Nalanda Open University

Annual Examination - 2015

Bachelor in Computer Application (BCA), Part-I

Paper-I [Foundation Course in English for Computing (CS-610)]

Time: 3.00 Hrs. **Full Marks: 80**

Answer all questions.

1. Read the passage given below and answer the questions that follow:

A surge in energy intakes is evident from our daily food consumption with the focus shifting from meals to snacks and from at-home to away-from home foods. Forsaking healthy, home-cooked meals, many of us are today gorging on calorie rich, nutrient-poor snacks, beverages and sweets.

This shift has become rather gigantic in the West, with many studies across age groups showing that people are consuming a large proportion of their daily food via snacks rather than sit-down meals. This trend favours quick, easy often non-nutrition foods and high calorie treats.

The situation is no different in India; fast foods, street foods and processed food are becoming part of our lifestyle. Of these, energy dense foods coupled with negative life style factors and lack of physical activity are contributing to debilitating health conditions.

Obesity and the incidence of non-communicable diseases are on the rise. In part, the problem is being attributed to the virtual replacement of conventional foods by processed products due to lifestyle changes. The concern is understandable, but today, only the processed food industry is under scan. It is necessary to understand that all processed foods need not necessarily be considered "Junk foods". Similarly all the fast foods and street foods need not necessarily be "Junk".

Answer the following questions:

(a) Briefly describe the shift in eating habits of people. 3

(b) How are energy rich foods harmful to our health? Explain briefly. 3

(c) What are the causes of rising incidence of obesity and non-communicable diseases? 3

(d) Tick the right answer to complete the statement. The point the writer is making is that 2

(i) energy-rich and nutrient-poor foods are wholly to blame for the rise in non-communicable diseases.

(ii) all energy-rich foods can be termed as "Junk foods".

(iii) energy-rich foods compounded with lack of exercise lead to non-communicable diseases.

(e) Pick out the words from the passage that mean the following: 3

(i) Food-that is treated in order to change it or preserve it.

(ii) Traditional, or a way something has been done for a long time.

(f) Suggest a suitable title for the passage. 1

2. (a) Change the following sentences into the passive voice : 5

(i) The President declared the exhibition open.

(ii) My mother gave me a book on my birthday.

(b) Fill in the blanks in the following sentences with the correct tense forms of the verbs given in brackets : 5

(i) She--------(go) to work every day. But she ---------(not go) today.

(ii) He jumped off the train while it --------(move)

3. Do as directed :

(a) Correct the following sentences: 2

(i) This novel is too interesting.

(ii) She hanged in picture on the wall.

(b) Add a suitable tag-question to the following sentence 1

You have paid him fully---------

(c) Write a sentence using the phrasal verb 'look after.' 1

(d) Rewrite the following in indirect speech 1

She said, "Father, I have got a job' "

4. Write a paragraph in about 200 words on any one of the following: 15

(i) Mobile phones can be a source of great nuisance.

(ii) Advantages and disadvantages of email.

(iii) Computer games.

5. (a) Fill in the blanks with suitable articles (a, an and the), wherever necessary : 3

(i) ------- girl in blue is my sister.

(ii) He is------ university employee.

(iii) It will be ----- honour to meet her.

(b) Use the following words in one sentence each bring out the difference in their meaning: 2

(i) except (ii) accept

6. Write an essay of about 400 words on any one of the following topics: 20

(i) My Vision of India in 2020

(ii) Influence of Television Serials on our life

(iii) Computers have turned the world into a global village

7. Read the following passage and summarize it to one-third of its length. Give a suitable title– 10

We all start life as weak, helpless creatures, totally dependent for both our physical and mental well-being upon those who care for us. It has been demonstrated that, from the very beginning of its separate existence, the baby requires more than simple attention to its physical heeds. If a baby is to develop satisfactorily, it is not enough merely to feed it and keep it warm; it needs a mother as a person who will play with it, caress it, and show it affection in all the hundred ways in which mothers do show love towards a child which has been desired and which is welcomed. Babies who are cared for physically, but whose emotional needs are neglected, develop more slowly and may, in some instances, suffer permanent damage in that, in adult life, they may never be able to form close emotional ties with any other human being. Every psychiatrist has seen examples of people who were brought up in institutions and who, perhaps, were excellently fed and clothed, but whose emotional needs were left quite unsatisfied. As a result, they grew up into a kind of person who can never keep a friend because the demands which they make upon others are not those of friendship, but rather those of a lost child looking for a parent who can never be found. (224 words)

OR

Choose the correct word from the box below to fill in the blanks. Make necessary grammatical changes:

say	tell	talk	speak

i Can you _____ her to be quiet; I can't work with all this noise.

ii I hope this teacher _____loud and clearly. I didn't hear a word of what the last lecturer _____.

iii How many languages do you _____?

iv How much Shreya _____! I hope someone would _____ her to stop.

v The sign_____ that the road is closed. Let's _____ to the guard before we proceed.

vi There's a _____ on "Child Abuse' in room no. 22. Rohit _____ that he would like to attend.

