Nalanda Open University
Bachelor of Computer Application, Part-III
Final Examination, 2008
Paper-XV [CS-68]

Time: 3.00 Hrs.   Full Marks: 75

Answer any five questions.

1. Explain TCP reference model.
2. Explain the difference between OSI reference model and TCP reference model.
3. What is transmission media? Explain its types.
4. What is Gateway? How do gateways link hosts and LANs?
5. What is switching? Explain packet and circuit switching.
6. What is Router? Explain its purpose.
7. Explain different Network Architectures.
8. Write short notes on:
   (a) Modem
   (b) ISDN
   (c) Router
   (d) Switch
9. Explain 802.3 and 802.4 architecture.
10. What is FTP? Write about Telnet.

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Nalanda Open University
Bachelor in Computer Application, Part-III
Final Examination, 2008
CS-69 (TCP/IP Programming)

Time: 3.00 Hrs.   Full Marks: 75

Answer any Five Questions. All questions carry equal marks

1. What is TCP/IP. Explain important features of TCP.

2. What is IP addressing. Why IP addressing is required in a network?

3. Explain TCP/IP stack.

4. Explain sunset masking.

5. Explain the difference between TCP & UDP. Name two applications suitable for TCP & UDP each.

6. Explain the following:

    (a)   First Octet Rule

    (b)   DNS

    (c)   IP routing

    (d)   IP Forwarding

7. What is DNS. Explain its characteristics.

8. Explain 2-Tier and 3-Tier Client/Server architecture. How is it beneficial for Application Development?

9. Explain characteristics of UDP.

10. Explain IP header format with IP header structure.

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NALANDA OPEN UNIVERSITY
Annual Examination, 2008

Full Marks : 75

Time:3.00 Hrs.

BCA CS-70, Part-III

Answer any five questions. All question carry equal marks

1. Define Software Process. Differentiate between Programming and Software Engineering.

2. Define the Analysis Phase in SDLC. Also give the format of SRS document.

3. What do you mean by Software Team ? Explain different types of Software Team.

4. What is Waterfall Model explain in details. List the advantages and disadvantages of Waterfall model.

5. What do you mean by Software Crisis ? Give any three reason which leads to Software Crisis.

6. Explain the phases of software life cycle SDLC. Also list all the software models.

7. What is software change management ? Describe any two baseline specifications for change management.

8. Write short notes on any two of the followings;

   (a) Project Planning
   (b) Project Scheduling
   (c) High level Design
   (d) Low level Design

9. What is software testing ? List any two difference between White Box Testing and Black Box Testing.

10. Describe the importance of Systems Analyst. List any two attributes of Systems Analyst.

Nalanda Open University
Bachelor of Computer Application, Part-III
Examination, 2008
Paper: CS-71 (Mathematics)

Time: 3.00 Hrs.   Full Marks: 75

Answer any Five Questions. All Questions carry equal marks.

1. Solve by Gauss elimination method

    $5x_1+x_2+x_3+x_4=4$
    $x_1+7x_2+x_3+x_4=12$
    $x_1+x_2+6x_3+x_4=-5$
    $x_1+x_2+x_3+4x_4=-6$

2. Apply Gauss-Seidal Iteration method to solve the Egns

    $3x_1+20x_2-x_3=-18$
    $2x_1-3x_2+20x_3=25$
    $20x_1+x_2-2x_3=17$

3. Explain Bisection Method with Examples.

4. - State and Prove Newton-Raphson method and find a real root of the Equation $x^3-2x-5=0$ by Newton-Raphson method.

5. (a) Give the relationship among forward difference(Δ), Backward difference (∇) and shift operator(E)

   (b) Find the cubic polynomial which takes the following values $y(0)=1$, $y(1)=0$, $y(2)$ 1 and $y(3)=10$. obtain $y(0.5)$.

6. The observed values of a function are respectively, 168, 120, y2 and 63 at the four positions 3, 7, 9 and 10 of the independent variables. Find the value of f(7) using leagranges interpolation formula.

