

**M.Sc. 3rd Semester Examination, 2023**

**COMPUTER SCIENCE**

**PAPER – COS-301(M1)**

*Full Marks : 50*

*Time : 2 hours*

*The figures in the right hand margin indicate marks*

*Candidates are required to give their answers in their own words as far as practicable*

**PAPER – COS-301(M1)**

**GROUP – A**

*( Advanced networking )*

Answer any two of the following questions:  $2 \times 2$

1. What are the goals of routing?
2. Distinguish between flooding and routing in networking.

3. What do you mean by extranet and intranet?
4. Write the name of devices used in internetworking.

### GROUP – B

Answer any **two** of the following questions :  $4 \times 2$

5. Describe the Dijkstra's Shortest Path Algorithm used in link-state routing.
6. What are the characteristics of broadcast routing? Describe the reverse path forwarding technique .
7. What are the causes of congestion? Write the techniques used to control congestion.
8. What are the characteristics of RTSP? Write the packet format of RTP.

### GROUP – C

Answer any **one** of the following question :  $8 \times 1$

9. Describe the Bellman-Ford Algorithm used in distance vector routing. Describe different types of VPN technologies. 4 + 4
10. What are the differences between Packet Switching and circuit switching technique. Explain with diagram. 2 + 6

**PAPER – COS-301(M2)**

*( Network Security )*

**GROUP – A**

Answer any **two** of the following questions :  $2 \times 2$

1. What is product cipher? List their two classes.
2. Define a state in AES. How many states are there in each version of AES?
3. Compare the round keys in DES and AES.
4. Compare and contrast a conventional signature and a digital signature.

GROUP-B

Answer any two of the following questions :  $4 \times 2$

5. What is play fair Cipher? Find the play fair cipher of the word "MIDNAPORE".  $2 + 2$
6. Distinguish between diffusion and confusion. What is P-Box ?  $2 + 2$
7. Encrypt the message "the house is being sold tonight" using Additive cipher with key =20. Ignore the space between words.
8. Write short note on "Avalanche effect".

GROUP--C

Answer any one of the following question :  $8 \times 1$

9. Distinguish between
  - (a) Monoalphabetic and Polyalphabetic cipher
  - (b) Stream cipher and block cipher

10. Briefly explain the DES Function with diagram. + 4

8

**[ Internal Assessment – 10 Marks ]**

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