Examination Programme, 2015

Bachelor of Computer Application (BCA Part – I)

Date	Papers	Time	Examination Centre
23/3/2015	BCA Paper–I	8.00 AM to 11.00 AM	Nalanda Open University, Patna
25/3/2015	BCA Paper–II	8.00 AM to 11.00 AM	Nalanda Open University, Patna
26/3/2015	BCA Paper–III	8.00 AM to 11.00 AM	Nalanda Open University, Patna
27/3/2015	BCA Paper–IV	8.00 AM to 11.00 AM	Nalanda Open University, Patna
30/3/2015	BCA Paper–V	8.00 AM to 11.00 AM	Nalanda Open University, Patna
01/4/2015	BCA Paper–VI	8.00 AM to 11.00 AM	Nalanda Open University, Patna

Nalanda Open University
Annual Examination - 2015
Bachelor in Computer Application (BCA) Part-I

Paper-II (Foundation Course in Humanities and Social Sciences) BHSF –101

Time: 3.00 Hrs. **Full marks: 80**

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

1. **(a)** 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 हेा, का चिह्न लगावें ।

(i) The Neolithic human being seems to have been a peace loving person. (true/false)
ऐसा लगता है कि नव पाषाण कालीन मानव शांतिप्रिय था । (सही/गलत)

(ii) The population in the Neolithic Age was on the decrease. (true/false)
नव पाषाण काल में जनसंख्या घट रही थी । (सही/गलत)

(iii) Severe restrictions were imposed on the citizens in Europe during the Renaissance period. (true/false)
यूरोप में पुनर्जागरण के काल में नागरिकों पर कठोर प्रतिबंध लगाए जाते थे । (सही/गलत)

(iv) The feudal society was a class-less society. (true/false)
सामन्ती समाज एक वर्गहीन समाज था । (सही/गलत)

(v) Democracy was the leading political system of medieval times. (true/false)
प्रजातंत्र मध्यकाल की प्रमुख राजनीतिक पद्धति थी । (सही/गलत)

(vi) Marsiliun of Padua advocated a theory of popular sovereignty. (true/false)
पैडुआ का मार्सिलियस लोकसत्ता के सिद्धान्त का पक्षधर था । (सही/गलत)

(vii) The drain theory was put forward by the Western Scholars. (true/false)
ड्रेन सिद्धान्त पश्चिमी विद्वानों ने प्रस्तुत किया था । (सही/गलत)

(viii) Marginalized people remain cut off from the rest of the society because they are very rich and powerful. (true/false)
सीमांतिक व्यक्ति शेष समाज से कटे रहते हैं क्योंकि वे बहुत धनी और शक्तिशाली हैं । (सही/गलत)

(b) 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.
नियेालिथिक 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) The Indian Constitution was enacted on ..... .
भारतीय संविधान ..... को अधिनियमित किया गया था ।

2. Explain the terms 'Industrial' and 'Post-industrial' societies.
'औद्योगिक समाज' और 'उत्तर-औद्योगिक समाज' शब्दों की व्याख्या कीजिए ।

[P.T.O]

3. Does the Juvenile Justice Act take care of the problems of the orphaned, delinquent and destitute children.
   क्या किशोर न्याय अधिनियम अनाथ, अपराधी और निराश्रित बच्चों की समस्याओं का ध्यान रखता है?
4. Discuss some of the key issues of democracy in India.
   भारत में लोकतंत्र के कुछ महत्वपूर्ण मुद्दों की चर्चा कीजिए ।
5. What do you understand by the term 'human security'? Discuss.
   'मानव सुरक्षा' शब्द से आप क्या समझते हैं? चर्चा कीजिए ।
6. Highlight key issues in modern administration.
   आधुनिक प्रशासन के महत्वपूर्ण मुद्दों पर प्रकाश डालिए ।
7. Discuss the role of Mahatma Gandhi during the national movement.
   राष्ट्रीय आन्दोलन के दौरान महात्मा गाँधी की भूमिका की चर्चा कीजिए ।
8. Critically examine the role of the institution of family.
   परिवार नामक संस्था की भूमिका का आलोचनात्मक विवेचन कीजिए ।
9. Discuss the measures India took to respond to the current phase of globalization.
   भूमंडलीकरण के वर्तमान दौर के प्रति प्रतिक्रिया दर्शाते हुए भारत द्वारा किए गए उपायों की चर्चा कीजिए ।
10. What do you understand by the term Renaissance? Discuss.
    नवजागरण शब्द से आप क्या समझते हैं? चर्चा कीजिए ।

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Examination Programme, 2015

Bachelor of Computer Application (BCA Part – I)

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01/4/2015	BCA Paper–VI	8.00 AM to 11.00 AM	Nalanda Open University, Patna

Nalanda Open University

Set-A

Annual Examination - 2015

Bachelor in Computer Application (BCA), Part-I

Paper-III Practical [Computer Fundamentals And PC Software (CS-611)]

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

Answer all questions.

Section -A (20 Marks)

1. Explain different types of Network topologies with diagram.
2. What is an Operating system? Explain the difference between Application software and system software.

Section-B (80 Marks)

Perform the following tasks on Computer write all the steps in the answer copy.

3. Perform the following tasks using MS-Word document:
   (a) Write a letter using mail-merge and send it to at least 5 addresses.
   (b) Demonstrate the use of Dropcap feature.
   (c) Demonstrate the use of Auto correct feature.
4. Perform the following tasks using MS-Windows:
   (a) Sort the icons on the desktop according to the last modified date.
   (b) Add a printer to your system.
   (c) Create a screen saver with your name floating on the screen and protect it with password.
   (d) Demonstrate the process of installing a new program and removing a program through the use of control panel options.
5. Create five different types of slides using MS PowerPoint. The slides may contain information about some student. Set the slide transition time to 2 seconds.

Nalanda Open University

Set-B

Annual Examination - 2015

Bachelor in Computer Application (BCA), Part-I

Paper-III Practical [Computer Fundamentals And PC Software (CS-611)]

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

Answer all questions.

Section -A (20 Marks)

1. Describe different types transmission channels with their usage.
2. What is VIRUS? How do viruses infect and spread in a computer system? Can viruses also damage the computer hardware Components? Differentiate between BOOT infector and system infector viruses.

Section-B (80 Marks)

Perform the following tasks on Computer 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) Type a paragraph about your class experience in the computer lab. Edit this document to see that there are no spelling mistakes.
   (c) Use a macro to type repetitive options.
4. Perform the following activities using MS-Windows:
   (a) Find out the configuration of the computer you are using.
   (b) Find out what files on the disk have bad sectors.
   (c) Draw National Flag and color it using Paint programme.
   (d) Swap the function of left and right mouse button
5. Create five different types of slides using MS PowerPoint. The slides may contain information about your BCA Course. Set the slide transition time to 4 seconds.

