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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

BCA

SEM: I - THEORY EXAMINATION (2024 -2025)

Subject: Computer Fundamentals & Networking

Time: 3 Hours

Max. Marks: 100

General Instructions:

IMP: Verify that you have received the question paper with the correct course, code, branch etc.

1. This Question paper comprises of **three Sections -A, B, & C**. It consists of Multiple Choice Questions (MCQ's) & Subjective type questions.

2. Maximum marks for each question are indicated on right -hand side of each question.

3. Illustrate your answers with neat sketches wherever necessary.

4. Assume suitable data if necessary.

5. Preferably, write the answers in sequential order.

6. No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.

SECTION-A

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1. Attempt all parts:-

- 1-a. Which of the following is the smallest visual element on a video monitor? (CO1, K2) 1
- (a) Character
- (b) Pixels
- (c) Byte
- (d) Bit
- 1-b. Which of the following is an input device? (CO1, K2) 1
- (a) Plotter
- (b) Printer
- (c) VDU
- (d) Mouse
- 1-c. Bug means (CO2, K1) 1
- (a) logical errors in the program
- (b) syntax error in the program
- (c) runtime error
- (d) All of the above
- 1-d. A mistake in an algorithm that generates incorrect results or output is called (CO2, K2) 1
- (a) logical error

- (b) syntax error
- (c) compile-time error
- (d) procedural error
- 1-e. The term HTTP stands for? (CO3, K2) 1
- (a) Hyper terminal tracing program
- (b) Hypertext tracing protocol
- (c) Hypertext transfer protocol
- (d) Hypertext transfer program
- 1-f. The term WAN stands for? (CO3, K1) 1
- (a) Wide area Network
- (b) Wide Area Net
- (c) Wide Area Access
- (d) Wide Access Net
- 1-g. Simulation is used to determine (CO4, K2) 1
- (a) Bit error rate
- (b) Symbol error rate
- (c) Bit error
- (d) Symbol error
- 1-h. Which is called as on-off keying? (CO4, K1) 1
- (a) Amplitude shift keying
- (b) Uni-polar PAM
- (c) Amplitude shift keying & Uni-polar PAM
- (d) None of the these
- 1-i. How many layers are there in the TCP/IP model? (CO5, K1) 1
- (a) 4
- (b) 5
- (c) 6
- (d) 7
- 1-j. The MAC address is associated with which layer of the OSI model? (CO5, K2) 1
- (a) Physical layer
- (b) Data Link layer
- (c) Network layer
- (d) Transport layer
2. Attempt all parts:-
- 2.a. List various types of number system. (CO1, K2) 2
- 2.b. Define Assembly language. (CO2, K2) 2
- 2.c. What is Internet? (CO3, K2) 2

- 2.d. Define ISDN? (CO4, K1) 2
- 2.e. Explain the concept of flow control in the Data Link Layer. (CO5, K2) 2

SECTION-B

30

3. Answer any five of the following:-

- 3-a. Define primary and secondary memory with suitable example. Also difference between Primary and Secondary memory. (CO1, K3) 6
- 3-b. Explain Printer and its type in detail. (CO1, K2) 6
- 3-c. Describe Operating system and its various functions. (CO2, K3) 6
- 3-d. Define attack. Also compare Active and Passive attack. (CO2, K3) 6
- 3.e. Explain transmission media and its types with suitable diagram. (CO3, K2) 6
- 3.f. Discuss various functionalities of Application layer and Internet Layer in TCP/IP model. (CO4, K3) 6
- 3.g. Compare Stop-and-Wait ARQ with Go-Back-N ARQ and Selective Repeat ARQ. (CO5, K4) 6

SECTION-C

50

4. Answer any one of the following:-

- 4-a. Explain various generations of Computer. (CO1, K4) 10
- 4-b. Define memory. Explain various types ROM in detail. Also compare RAM & ROM. (CO1, K4) 10

5. Answer any one of the following:-

- 5-a. Describe various types of languages in computer with suitable example. (CO2, K4) 10
- 5-b. Explain Three-way handshake and CIA triangle. (CO2, K4) 10

6. Answer any one of the following:-

- 6-a. In Satellite communications, different frequency bands are used for the uplink and the downlink. why this pattern occurs. (CO3, K4) 10
- 6-b. Define OSI model. Discuss functionalities of each layer of OSI model. (CO3, K3) 10

7. Answer any one of the following:-

- 7-a. What are the different protocols used in each layer of OSI model? (CO4, K4) 10
- 7-b. Short note on : A) Port Number B) Socket addressing and C) PDU (CO4, K3) 10

8. Answer any one of the following:-

- 8-a. Compare and contrast TCP & UDP protocols in detail with their header format. (CO5, K5) 10
- 8-b. Discuss classful & classless IP addressing. Also discuss various types of classful addressing in detail. (CO5, K4) 10