

**BACHELOR OF COMPUTER  
APPLICATIONS (REVISED)  
(BCA)**

**Term-End Examination  
December, 2025**

**BCS-052 : NETWORK PROGRAMMING AND  
ADMINISTRATION**

*Time : 3 Hours*

*Maximum Marks : 100*

*Weightage : 75%*

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***Note :*** *Question No. 1 is compulsory. Answer any **three** questions from the rest.*

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1. (a) Explain the IP address classes. Also, indicate how many bits are used to represent the network ID and host ID port for these IP classes. 10

- (b) Define File Transfer Protocol (FTP).

Explain the roles of FTP client and FTP server. Also, discuss the basic steps preformed by a client during an FTP session. 10

- (c) What is Virtual Private Network (VPN) ? What are its advantages and disadvantages ? Also, write differences between VPN and free NX. 10

- (d) Explain any *five* disk management functions used by the Network Administrator. 10

2. (a) Write any *four* differences between TCP/IP and OSI model. Also, draw the layer diagram of each showing the mapping of OSI and TCP/IP layers. 10

- (b) What is the purpose of byte ordering in network communication ? Also, write the functions used by byte ordering. 10
3. (a) Why is Sliding Window Protocol used in Transport layer ? Explain its working using an example when window size is of 5 bits only. 10
- (b) What is Subnetting and Supernetting ? Explain each with the help of an example. 10
4. (a) Explain the working of DHCP with the activities performed between DHCP server and DHCP client. 10
- (b) Write step-by-step procedure to configure a Samba Server. Assume server IP address is 192.162.0.18 and server machine name is MCA. 10

5. Write short notes on the following : 5×4=20

- (a) Cloud Computing
- (b) Virtual Circuit
- (c) ICMP
- (d) Broadcasting and Multicasting

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