NALANDA OPEN UNIVERSITY
Annual Examination 2015
Bachelor of Computer Application (BCA), Part – I
Paper – IV (PC SOFTWARE SKILLS, CS - 612)

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

Answer any five questions. All questions carry equal marks.

1. How MS–Excel makes our task easier? Explain different components of MS-EXCEL.
2. Describe the Working of an Internet and some of its applications. What are the components and 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? Give an example to show how decision tree is useful.
5. Write the steps to create a chart in MS–Excel. What are the different types of graph that can plotted in MS-EXCEL.
6. What is an Address Book, and why is it required? How are addresses add to the Address Book?
7. Explain the utility of macros in MS–Excel. Write steps for recording and running a macro in MS–Excel.
8. What is cell merging in EXCEL? Explain the four alignment options which can be used for document alignment.
9. Explain some arithmetic functions and their syntax in MS-EXCEL.
10. Explain absolute, relative and mixed function in MS-EXCEL with an example of each.

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Nalanda Open University

Annual Examination - 2015

Bachelor in Computer Application (BCA), Part-I

Paper-V [Foundation Course in Mathematics in Computing (CS-60)]

Time: 3.00 Hrs. **Full Marks: 80**

Answer any five questions. All questions carry equal marks.

1. Find the limits :

   (a) $\underset{x\to 0}{Lt}\dfrac{\sqrt[3]{x+2}-(2)^{\frac{1}{3}}}{x}$ (b) $\underset{x\to -3}{Lt}\dfrac{x^3+27}{x^5+243}$ (c) $\underset{x\to 0}{Lt}\dfrac{e^{ax}-e^{bx}}{x}$ (d) $\underset{x\to 0}{Lt}\dfrac{\tan x-\sin x}{\tan^3 x}$

2. (a) To find differential coefficient of cosec$x$ with respect to x with the help of first Principle.

   (b) Find $\sqrt{i}+\sqrt{-i}$.

3. (a) Simplify : $\dfrac{20}{\sqrt{3}-\sqrt{-2}}+\dfrac{30}{3\sqrt{-2}-2\sqrt{3}}-\dfrac{14}{2\sqrt{3}-\sqrt{-2}}$

   (b) Find the square root of the :

   $$\frac{x^2}{y^2}+\frac{y^2}{x^2}-\frac{1}{i}\left(\frac{x}{y}-\frac{y}{x}\right)-\frac{9}{4}$$

4. Find $\dfrac{dy}{dx}$:

   (a) $y=\dfrac{xSinx}{Sinx+Cosx}$ (b) $y=e^{\tan^{-1}}(x^2)$ (c) $y=\log(x^2\cdot\sqrt{x^2+1})$

5. (a) Find the Maximum and Minimum value of $x^3-9x^2+15x-3$.

   (b) If A = {1, 2, 3, 4, 5}, B = {3, 5, 7, 9} then find (i) A $\cup$ B (ii) A $\cap$ B (iii) A – B (iv) B – A

6. Integrate the following :

   (a) $\int\dfrac{\left(\sqrt{x}+1\right)^2}{x\sqrt{x}+2x+\sqrt{x}}dx$ (b) $\int\dfrac{e^{2x}-e^{4x}}{e^x-e^{-x}}dx$ (c) $\int\tan^4 x dx$ (d) $\int\dfrac{e^{2x}}{1+e^x}dx$

7. Solve the following equations by Cardano's method.

   $$2x^3+3x^2+4x+1=0$$

8. Solve the following equations by Cramer's Rule :

   $$2x-y+3z=9$$
   $$x+y+z=6$$
   $$x-y+z=2$$

9. (a) Find the equation of a sphere with centre as A (2, 1, 3) and radius as 5 units.

   (b) Find the arithmetic mean and geometric mean of the following sequence of six number : 4, 6, 4, 9, 6, 9

10. Find the equation of a plane passing through the three points :

    P (–3, 1, –4), Q (2, 1, –3) and R (1, 2, 8)

Nalanda Open University

Set-A

Annual Examination - 2015

Bachelor in Computer Application (BCA), Part-I

Paper-VI Practical [C Programming and Data Structure (CS-62P)]

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

Answer any three questions.

1. Write a program in 'C' language which accepts a string as input and counts the number of vowels in it.

2. Write a program in 'C' language for the implementation of a Stack.

3. Write a program in 'C' language which accepts a string as input and prints the length of each word of the string.

4. Write a program in 'C' language for the implementation of a Single Linked List.

Nalanda Open University

Set-B

Annual Examination - 2015

Bachelor in Computer Application (BCA), Part-I

Paper-VI Practical [C Programming and Data Structure (CS-62P)]

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

Answer any three questions.

1. Write a program in 'C' language for generating Fibonacci series.

2. Write a program in 'C' language for the addition of two matrices.

3. Write a program in 'C' language that accepts a file as input and prints the number of lines of text in it.

4. Write a program in 'C' language for the implementation of binary search technique.

Nalanda Open University
Annual Examination - 2015
Bachelor in Computer Application (BCA), Part-II
Paper-VII (Fundamental Course in Science and Technology), FST-01

Time: 3.00 Hrs. **Full Marks: 80**

Answer any Five questions. All questions carry equal marks.

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

1. a) Compare the life styles and the level of scientific and technical knowhow of sixteenth century Europe and sixteenth century India. What are the reasons that keep India lagging behind the western countries in almost all areas related to development?

