार्य
(h)	Iodine	(viii)	Prevents selling of thyroid gland
	आइयोडिन		थायराइड ग्रंथि के सूजन की रोक

3. Examine the concept of Import-Export of Technology with a few examples of Export of Technology from India.

भारत से प्रौधोगिकी के निर्यात के कतिपय उदाहरणों सहित प्रौधोगिकी के आयात-निर्यात की अवधारणा का परीक्षण कीजिए ।

4. Define and distinguish with example any **Three** of the following pairs:

अधोलिखित युग्मों से किन्हीं **तीन** को परिभाषित कीजिए एवं सोदाहरण विभिन्नता बतावें:-

   (a) Black dwarf and White dwarf   ब्लैक डवार्फ एवं व्हाईट डवार्फ

   (b) Intergalactic and interstellar   इन्टरग्लैटिक एवं इन्टरस्टिलर

   (c) Abiotic factors and Biotic factors   एबोटिक फैक्टर्स एवं बॉयोटिक फैक्टर्स

   (d) Mass communication and Interpersonal communication

        मास कम्यूनिकेसन एवं इन्टरपर्सनल कम्यूनिकेसन

5. Write short notes on any *two* of the followings:

अधोलिखित में से किन्हीं *दो* पर संक्षिप्त टिप्पणियाँ लिखिएः-

   (a) The Technology Policy of the Government of India भारत सरकार की टेक्नोलॉजी नीति
   (b) Application of Optical Fibers   ऑपटिकल फाइबर का प्रयोग

   (c) Working of a Personal Computers   पर्सनल कम्प्यूटर की कार्यप्रणाली

6. Write short answers for the following questions:

अधोलिखित प्रश्नों के लिए संक्षिप्त उत्तर लिखिएः

   (a) What are the salient features of mixed and relay-cropping system?

        मिक्सड् एवं रिले-क्रापिंग प्रणाली की क्या प्रमुख विशेषताएँ हैं?

   (b) What points should one keep in mind while using fertilizers
        उर्वरक का प्रयोग करते समय किन-किन बिन्दुओं पर ध्यान रखना चाहिए?

7. Delineate the features of mathematics as developed by Jains.

जैनो द्वारा विकसित गणित की विशेषताओं को रेखांकित कीजिएः-

8. Write the name of the Causative microbe for the following diseases.

निम्नलिखित रोगों के उत्पादक माईक्रोबों के नाम लिखिए ।

   (a) Cholera   (हैजा)

(b) Ring Worm   (दाद)

(c) AIDS   (एड्स)

(d) Chiken Pox   (छोटी माता)

(e) Malaria   (मलेरिया)

(f) Conjuctivitis (नेत्र-श्लेष्पला)

(g) Guinea Worm   (गिनी-कृमि)

(h) Leprosy   (कुष्ठ)

9. Discuss the causes and remedies of water pollution.

जल प्रदूषण के कारणों एवं निदान का विवेचन कीजिए ।

10. How does modern information technology affect the life style of individuals and society?

व्यक्ति एवं समाज के जीवन-यापन के तरीकों को आधुनिक सूचना प्रौद्योगिकी ने किस प्रकार प्रभावित किया है?

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Nalanda Open University

Annual Examination - 2012

Bachelor in Computer Application (BCA) Part-II

Paper-IX (CS-05)

Time: 3.00 Hrs.   For current batch: 80

For old batch: 75

Answer any five questions. All questions are of equal value.

1.   List and explain various parts of system design process. Illustrate this with the help of an example.

2.   What is the full form of VTOC. Explain its significance. Draw a VTOC for any system (task) of your choice.

3.   List and explain at least seven considerations for the output design.

4.   Differentiate between sequential and direct file organisation. List and explain any four quality factors which are critical in Quality Assurance during Software life cycle.

5.   Draw a data flow diagram (DFD) depicting various processes, data flow and data repositories for a Institute Management System of a computer institute.

6.   List the conditions where the prototypes are considered, to be most useful. Also mention the steps in the prototyping process.

7.   Explain how the existence of remote users might complicate information system design. Describe a system in which you might be considered a remote user.

8.   Explain any five norms of software piracy seen around the world. Define an audit trail. Who uses an audit trail?

9.   Explain the planning and control aspects of management. Explain each of these functions at the strategic, tactical and operational levels, with the help of examples.