7. Evaluate $\int_0^1 \dfrac{dx}{1+x^2}$ using Ssimpson's $3/_8$th

    Rule with h=0.2 and find the value of π.

8. Find by Taylor's series method, the values of y at x=0.1 and x=0.2 to five places of decimals from

    $$\frac{dy}{dx} = x^2y - 1, \quad y(0)=1$$

9. Find the solution for x=0.1 and x=0.2 by Euler's method.

10. Evaluate $\int_0^1 2x \, dx$ using trapezoidal Rule with h=0.1.

Nalanda Open University

Bachelor of Computer Application, Part-III

Final Examination, 2008

Paper (CS-72)

Time:2.00 Hrs.   Full Marks : 60

Answer any Five Questions. All questions carry equal marks.

1. What is Template? Describe using example.

2. What is a Class? Explain its role in Oops.

3. What is C#? Explain its features.

4. Write a program to find the factorial of a given number.

5. Explain different Programming Paradigm.

6. Describe operator overloading.

7. Describe virtual functions.

8. What is function? Explain call by value and call by reference.

9. What is the meaning of data abstraction? What is encapsulation? How does C++ achieve these two concepts? Describe with the help of an example.

10. What is Constructor? Explain its types.

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Nalanda Open University

Bachelor of Computer Application, Part-III

Final Examination, 2008

Paper (CS-73)

Time: 3.00 Hrs.   Full Marks: 75

Answer any Five Questions. All questions carry equal marks.

1. What is Turing Machine? Explain with example.

2. Differentiate between Moore Machine and Mealy Machine. What is NFA & DFA?

3. What are the rules used to define the set of regular expressions? How is Universal Turing machine different from Turing Machine?

4. (a) Stage any three decision problems which are Unsolvable.

    (b) What is Grammar?

5. Explain Applicatiions of Finite Automata.

6. What are applications of Regular expressions? Explain rules to define set of regular expressions.

7. Write short notes on any three:

    (i)   Godel Number

    (ii) Pushdown Automata

    (iii) NP Hard Problems

    (iv) Primitive Recursive Function

8. Explain Space complexity and time complexity. Also explain Various Asymptotic Solutions.

9. Explain steps of conversion of NFA to DFA. Explain Post's Correspondence Problem.

10. Design a Turing Machine for the language of the set of Strings with an equal number of O's and I's.

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Bachelor of Computer Application, Part-III
Final Examination, 2008
Paper-XXI (CS-74)

Time: 2.00 Hrs.   Full Marks: 60

Answer any Five Questions. All questions carry equal marks.

1. Explain the features of Java. Explain the Java Virtual Machine.

2. Explain access modifiers. Differentiate between Applet and Application.

3. Explain try, catch, throws and throw blocks. Explain the use of Exception Handling with a example.

4   Write a program in JAVA to print febonacci series using function.

5. Explain Multithreading with example. Explain the use of Interfaces.

6. Write a Java Program to ineteractively accept three values and display the greatest of three.

7. Explain String and String Buffer Class. Explain various string functions.

8. Explain Applet Life Cycle. Write Applet program to find factorial of a given Number.

9. Write Java program using class and Constructor to find length of String.

10. Write a program using Applet to draw Arc, Circle, ellipse and rectangle.

11. Explain various kinds of Inheritance with example.

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Nalanda Open University
Bachelor of Computer Application, Part-III
Final Examination, 2008
Paper- [CS-75]

Time: 3.00 Hrs.   Full Marks: 75

Answer any five questions. All questions carry equal marks.

1. What is Database Connectivity? Explain various methods of Data Connectivity.

2. What is SOCKS? Explain

3. What is Firewall? Explain its types and significance.

4. Write Short notes on:
    (a) Daemon
    (b) Wesmaster
    (c) URL
    (d) Bookmark

5. What is a Security Tool? Explain VPN.

6. Write about IIS.

7. What is CGI? Explain its usages.

8. Describe GPRS.

9. What is Wireless Datagram Protocal?

10. Write about Samba Server.

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