   भारतीय राज्य तथा सामाजिक सगठनों की उन महत्वपूर्ण **विशेषताओं** की व्याख्या कीजिए जिनके फलस्वरूप मौर्य और गुप्त काल में विज्ञान और प्रौद्योगिकी की प्रगति में सहायता मिली

   (b) Describe the features of the Indian state and the social organization that helped the growth of science and technology in the Maurya and Gupta period.

   सोलहवीं शताब्दी के यूरोपीय तथा सोलहवीं शताब्दी के भारतीय समाज की जीवन शैली तथा वैज्ञानिक और तकनीकी जानकारी के स्तर की तुलना कीजिए। वे कौन से कारण थे जिनकी वजह से भारत **पश्चिमी देशों** से विकास से संबंधित लगभग सभी क्षेत्रों में पिछड़ा रहा।

2. What feature in Indian society led to the decline of science in post Gupta period?

   उत्तर वैदिक काल में विज्ञान की अवनति में भारतीय समाज की कौन-कौन सी विशेषताएँ उत्तरदायी थी ?

3. Name two ways in which INSAT-1B has enabled you to get information which would not have been possible otherwise.

   ऐसी दो पद्धितियों या सेवाओं के नाम बताएँ जिसका उपयोग INSAT-1B के अन्तरिक्ष में स्थापित होने के बाद किया जाने लगा है । जिसका उपयोग इसके बिना सम्भव नहीं है ।

4. Match each of the entities listed column - 1 with their features given in column - 2. Draw an arrow between the items that match:

	Coloumn-1		**Coloumn-2**
(a)	Earth	(i)	A Group of galaxies, containing a few to a few thousands galaxies.
(b)	Sun	(ii)	A Group of stars arranged in a pattern, defining a region of the sky.
(c)	Constellation	(iii)	A tiny planet moving around sun
(d)	Milky way galaxy	(iv)	A collection of clusters extending upto several hundred million light years.
(e)	Clusters	(v)	A star situated at large distance from center of the milky way galaxy.
(f)	Super clusters	(vi)	A galaxy containing billion of stars, dust and gas.

5. Discuss modes of HIV transmission. What are its initial symptoms failure?

   एच०आइ०वी० के संक्रमण के तरिकों का विवेचन कीजिए । इनके प्रारिम्भिक लक्षण क्या है ?

6. Explain ecological crisis in ocean, coasts and atmosphere.

   समुन्द्रिय, समुन्द्रियतट तथा वायुमण्डल में होनेवाले पारिस्थिकी संकट को समझायें ।

7. How does modern information technolgy affect the life style of individual and the society?

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

8. What do you understand b conventional and non-conventional recourses? Give examples and explain them.

   परम्परागत अर्जा एवं गैर परम्परागत उर्जा से आप क्या समझते हैं ? उदाहरण के साथ इसे स्पष्ट कीजिए ।

9. Examine the concept of import-export of technology with a few examples of export of technology form India.

भारत से प्रौद्यौगिकी के निर्यात् के कतिपय उदाहरणों सहित प्रौद्योगिकी के आयात्-निर्यात की अवधारणा का परीक्षण कीजिए ।

10. Comment briefly on agriculture in the following special areas :
निम्नलिखित विशेष क्षेत्रों में कृषि के बारे में संक्षेप में लिखिए :
(i) Arid Zone शुष्क प्रदेश
(ii) Dry Land सूखी भूमि

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SET - 1

Nalanda Open University

Annual Examination - 2015

Bachelor in Computer Application (BCA), Part-II

Paper-VIII (Introduction to System Software) CS-63

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

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.

SET - 2

Nalanda Open University

Annual Examination - 2015

Bachelor in Computer Application (BCA), Part-II

Paper-VIII (Introduction to System Software) CS-63

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

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.

Nalanda Open University

Annual Examination - 2015

Bachelor in Computer Application (BCA), Part-II

Paper-IX (Element of System Analysis and Design)

Time: 3.00 Hrs. **Full Marks: 80**

Answer any Five questions. All questions carry equal marks.

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

1. What is System Development Life Cycle (SDLC)? What are the various activities involved in "Design" Phase of SDLC

2. Why feasibility study important in software development? Explain different types of feasibility.

3. What is a DFD? Write the rules for drawing a DFD. Draw a DFD for Railway Reservation System.

4. Discuss with an example "Benchmark testing" briefly. Describe the problems related to software crisis from programmer's and user's perspective.

5. Differentiate between 3rd generation languages and 4th generation languages. Give one example language for each generation. ? Explain them briefly.

6. Why documentation of a system required? Explain different types of documentation? What are the characteristics of good documentation?

7. Why testing important in software development? Describe different types of testing and when do they take place while software development.

8. Explain decision table, decision tree, Disaster Recovery Planning with an example for each.

9. Explain software implementation and software maintenance by giving an example?

10. Write a short note on any three of the following:
    (i) Cost-benefit analysis
    (ii) Data dictionary
    (iii) Elements of Data dictionary
    (iv) Input Verification

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सूचना :

BCA, Part-II के Practical पत्रों की परीक्षा नीचे दिये जा रहे कार्यक्रम के अनुसार आयोजित होंगी ।

11/3/2015	**Paper-VIII Practical**	**12.00 Noon to 3.00 PM**	**12th Floor, Biscomaun Tower School of Computer Science**
12/3/2015	**Paper-XII Practical**	**12.00 Noon to 3.00 PM**	**12th Floor, Biscomaun Tower School of Computer Science**
13/3/2015	**Paper-XIV Practical**	**12.00 Noon to 3.00 PM**	**12th Floor, Biscomaun Tower School of Computer Science**

Nalanda Open University
Annual Examination - 2015
Bachelor in Computer Application (BCA), Part-II
Paper-X (Database Management System)

Time: 3.00 Hrs. **Full Marks: 80**

Answer any Five questions. All questions carry equal marks.