10.   What is a green P.C.? Explain the design of a Green P.C. Explain the meaning of Planning, Production and Distribution of Multimedia.

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Time : 3 hours   *Maximum Marks : 80*

Answer any five questions. All questions carry equal marks.

1.   Explain the difference between Cartesian Product and Natural Join Operations with illustrations for each. Describe the JOIN operations and its various types with the help of examples.

2.   How do you implement a hierarchical data model ? Explain through an illustration. Explain the concept of Semantic Net with the help of an example which should contain both the one-way link representation as well as the representation of a reverse-link.

3.   Explain the role of API, RPC and dynamic data exchange (DDE) in the communication process between the heterogenous databases.

4.   Describe a "B-Tree" with the help of an example. Also, mention its properties.

5.   Write short notes on the following :
     (a)   OODBMS and multimedia databases.
     (b)   Distributed database design.
     (c)   Multilist file organization.

6.   What are CODD's Rules ? Explain the Integrity Rule and the View Updating Rule.

7.   Describe the Client / Server Architecture and its main components. Explain its need and advantages.

8.   Write syntax of the following SQL commands. Provide an example of each :

     (i)   CREATE
     (ii)   ALTER
     (iii)   REPLACE
     (iv)   DELETE
     (v)   INSERT

9.   Draw and explain the three-level architecture of a Database Management System.

10. What is Normalization ? Explain the conditions under which a relation needs to be normalised to 3 NF to BCNF, with the help of suitable example. Explain any six reasons as to why organisations resist from using DBMS tools.

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Nalanda Open University
Annual Examination - 2012
Bachelor in Computer Application (BCA) Part-II
Paper-VIII (Practical)
(CS-63 : INTRODUCTION TO SYSTEM SOFTWARE)

Time allowed :3 hours   *Maximum Marks : 100(20+80)*

Answer any one question from SECTION-A and all the questions from SECTION-B

SECTION-A

1.   Explain linkers , loaders and dynamic linking and loading.

2.   Explain the file structure of UNIX system.

SECTION-B

3.   Using case statement, write a shell script to provide the user to perform addition, subtraction, multiplication and division arithmetic operations depending upon his/her choice.

4.   Write a shell program to find the largest number in a given list of 5 numbers.

5.   List and execute the following UNIX commands :

   (i)   To display the contents of any file on the VDU.
   (ii)   To rename a file.
   (iii) To count all the files in the current directory.
   (iv)   To count no. of words in a given file.
   (v)   To append the contents of file2 to file1.
   (vi)   To display the no. of times a given pattern appeared in a selected file.
   (vii) To compare and display the first difference between any two given files.
   (viii) To display the file contents of the smallest file in the current directory w.r.t its file - size.
   (ix)   To list all the files starting with "a" in the current directory.
   (x)   To run a process in the back ground.

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Nalanda Open University
Annual Examination - 2012
Bachelor in Computer Application (BCA) Part-II
Paper-VIII (Practical)
(CS-63 : INTRODUCTION TO SYSTEM SOFTWARE)

Time allowed :3 hours   *Maximum Marks : 100(20+80)*

Answer any one question from SECTION-A and all the questions from SECTION-B

SECTION-A

1. Describe FCFS, SJF, RR scheduling algorithm with an example.

2. What is process? Explain process states.

SECTION-B

3. Write a shell program to swap the values of two variable "a" and "b".

4. Write a shell script to delete all the blank spaces in a given text file and save the file with a new file name.

5. List and execute the following UNIX commands

   (i)   To print the calendar of the current month.
   (ii)   To display the time and date.
   (iii)   To change the password.
   (iv)   To print the information about the active processes.
   (v)   To sort the files in alphabetical order in a given directory.
   (vi)   To set the permissions of a specific file to read only for the group and the others
   (vii)   To display the file - sizes of all the files in the current directory.
   (viii) To count the number of differences between any two files given by the user.
   (ix)   To directly move to the root directory from the current directory.
   (x)   To stop a running process using its PID.

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Nalanda Open University

Annual Examination - 2012

Bachelor in Computer Application (BCA) Part-II

(Introduction to Computer Organisation)

Paper-XI (CS - 64)

Time: 3 hours   *Maximum Marks: 80*

Answer any five questions. All question carry equal marks.

