315321

12526
3 Hours / 70 Marks Seat No. | | | | | | | | |

Instructions – (1) All Questions are *Compulsory.*

(2) Answer each next main Question on a new page.

(3) Illustrate your answers with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Assume suitable data, if necessary.

(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE of the following: **10**

a) List the key roles of ICANN.

b) State the purpose of queuing in routers.

c) Explain the use of a routing table in a router.

d) List two key differences between connectionless and connection-oriented services.

e) Draw DNS architecture.

f) Explain the role of SMTP in electronic mail system.

g) Explain the working of SDN.

Marks

2. Attempt any THREE of the following: **12**

a) Illustrate the ARP address mapping process with neat diagram.

b) State the characteristics of the Routing Information Protocol (RIP). (Any four points)

c) Explain four functions of Border Gateway Protocol.

d) Explain features of Stream Control Transmission Protocol. (Any four points)

3. Attempt any THREE of the following: **12**

a) Describe the structure of UDP header.

b) Difference between open loop and closed loop congestion control methods in TCP. (Any four points)

c) List and explain any two security parameters of Pretty Good Privacy Protocol.

d) Explain the working of post office protocol.

4. Attempt any THREE of the following: **12**

a) Explain static and dynamic web documents.

b) Describe the evolution of wireless networks from 3G to 5G.

c) Explain the role of the Red-Time streaming protocol (RTSP) in streaming media.

d) Illustrate the importance of Network Function Virtualization (NFV) with example.

e) Describe any three challenges in edge computing.

5. Attempt any TWO of the following: **12**

a) Describe following fields of IPv4 header :–

i) Version

ii) TTL (Time to Live)

iii) Source and destination address.

Marks

b) Compare OSPF and RIP. (Any four points) Justify OSPF's effectiveness in large network.

c) Describe the following terms :–

i) TCP

ii) UDP.

6. Attempt any TWO of the following: **12**

a) Justify subnet addressing's role in improving network management with any three points.

b) Illustrate the use of ICMP error reporting messages in a network with the following points :–

i) Any two types and purpose of the ICMP error messages.

ii) A suitable example with IP address or host name.

c) Evaluate the three advantages and three disadvantages of FTP and anonymous FTP in file sharing.