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

1. Consider the following relations :
   Student (Id, name, phone, programmecode, regioncode)
   Programme (programmecode, programme name, numberofyears)
   Region (regioncode, region-name, address)
   Courses (programmecode, course-code, coursename)
   Assume that a course can be part of only one programme. Write the SQL commands that performs the following queries :
   (a) List the courses for which student, whose Id is 0001, is registered.
   (b) Find the total number of students registered in a each Region.
   (c) List the BCA students of the regional centre whose name is "NOU".
   (d) List all the courses of BCA programme in alphabetical order of course names.
2. Explain the term "Data Independence" in the context of Database Systems with the help of an example.
3. Explain the concept of client - server computing with an example. ? What are its advantages?
4. Explain the concept of horizontal and vertical fragmentation in a distributed database management system with the help of an example. Why do you fragment a distributed database?
5. What is a B-tree explain with an example? Explain the advantages of using a B-tree. "A secondary key index is more advantageous than primary key index". Is the statement true? Justify your answer.
6. Write complete syntax of SQL queries for UPDATE, INSERT, DELETE, DROP, ALTER and MODIFY.(Assume the table name and attributes of your own)..
7. Explain the concept of Multi-valued Dependency(MVD) using a suitable example with the help of a dependency diagram.? Differentiate between BCNF and 4NF.
8. Explain the following with the help of an example/diagram, if needed :
   (a) Index Sequential file
   (b) Direct file organization
   (c) Object Oriented Database Systems and their applications
9. Describe three views of DBMS with an example. How schema is related to these views? Give an example to explain your answer.
10. Write short notes on:
    (i) Integrity Rule
    (ii) Three view of DBMS
    (iii) Normalization

सूचना :

BCA, Part-II के Practical पत्रों की परीक्षा नीचे दिये जा रहे कार्यक्रम के अनुसार आयोजित होंगी ।

11/3/2015	**Paper-VIII Practical**	**12.00 Noon to 3.00 PM**	**12th Floor, Biscomaun Tower School of Computer Science**
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13/3/2015	**Paper-XIV Practical**	**12.00 Noon to 3.00 PM**	**12th Floor, Biscomaun Tower School of Computer Science**

Nalanda Open University
Annual Examination - 2015
Bachelor in Computer Application (BCA), Part-II
Paper-XI (Introduction to Computer Organization)

Time: 3.00 Hrs. **Full Marks: 80**

*Answer any **five** questions. All questions carry equal marks.*
किन्हीं पाँच प्रश्नों के उत्तर दीजिए । सभी प्रश्नों के अंक समान हैं ।

1. Simplify the following Boolean function using SOP form using Karnaugh-Map. Also draw the circuit map for the equation.
   F (A, B, C, D) = (0, 2, 4, 7, 8,10, 13,14).

2. What are Universal gates? Draw all the fundamental gates using the universal gates.

3. What is a full adder? Draw a full adder using two half adders and give its truth table.

4. What is the difference combinational circuit and sequential circuit? Draw and explain J-K flip-flop and D- flip-flops with their characteristic tables.

5. Differentiate between synchronous and asynchronous counters? Design a counter using the following repeated binary sequence: 00,01,10,11,00.

6. What is an ALU and Control Unit in a computer system? Explain their functions with the help of a diagram.

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 types of machine instruction and their uses. Why addressing modes are required in a machine.

9. Write a program in 8086 assembly language to generate first 10 natural numbers.

10. Write short notes on any three:
    (i) Von Neumann architecture
    (ii) Cache Memory
    (iii) Micro-Operations
    (iv) Multiplexer

सूचना :

BCA, Part-II के Practical पत्रों की परीक्षा नीचे दिये जा रहे कार्यक्रम के अनुसार आयोजित होंगी ।

11/3/2015	**Paper-VIII Practical**	**12.00 Noon to 3.00 PM**	**12th Floor, Biscomaun Tower School of Computer Science**
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13/3/2015	**Paper-XIV Practical**	**12.00 Noon to 3.00 PM**	**12th Floor, Biscomaun Tower School of Computer Science**

Nalanda Open University

Annual Examination - 2015

Bachelor in Computer Application (BCA), Part-II

Paper-XII (Windows Programming) CS-65

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

Answer all 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 print the number of characters in a given string and also should print the string-length.

3. Write an event procedure to generate multiplication-table (from 1 to 5). Use grid control on the form to display them.

SET - 2

Nalanda Open University

Annual Examination - 2015

Bachelor in Computer Application (BCA), Part-II

Paper-XII (Windows Programming) CS-65

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

Answer all 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.

3. Write an event procedure to simulate a simple calculator to perform addition, subtraction, division, multiplication and finding percentage operators.

Nalanda Open University
Annual Examination - 2015
Bachelor in Computer Application (BCA), Part-II
Paper-XIII (Multimedia) CS-66

Time: 3.00 Hrs. **Full Marks: 80**

*Answer any **five** questions. All questions carry equal marks.*
किन्हीं पाँच प्रश्नों के उत्तर दीजिए । सभी प्रश्नों के अंक समान हैं ।

1. What is meant by static media and dynamic media? Give two example of each type of media. What are the main differences between the target media for JPEG and GIF compression?

2. Discuss how multimedia can be used for the following application areas:
   (i) Entertainment
   (ii) Medical science.

3. Explain the role of annotations in the applications of hypertext using an example. What is Macromedia Director? How is it used to develop multimedia?

4. Discuss the major factors when considering storage requirements for multimedia systems. Explain the processes involved in production and distribution phase of multimedia development.

5. Explain sampling and it types. How it is used in digital video?

6. Design a multimedia based e-learning education system. Prepare logic flowchart and story board template for this system.