1. Perform the following arithmetic operations using 8-bit registers. Use binary signed 2's complement notation. Indicate overflow/underflow, if any

    (i) $- 90 - 50$

    (ii) $83 - (-45)$

    (iii) $- 84 + 38$

    (iv) $52 - 48$

2. Simplify the following Boolean function using SOP form, using Karnaugh-Map.

    F (A, B, C, D) = (1, 2, 3, 7,8,9, 13,14,15).

3. Draw a full adder using two half Adders? Implement AND, NOT, OR Operations   using NAND gates?

4. What are flip-flops ? Explain R-S flip-flops with a logic diagram.

5. Differentiate between synchronous and asynchronous counters? Design a counter

    using the following repeated binary sequence: 0,1,2,3,4,5,6.

6. Explain the functional requirements of Control Unit in a computer system.

7. What is the role of Cache memory in a computer system ? Explain the key design

    issues that should be addressed while using a cache memory.

8. Explain different addressing modes with examples . Why addressing modes are required in a machine.

9. Write a program in 8086 assembly language to reserve a three digit number.

10. Write short notes on any three:
    (i)   Programmed I/O.
    (ii) DMA
    (iii) Micro-Operations.
    (iv) Multiplexer.

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Nalanda Open University
Annual Examination - 2012
Bachelor in Computer Application (BCA) Part-II
Paper-XII (Practical)
(CS-65 : WINDOWS PROGRAMMING)

Time allowed : 3 hours   *Maximum Marks :*
100(80+20)/(75+25)

Answer all the questions. All questions carry equal marks.

1. Create a simple VB application to count the number of occurrences of English articles (a, an, the) in a given statement.

   Sample Output
   Input String:
   No. of Occurrences of :
   Example:
   The boy is sitting on the chair.
   "the." :2 times
   "an" :0 time
   "a" : 0 time

2. Create a simple VB application to simulate the generation of a LIC premium receipt . The premium receipt should contain the Policy No. date, time, details of the policy, name of the policy holder, address and amount. Design the screen for this application.

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Nalanda Open University
Annual Examination - 2012
Bachelor in Computer Application (BCA) Part-II
Paper-XII (Practical)
(CS-65 : WINDOWS PROGRAMMING)

Time allowed : 3 hours   *Maximum Marks :*
100(80+20)/(75+25)

Answer all the questions. All questions carry equal marks.

1. Write an event procedure to concatenate three strings given as input and should display the   resultant string all in uppercase. Use appropriate controls to design the user-interface.

2. Create a VB application to generate the bill for a post-paid mobile connection as per the details given below :

   Rental charges : Rs. 100/ - (Monthly)
   Free calls: 100 calls (each call of 1 minute)
   Local call : Rs. 1/- per call (per minute)
   STD   : Rs.1.50/- per call (per minute)
   ISD :   Rs. 5/- per call (per minute)
   SMS :   Rs. 0.30 per (30 characters) SMS
   Service Tax : 2% of the total bill amount

Also design a user friendly interface with appropriate controls.

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Time: 3 hours **Maximum Marks: 80**

Answer any five questions. All questions carry equal marks.

1. Define the term Multimedia. List four softwares used in multimedia industry.
   How is multimedia used in business communication? Explain this with an example.

2. Explain the important features of Flash software in detail.

3. What are Annotations ? Explain the role of annotations in the applications of hypertext, using an example.

4. What is video conferencing ? List the differences between video conferencing and document conferencing.

5. What type of application development is best suited for Everest Authoring system? Explain the important features of this system.

6. Explain the difference between Bit-map Image and vector image. Describe different types of file extension used in multimedia applications

7. Discuss the following components of multimedia and how do you create them :
   (a) Text
   (b) Images
   (c) Digital Audio
   (d) Animation
   (e) Video

8. Explain the role and significance of multimedia in business and commerce.
   Discuss the features of Image Q and **Authorware** tools.

9. Write short notes on the following :
   (i) Cross - platform capability of a multimedia application
   (ii) Interface design for a multimedia application.

