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323305

December 2023

B.Sc. (Maths/MAC) - III SEMESTER

Computer Networks Internet Technology (OCSC-301A)

Time : 3 Hours]   [Max. Marks : 75

Instructions :

1. *It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.*

2. *Answer any four questions from Part-B in detail.*

3. *Different sub-parts of a question are to be attempted adjacent to each other.*

PART–A

1.   (a)   Write some Application of Computer Network. (1.5)

      (b)   What is the core component of a fiber optic cable, and why is it crucial for data transmission?   (1.5)

      (c)   Describe Protocol in Computer network.   (1.5)

      (d)   What is Telnet?   (1.5)

      (e)   A communication channel can transmit 8000 bytes of data in 4 seconds. Calculate the data rate of the channel in bits per second.   (1.5)

      (f)   What is the difference between soft handoff and hard handoff.   (1.5)

(g) A fiber optic cable has a bandwidth of 10 Gbps (Gigabits per second). Calculate how many megabytes of data can be transmitted over this cable in 1 second. (1.5)

(h) How to insert an Image in HTML document? (1.5)

(i) Explain the concept of uplink and downlink in satellite communication. (1.5)

(j) Explain the concept of cell reuse in cellular networks. (1.5)

PART–B

2. (a) What is Computer Network? Describe Network Hardware and hardware Devices operating on different network support layers. (10)

(b) Write a short note on Structure of Computer Network. (5)

3. (a) Explain the OSI Reference Model with functionality at each layer in detail. (10)

(b) Write the Comparison of OSI and TCP Reference Model. (5)

4. (a) What is network Topology? Explain various Topologies of a Computer Network. (8)

(b) What is handover in cellular communication? Why is it necessary, and how is it achieved in cellular networks? (7)

5. (a) Write short note on WWW. (5)

(b) Explain the working of Search Engine with suitable block diagram. (10)

6. (a) What is HTML? Describe the anatomy of an HTML. document. Explain how tables are embedded in an HTML document with the help of a suitable example. (10)

(b) Create the following Window using Appropriate HTML Tag : (5)

Frame 1 Contents of Frame 1	Frame 2 Contents of Frame 2	
	Frame 3 Contents of Frame 3	Frame 4 Contents of Frame 4

7. Write short notes on :

(a) Web Browser.

(b) Electromagnetic spectrum.

(c) Ordered and unordered lists in HTML. (15)