7. Explain the use of communication technology for multimedia services with the help of an example.

8. Write a short notes on the following:
   (a) Scripting languages
   (b) Knowledge based simulations
   (c) Photo Magic software

9. Describe the features of ImageQ and Authorware tools. Explain the differences and similarities between morphing and warping.

10. Differentiate between the following :
    (a) CD ROM and DVD ROM
    (b) Animation and Digital Video

सूचना :

BCA, Part-II के Practical पत्रों की परीक्षा नीचे दिये जा रहे कार्यक्रम के अनुसार आयोजित होंगी ।

11/3/2015	**Paper-VIII Practical**	**12.00 Noon to 3.00 PM**	**12th Floor, Biscomaun Tower School of Computer Science**
12/3/2015	**Paper-XII Practical**	**12.00 Noon to 3.00 PM**	**12th Floor, Biscomaun Tower School of Computer Science**
13/3/2015	**Paper-XIV Practical**	**12.00 Noon to 3.00 PM**	**12th Floor, Biscomaun Tower School of Computer Science**

SET - 1

Nalanda Open University

Annual Examination - 2015

Bachelor in Computer Application (BCA), Part-II

Paper-XIV (RDBMS Lab) CS-67P

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

Answer all questions. All questions carry equal marks.

1. A database system is to be designed for maintaining records of assignments submitted by students for different courses. A student needs to submit only one assignment for every course s/he undertakes. The date of submission of assignment is also to be stored. The database can be used to list the student details, course details and assignments that are submitted by a student.

   Perform the following tasks for the proposed system:

   (a) Design and implement the normalized relations/tables for the proposed system. You must include primary key, validation checks and referential constraints in tables, wherever needed.

   (b) Enter about 5-6 sets of meaningful data in each table.

   (c) Design and implement the following queries/reports/forms for the database system.
   (i) Create a form to enter information about a submitted assignment.
   (ii) Create forms for student and course information entry.
   (iii) Write queries to list the student and course details.
   (iv) Write a query to find the number of students who has submitted assignments for course name "Database System".
   (v) Create a report that shows the assignments submitted by a student.

2. Define normalization? Explain the difference between 2NF and 3NF with an example.

SET - 2

Nalanda Open University

Annual Examination - 2015

Bachelor in Computer Application (BCA), Part-II

Paper-XIV (RDBMS Lab) CS-67P

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

Answer all questions. All questions carry equal marks.

1. A database system maintains the counsellor information of a study centre. The system maintains counsellor_id, name, address, qualification (highest) about the counsellors: courseid, coursename, and courses for which a counsellor has been approved. A counsellor may be approved for many courses, also a course may have many approved counsellors.

   Perform the following tasks for the database system as described above :

   (a) Design and implement normalized relations/tables. You should include primary key, validation checks, and referential constraints in the tables, wherever needed.

   (b) Enter about 5-6 sets of data in each table.

   (c) Design and implement the following queries/forms/ reports for the database system:
   (i) Create forms that allows entry of counsellor information and course information.
   (ii) Create a form that allows entry of information relating to approval of a counsellor for particular courses.
   (iii) Create a query that finds the list of counsellors for the course named "Database system".
   (iv) Create a query to find the number of courses for which a counsellor whose id is 1, has been approved.
   (v) Create a report that provides course wise list of counsellors.

2. Define normalization? Explain the difference between 3NF and BCNF with an example.

Nalanda Open University

Annual Examination - 2015

Bachelor in Computer Application (BCA), Part-III

Paper-XV [Computer Networks (CS-68)]

Time: 3.00 Hrs. **Full Marks: 80**

*Answer any **Five** questions. All questions carry equal marks.*

1. Write two applications in computer networks for which connection - oriented service is appropriate. Also, give two application for which connection-less service is best. Justify your answer. Also , give an example for each.
2. What is the size of ATM cell? Write the significance of each ATM layer.
3. Explain the advantages and disadvantages of any three topologies used in LAN. Assume three token ring LAN's are connected by a bridge. What happens if a fault occurs on one of the rings? What happens if a bridge fails ? Explain.
4. Show the Manchester encoding and differential Manchester encoding for the bit stream 011011101011.
5. Explain the concept of packet switching. Why circuit switching is preferred over packet switching in voice communication?
6. Compare twisted pair and optical fibre in terms cost, bandwidth, attenuation, construction and uses. Differentiate between Simplex, half-Duplex and Full-Duplex.
7. Write any three functions of Data link layer and two functions of network layer of OSI model. With an infinite number of user in a slotted ALOHA channel, results show that 10% of the slots are idle. What is the channel load 'G' ? And what is the throughput ?
8. What is error detection and correction? Write the importance of Hamming distance in data communication.
9. Define multiplexing. Explain TDM and FDM with the help of an example for each.
10. Explain the Congestion Control mechanisms used at transport layer of OSI mode what is count to infinity problem in distance vector routing? Show with the help of an example.

Examination Programme-2015
BCA (Part–III)

Date	Papers	Time	Examination Centre
16/2/2015	BCA Paper-XV	8 to 11 AM	Nalanda Open University, Patna
18/2/2015	BCA Paper-XVI	8 to 11 AM	Nalanda Open University, Patna
20/2/2015	BCA Paper-XVII	8 to 11 AM	Nalanda Open University, Patna
23/2/2015	BCA Paper-XVIII	8 to 11 AM	Nalanda Open University, Patna
25/2/2015	BCA Paper-XIX (Practical)	8 to 11 AM	Nalanda Open University, Patna
26/2/2015	BCA Paper-XX	8 to 11 AM	Nalanda Open University, Patna
28/2/2015	BCA Paper-XXI	8 to 11 AM	Nalanda Open University, Patna
02/3/2015	BCA Paper-XXII	8 to 11 AM	Nalanda Open University, Patna

Nalanda Open University

Annual Examination - 2015

Bachelor in Computer Application (BCA), Part-III

Paper-XVI [TCP/IP PROGRAMMING (CS-69)]

Time: 3.00 Hrs. **Full Marks: 80**

*Answer any **Five** questions. All questions carry equal marks.*

1. What is IP address? Explain format of a typical IP address.

2. Define DNS. Explain the characteristics of DNS.

3. Draw and explain the connection establishment and termination process using 3 - way handshaking in TCP. Explain, why does lost acknowledgement not necessarily force the retransmission of TCP segment.