10. Describe the following :
    (i) Features of icon - based programs
    (ii) Voice mail
    (iii) QuickTime

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Nalanda Open University

Bachelor in Computer Applications

Final Exam, Year -2012

Paper-XV (CS-68: Computer Networks)

Time: 3 hours   *Maximum Marks: 80*

Answer any FIVE questions . All questions carry equal marks.

1. Explain different types of transmission media used for networking?
2. Describe OSI model with functions of each layer.
3. Explain the following protocols with proper diagram:
   (i) Stop and Wait

   (ii) Go Back N

   (iii) Selective Repeat

4. Differentiate between the following :
   (i)   Switch and Hub
   (ii)   BRI and PRI services of ISDN
5. What is Multiplexing ? Explain different types of multiplexing with suitable examples.
6. Explain different types of Network Topologies with their advantages and disadvantages..
7. What is ISDN? Give advantages and disadvantages of ISDN.
8. Explain TCP header format?
9. Explain different types of switching technique with suitable examples for each.
10. Explain the following terms.
    (i)   Routers
    (ii)   Full Duplex transmission
    (iii)   ATM
    (iv)   Hub

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BACHELOR IN COMPUTER APPLICATIONS
Final Exam YEAR -2012
Part-III
Paper-XVI (CS-69: TCP / IP PROGRAMMING)

Time: 3 hours   *Maximum Marks: 80*

Answer any FIVE questions .All questions carry equal marks.

1.   Name the address class of the following IPv4 addresses and give their subnet mask:

       (i)   10.10.31.10
       (ii)   191.0.0.10
       (iii)   121.12.1.2
       (iv)   221.16.1.3

2. Explain four layers of TCP/IP? Explain protocols at each level.

3.Differentiate between connection-oriented and connectionless services.

4.   Explain IP Address Component with their use in Internet Addressing.

5.   Explain important features of TCP with diagram.

6.   Explain Client/ Server model? What are the codes that the server must contain.

7.   Explain the IP Header format?

8.   What is subnet masking .Explain subnet masking with an example.

9.   Explain the terms :

       (i)   Acknowledgement Number
       (ii)   Checksum
       (iii) Network Address.

10. Write short notes on :

       (i)   Fragment offset

       (ii)   Type of service

       (iii) First-Octet Rule.

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Time: 3 hours   *Maximum Marks: 80*

Answer any FIVE questions. All questions carry equal marks.

1) Why is the analysis stage of software engineering considered so important? What approaches can be taken to ensure it is successful?

2) Describe the phases of System Development Life Cycle using Waterfall Model.

3) Consider a University Registration System. The system is to handle student registration for various courses offered by the University as well as for the examinations. Identify at least 10 risks associated with such a software system.

4) Explain different types of COCOMO (Constructive Cost Model)? Write the process of scheduling a project.

5) Explain the Software planning? Why it is necessary? Explain the tools used for planning with an example.

6) Explain at least four recent developments that influenced the software development methodologies.

7) Define Forward Engineering & Reverse Engineering. Describe the situations for which they are suitable to apply.

8) How are MIS and DSS related ? How do they differ from each other ?

9) Several organizations don't have their own software development divisions and they outsource the work of Software Development to External Software Development organizations. Is it justified to outsource all types of software projects or should outsourcing be limited to only some categories ? Explain your answer.

10) Write short notes on :
    a) Benchmark Testing
    b) CASE tools
    c) 4GL
    d) DFD

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SET- I

NALANDA OPEN UNIVERSITY
BACHELOR IN COMPUTERAPPLICATIONS
Final Examination, 2012
Part-III (CS-72: C++ AND OBJECT ORIENTEDPROGRAMMING)

Time: 3 hours   MaximumMarks:100(20+80)

Section A is compulsory. Answer any three questions from section B.

Section-A (20 Marks)

1.   Explain the following concepts with the help of an example:

   (a)   Constructors
   (b) Encapsulation

2.   What are the advantages of using UML? Create the class diagram for a
   University having classes – Student, Teacher, Subject and Programme. Make
   suitable assumptions, if any.

Section-B (80Marks)

3.   Write program in C++ to implement a linked list.

4.   Write a program in C++ to display the **bio-data** of 10 students using
   inheritance.

5.   Differentiate between call by value and call by reference with the help of an
   example. . Explain the advantages of call by value?

6.   Write a template class "binaryTree" in C++. The class should have functions
   for search and insert and element into a binaryTree. Use this template to
   create a binary tree of integer keys. Make suitable assumptions, if any.

