SS – 682

V Semester B.C.A. Examination, November/December 2018
(CBCS) (F+R)
(2016 – 17 & Onwards)
COMPUTER SCIENCE
BCA – 501 : Data Communication and Networks

Time : 3 Hours Max. Marks : 100

***Instruction** : Answer **all** Sections.*

SECTION – A

I. Answer **any ten** questions. **Each** question carries **two** marks. **(10×2=20)**

1) Mention four network topologies.

2) What is telnet ? How it differs from FTP ?

3) What is meant by protocol and internet protocol suite ?

4) Define encoding and decoding.

5) What is piggybacking ? What is its purpose ?

6) What is the difference between ethernet and fast ethernet ?

7) Define bit rate and baud rate.

8) What do you mean by Nyquist signalling rate ? Explain.

9) What is CSMA and CSMA/CD ?

10) What do you mean by IEEE 802.11 standards ?

11) What do you mean by flooding ? Explain.

12) Define datagram and packet.

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SECTION – B

II. Answer **any five** questions. **Each** question carries **five** marks. **(5×5=25)**

13) Explain circuit switching.

14) How many layers are there in TCP/IP model ? Mention the function of each layer.

15) Explain twisted pair cable as transmission medium.

16) Describe FDDI.

17) Explain 2-d parity check for error detection.

18) Explain HDLC frame structure.

19) Explain the differences between connection and connectionless services.

20) Explain the role of the following network devices :

i) Hub

ii) Switch

iii) Bridge

iv) Router

v) Repeater.

SECTION – C

III. Answer **any three** questions. **Each** question carries **fifteen** marks. **(3×15=45)**

21) a) Explain digital representation of information.

b) Write a note on polynomial code with suitable example. **(7+8)**

22) a) Explain optical fibre as transmission medium.

b) Explain different types of bridges in computer networks. **(7+8)**

23) a) Explain stop and wait ARQ with a neat diagram.

b) Explain ALOHA and Slotted ALOHA. **(7+8)**

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24) a) Explain frequency division multiple access and time division multiple access.

b) Explain sliding window method of flow control. **(8+7)**

25) a) Explain LLC and MAC sublayers of data link layer.

b) What do you mean by peer-to-peer protocol ? Compare PPP with HDLC. **(8+7)**

SECTION – D

IV. Answer **any one** question. **Each** question carries **ten** marks. **(1×10=10)**

26) Explain OSI reference model in detail.

27) Explain any two routing algorithms.

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