4. Explain congestion control and quality of services in context of TCP. What is IP routing? Explain, how indirect routing is different from Direct routing.

5. Describe Client-Server model? What are the codes that the server must contain?

6. Describe the purpose and importance of the following header fields of IP and TCP :
   (a) Time To Live (b) Flags (c) Header checksum
   (d) Type of services (e) Window size

7. Explain the similarities between the following : (a) HTTP and SMTP (b) HTTP and FTP.

8. What is subnet masking? Explain subnet masking giving examples for each class.

9. Explain the four classes of IP address and give one example address for each class.

10. Write a short note on any three of the following:
    (a) TCP/IP
    (b) Client - Server
    (c) Full - Duplex
    (d) Stream data
    (e) TELNET

Nalanda Open University

Annual Examination - 2015

Bachelor in Computer Application (BCA), Part-III

Paper-XVII [INTRODUCTION TO SOFTWARE ENGINEERING (CS-70)]

Time: 3.00 Hrs. **Full Marks: 80**

*Answer any **Five** questions. All questions carry equal marks.*

1. Explain all the phases of SDLC. Does the role of System Analyst is confined to Analysis Phase? Comment.
2. Design a system for a Insurance Company. Draw DFD's for the system till level-2 and also prepare the SRS document for the same. Clearly mention the assumption made if any.
3. What is risk management? Further, discuss the areas of risk that a software project manager must address.
4. What is the need of measuring different parameters of a software? Explain various software metrics used.
5. What is Integration Testing? How it is different from system testing? What is its role and how it is performed? List and explain fault finding techniques
6. What is an Object Oriented Design? Discuss its advantages in developing a software system.
7. What are the different types of teams used for system development? Explain how teams are formed.
8. Why software maintenance required? Explain various s/w crisis from the user's and programmer's point of view.
9. Explain the following with example (any three) :
   (a) Validation and verification
   (b) Principles of software Engineering
   (c) Function Point Analysis
   (d) Software Maintenance
   (e) White-Box Testing
10. Differentiate between coupling and cohesion. What are the various types of coupling? What are CASE tools?

Nalanda Open University

Annual Examination - 2015

Bachelor in Computer Application (BCA), Part-III

Paper-XVIII [Computer Oriented Numerical Techniques (CS-71)]

Time: 3.00 Hrs. **Full Marks: 80**

*Answer any **Five** questions. All questions carry equal marks. **Calculator is allowed.***

1. (a) Using the Newton-Raphson method, find the square root of 10 with initial approximation $x_0 = 3$.
   (b) It is known that the equation $x^3 + 7x^2 + 9 = 0$ has a root between – 8 and – 7. Use the regula-falsi method to obtain the root rounded off to 3 decimal places.
2. Solve the system of Equations :

$$16x_1 + 22x_2 + 4x_3 = -2$$
$$4x_1 - 3x_2 + 2x_3 = 9$$
$$12x_1 + 25x_2 + 2x_3 = -11$$

   Using Gauss Elimination method.
3. Perform four iterations of the Jacobi's method for solving the following system equations :

$$2x_1 - x_2 + 0x_3 + 0x_4 = -1$$
$$-x_1 + 2x_2 - x_3 + 0x_4 = 0$$
$$0x_1 - x_2 + 2x_3 - x_4 = 0$$
$$0x_1 + 0x_2 - x_3 + 2x_4 = 1$$

4. (a) Using the LaGrange's Interpolation formula find the value of y when $x = 13$

x	5	6	9	11	14
$f(x)$	12	13	14	16	20

   (b) Using the Inverse Interpolation formula. Find the value of x when $y = 3$ from the following table.

x	36	54	72	144
y	– 2	1	2	4

5. (a) Using forward differences, find the Polynomial and obtain the value of $f(0.5)$.

x	– 3	– 2	– 1	0	1	2	3
y	– 29	– 9	1	1	3	15	31

   (b) Estimate the value of $f(1.45)$ from the data given below :

x	1.1	1.2	1.3	1.4	1.5
$f(x)$	1.3357	1.5095	1.6984	1.9043	2.1293

6. (a) Find the relationship among E, Δ and D.
   (b) Find $f'(x)$ at $x = 0.4$ from the following table of values :

x	0.1	0.2	0.3	0.4
$f(x)$	1.10517	1.22140	1.34986	1.49182

7. (a) State and Prove Simpson's $\frac{3}{8}$th Rule.
   (b) Find the approximate value of $I = \int_0^1 \frac{dx}{1+x}$ using Trapezoidal Rule. $n = 8$.
8. Using the third order Taylor's Series method find the solution of the differential equation :

$y' = x^2 + y^2$, $y(0) = 0.5$, find $y(0.4)$ taking $h = 0.2$

9. Solve the following IVP using Euler's method $y' = 1 + y^2$, $y(0) = 1$. Find $y(0.6)$ taking $h = 0.2$ and $h = 0.1$.

10. Using Runga-Kutta fourth order method $y' = \frac{y-t}{y+t}$, $y(0) = 1$. Find $y(0.5)$ taking $h = 0.5$.

Nalanda Open University

Set - I

Annual Examination - 2015

Bachelor in Computer Application (BCA), Part-III

Paper-XIX [C++ And Object Oriented Programming (CS-72)]

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

*Answer any **Four** questions.*

1. Write a C++ program to find the sum of two complex numbers. Define proper constructor and destructor along with methods.