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NALANDA OPEN UNIVERSITY
BACHELOR IN COMPUTERAPPLICATIONS
Final Examination, 2012
Part-III (CS-72: C++ AND OBJECT ORIENTEDPROGRAMMING)

Time: 3 hours   **MaximumMarks:100(20+80)**
Section A is compulsory. Answer any three questions from section B.

Section-A (20 Marks)

1.   Explain the following concepts with the help of an example:

   a)   Inheritance

   b)   Polymorphism

2.   Create a class AString that stores only alphabets in a string of arbitrary length. The string has a constructor that makes sure that String has only Alphabets. The class also has an overloaded + operator. The overloaded + operator should perform the concatenation of two strings. Does the class need an explicit destructor? Justify your answer.

Section-B(80 Marks)

3.   Write program in C++ to implement a stack.

4.   Write a program in C++ to implement operator overloading.

5.   Design and represent a queue of integers as a class. Also, illustrate the use of insert and delete operations for the queue. Make assumptions if necessary.

6.   Write a C++ template function that accepts three arguments of any numeric type and finds the larger of them.

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Time: 3 hours   Maximum Marks: 80

Answer any FIVE questions .All questions carry equal marks.

1.   What is a Java virtual machine? Explain Java Buzzwords.

2.   Explain the libraries of utility classes and methods of use to developers in creating   multi-platform applications. Write a Java program to calculate Fibonacci series recursively.

3.   What is the difference between an application and an applet? List all primitive data types, size and range of values they accept?

4.   Describe the following terms :

        (i) Wrapper Classes

        (ii) Subclassing

        (iii) The instance of Operator

5.   Differentiate between the following:

        (i) Method overloading and Overriding a method

        (ii) Class and object

        (iii) Unicode and ASCII code

6.   Describe the following classes:

        (i) Exception class

        (ii) Runtime exception class

        (iii) I/O exception class

7.   Implement a student class. A student has a name, stipend, and enrolment number. Write a default constructor and a constructor with two parameters (name and enrolment number) and two methods:

(i) A method to return the name and enrolment number.

(ii) A method that increases the student's stipend.

8. What are user-defined exceptions? Explain the advantage of user defined exceptions with suitable example. What is the difference between keyword throw and throws?

9. Define a structure for interface. Describe a package and its relationship with classes.

10. Write a java program to find whether a given string is a substring or not, of a string provided as input to the program. What is Servlet ? Explain the use of GET and POST methods.

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NALANDA OPEN UNIVERSITY

BACHELOR IN COMPUTER APPLICATIONS

Final Examination-2012

Part-III

Paper-XXII (CS 75: INTRANET ADMINISTRATION)

Time: 3 hours   Maximum Marks: 80

Answer any FIVE questions. All questions carry equal marks.

1.   What are the formats supported by Web graphics? Explain them in detail.

2.   What steps should be included in planning and preparing a layout of physical network in order to connect to Internet or set up an Intranet.

3.   Describe all the features that an editor tools should provide.

4.   Write short notes on the following :

     (i) FTP services

     (ii) AOL Server

     (iii) WN Server

5.   How do organizations ensure security in an Intranet? Explain the five security models used for chalking out the security plan and policy.

6.   Explain the following protocols:

     (i) SMTP

     (ii) POP

     (iii) IMAP

7.   How many Class A networks can we have in Internet ? How does the fragmentation and reassembly of packets take place in Intranet ? What is the difference between Active, Static and Dynamic documents in WWW ? How does CGI work?

8.   On what basis would you choose between public key algorithm or symmetric key algorithm in an application ? Explain with the help of an appropriate example, the use of each.

9.   What is a Search Engine ? How is it useful for Internet/Intranet ? Give the names of any four Search engines. Write the main function of each of the following : Telnet, Rlogin, SSH and RSH.

10. Explain the following:

     (a) SQL/API

     (b) ODBC

     (c) JDBC

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: आवश्यक सूचना :

विद्यार्थियों को सूचित किया जाता है कि **Paper-CS-76** (Paper-XIII) Viva-Voce, दिनांक-26.02.2012 (रविवार) समय-11 बजे से बिस्कोमान टावर के 12वें तल पर आयोजित है ।