

Master of Computer Application (MCA II Year) (CBCS Pattern) Fourth Semester CBCS  
**PSMCAT402 - Paper-II: Advance Data Communication**

P. Pages : 2

Time : Three Hours



**GUG/W/18/11111**

Max. Marks : 80

- Notes :
1. All questions carry equal marks and compulsory.
  2. Draw neat and clean diagram wherever necessary.
  3. Avoid vague answers and write answer relevant and specific to question only.

**1.** Either:

- a) Explain Asynchronous and Synchronous transmission in detail? **8**
- b) Explain Multiplexing concept with diagram? Explain frequency division multiplexing? **8**

**OR**

- c) What is an "Error" in data communication? If codeword 100100 is transmitted and divisor is 1101 then generate CRC bit and check received code word is error free or not using CRC error detection method? **8**
- d) What is TDM? Explain in detail STDM with diagram? **8**

**2.** Either:

- a) What is packet switching? Explain virtual circuit switching and datagram switching? **8**
- b) What is topology? Explain any four topologies with suitable diagram? **8**

**OR**

- c) Explain circuit switching? Write down advantages and disadvantages of this switching? **8**
- d) What do you mean by Transmission media? Explain in detail types of guided (wired) media? **8**

**3.** Either:

- a) Explain TCP/IP protocol architecture in detail? **8**
- b) Write down difference between IPv4 and IPv6? **8**

**OR**

- c) Explain services of physical layer, and Network layer in OSI Model? **8**
- d) What is an IP (Internet Protocol)? Draw and explain IPv4 header datagram architecture in detail? **8**

4. Either:
- a) Explain TCP and UDP transport layer protocols? 8
  - b) What is an ISDN? Explain services of ISDN? 8
- OR**
- c) What is network congestion? Explain TCP congestion control? 8
  - d) What do you mean by B-ISDN? Explain ISDN protocols? 8
5. Solve all the question.
- a) Write down difference between analog and digital signal? 4
  - b) Explain wireless transmission media? 4
  - c) Explain Router-level protocols? 4
  - d) Explain session layer services? 4

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