

**2111040101040002**  
**EXAMINATION JANUARY 2025**  
**MASTER OF COMPUTER APPLICATIONS(FIRST SEMESTER)**  
**COMPUTER NETWORK (COURSE-104) - LEVEL 4**

[Time: As Per Schedule]

[Max. Marks: 70]

**Instructions:**

**1. Fill up strictly the following details on your answer book**

- a. Name of the Examination : **MASTER OF COMPUTER APPLICATIONS (FIRST SEMESTER)**
- b. Name of the Subject : **COMPUTER NETWORK (COURSE104) LEVEL 4**
- c. Subject Code No : **2111040101040002**

2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.

Seat No:

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Student's Signature

**Q.1 Do as Directed: 14**

- A. Draw OSI reference model diagram. List the services provided by each layer. **7**
- B. Write a note on servers and data centre. **5**

**OR**

- B. How the data transfer in the Internet? **5**
- C. Explain role of router in the Internet. **2**

**Q.2 Do as directed: 14**

- A. Consider 240 computers. These computers need to be divided into 4 computer labs each lab having 60 computers.
  - (1) Implement the subnetting to create the subnet of each department. **6**
  - (2) How many unique IP addresses and hosts possible in each subnet? **6**
- B. Give the definition of an IP Address and 2 main functions of an IP Address. **2**

**Q.3 Do as directed: 14**

- A. Write a note on IPv4 Options field. 7
- B. Write a note on Datagram transmission. 5

**OR**

- B. Explain structure of ATM. 5
- C. Define: IPv4 Datagram and its structure. 2

**Q.4 Do as directed: 14**

- A. Define: Cryptography. Explain Monoalphabetic substitution using proper example. 7
- B. Compare Digital signature and Digital certificate. 5

**OR**

- B. Write a note on PKI. 5
- C. Explain types of compression. 2

**Q.5 Do as directed: 14**

- A. Explain different types of DNS Servers. 7
- B. Write a note on SNMP. 5

**OR**

- B. Write a note on ICMP. 5
- C. What is the role of NTP in computer network? 2

\*\*\*\*\*END\*\*\*\*\*