2. How are objects created and initialized? Explain with the help of an example. Write a program which will accept a string from the user, reverse it and find whether the string is a palindrome or not.

3. The marks of a student in five different subjects along with the name and student ID are kept in a class Student_Marks. Design and implement the class with suitable functions for input and display of information. Use this Student Marks class in main( ) to create an array of student marks(at least 5 students). Display the information of all the 5 students.

4. Write a C++ program to overload `+' operator, to find S1 + S2, where S1 and S2 are two strings.

5. What is exception handling? How is it performed in C++? Explain with the help of an example.

Nalanda Open University

Set - II

Annual Examination - 2015

Bachelor in Computer Application (BCA), Part-III

Paper-XIX [C++ And Object Oriented Programming (CS-72)]

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

*Answer any **Four** questions.*

1. Write a C++ program to create Account class and derive Saving-Account class from Account class. Saving-Account class should have one constructor which calls constructor of Account class. Both Account and Saving-Account classes should have their own methods to display account details.

2. Explain the concept of virtual functions with the help of an example.

3. What are friend functions? Explain two merits and two demerits of using friend functions.

4. Explain the following with relevant examples:
   (i) inline functions
   (ii) call by reference
   (iii) break, continue and exit.

5. Differentiate between the following with the help of examples:
   (i) Operator overloading versus function overloading.
   (ii) Static binding Vs. Dynamic binding.

Nalanda Open University

Annual Examination - 2015

Bachelor in Computer Application (BCA), Part-III

Paper-XX[Theory of Compute Science (CS-73)]

Time: 3.00 Hrs. **Full Marks: 80**

*Answer any **Five** questions. All questions carry equal marks.*

1. Describe the rules to write a regular expression. Give examples to explain the rules.

2. Explain Finite Automata with suitable examples. Draw a Finite Automata which accepts all the words in a, b starting with an 'aaaa' and ending with 'bbb' where

3 Explain Pumping Lemma for regular languages.? Show that the Language L= **{a^p| p is a prime number}** is not regular.

4. For the following regular expression, construct equivalent finite automata:
   (i) **(aa+ba)*(baab)***
   (ii) **(10 +10)*1*01(0+1)**
   (iii) **(0+010)*+1(1+0)***

5. Explain the difference between Deterministic Finite Automata (DFA) and Nondeterministic Finite Automata (NFA) with an example.

6. Draw a Turing machine for product function given as
   F(m,n)= { m*n, for m>0, n>0.
   otherwise 0 }

7. Draw a Push Down Automata (PDA) for the Language L= **{a^n ccb^n | n>0}** . Also explain its transition table.

8. Explain ambiguity of parse tree with the help of an example? Write the rules for converting a CFG (Context Free Grammar) to CNF(Chomsky Normal Form)?.

9. Write short notes on any three:
   (i) NULL NFA
   (ii) Chomsky Classification of Grammar
   (iii) Post Correspondence Problem
   (iv) P and NP-Hard Problems.

10. What is recursion? Explain product function with help of recursion.

Nalanda Open University

Annual Examination - 2015

Bachelor in Computer Application (BCA), Part-III

Paper-XXI [Introduction to Internet Programming (CS-74)]

Time: 3.00 Hrs. **Full Marks: 80**

*Answer any **Five** questions. All questions carry equal marks.*

1. What is object oriented programming? Explain the concept of reusability by creating an Account class and deriving Saving_Account and Current_Account classes from it. Use appropriate access specifiers, data members and member functions in your explanation.
2. Write a Java program to display the following pattern for a given number n :
   Example : for n= 1 2 3 4
   2 3 4
   3 4
   4
3. Differentiate between:
   (i) Thread and process
   (ii) Applet and application program.
   (iii) Final variable and final method.
4. What is interface in Java? Explain need of interface with the help of an example.
5. What is string class? How it is different from String Buffer Class? Write a Java program to count the number of words and lines in a file.
6. What is a stream? Explain difference between Byte Stream and Character Stream. Explain concept of inner class with the help of an example.
7. What is multithreading? Explain different states of a thread. Write a Java program using multithreading to create two threads which display numbers 1 - 10.
8. Explain the use of super keyword in java with the help of suitable example. Why Static functions can only access static data?
9. Explain the following with respect to Java programming with the help of an example.
   (a) Mouse events
   (b) Finally
   (c) Package
   (d) Layout Manager
   (e) JVM
10. What is exception? Explain with an example, how Java handle Arithmetic Exceptions.

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Annual Examination - 2015

Bachelor in Computer Application (BCA), Part-III

Paper-XXII[Intranet Administration (CS-75)]

Time: 3.00 Hrs. **Full Marks: 80**

*Answer any **Five** questions. All questions carry equal marks.*

1. Differentiate between internal and external security threats in an intranet. What is Virtual Private Network? Explain its advantages and disadvantages.

2. Write the range of different IPv4 classes along with the significance of each class.

3. Compare and contrast between JPEG and GIF formats. Explain the need and working of public-key based security infrastructure.

4. What is WAP (Wireless Application protocol) ? Explain the WAP layered architecture.

5. Write the steps required to create roaming user's profile. Also, give the steps for deleting it. Write similarities and differences between IIS and Samba Server.

6. Write short notes on the following:
   (a) Types of Communication Cables
   (b) CDMA

7. How do organizations ensure security in anIntranet? Explain the five security models used for chalking out the security plan and policy.

8. Explain the following terms:
   (a) ODBC (b) GPRS
   (c) SSL (d) IMAP

9. Explain the significance of ARP and RARP in an Intranet. What is Groupware? Write advantages and disadvantages of Groupware.

10. Write short notes on:
    (a) Authoring Tools
    (b) Web based tools.
    (c) Distributed databases