

Roll No. ....

Total No. of Questions : 9] [Total No. of Printed Pages : 7  
(2043)

**B.C.A. (CBCS) RUSA Vith Semester  
Examination**

**4215**

**COMPUTER NETWORKS**

Paper : BCA-0601

**Time : 3 Hours]**

**[Maximum Marks : 70**

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**Note :-** Attempt *five* questions in all, selecting *one* question from each Part. Part-A (Q. No. 1) is compulsory.

**Part-A**

**(Compulsory Question)**

1. (A) Attempt all parts :

(i) Two devices are in network if :

(a) a process in one device is able to exchange information with a process in another device

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- (b) a process is running on both devices
  - (c) PIDs of the processes running of different devices are same
  - (d) a process is active and another is inactive
- (ii) Communication between a computer and a keyboard involves ..... transmission.
- (a) Automatic
  - (b) Half-duplex
  - (c) Full duplex
  - (d) Simplex
- (iii) A ..... is the physical path over which a message travels.
- (a) Path
  - (b) Medium
  - (c) Protocol
  - (d) Route

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- (iv) A ..... set of rules that governs data communication.
- (a) Protocols
  - (b) Standards
  - (c) RFCs
  - (d) Servers
- (v) A ..... is a device that forwards packets between networks by processing the routing information included in the packet.
- (a) Bridge
  - (b) Firewall
  - (c) Router
  - (d) Hub
- (vi) How many layers are present in the Internet protocol stack (TCP/IP model) ?
- (a) 5
  - (b) 7
  - (c) 6
  - (d) 10
- (vii) The functionalities of the presentation layer include :
- (a) Data compression

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- (b) Data encryption
- (c) Data description
- (d) All of the mentioned

(viii) In OSI model, when data is sent from device A to device B, the 5th layer to receive data at B is :

- (a) Application layer
- (b) Transport layer
- (c) Link layer
- (d) Session layer

(ix) OSI stands for :

- (a) Open System Interconnection
- (b) Operating System Interface
- (c) Optical Service Implementation
- (d) Open Service Internet

(x) Which transmission media provides the highest transmission speed in a network ?

- (a) Coaxial cable
- (b) Twisted pair cable
- (c) Optical fiber
- (d) Electrical cable

1×10=10

(B) Answer the following in about 25 to 50 words each :

- (i) What do you mean by Network Topology ?
- (ii) Describe bridge, gateway and router.
- (iii) What do you mean by a Firewall ?
- (iv) What are the types of mode available in Network ?
- (v) What do you mean by DNS ?

4×5=20

**Part-B (Unit-I)**

2. What is meant by Computer Network ? Explain the need, uses and advantages of computer network. 10
3. (a) Explain the various types of networks.  
(b) What is Internet ? Explain the various internet protocols and standards of internet. 5.5

**Part-C (Unit-II)** 10 each

4. Explain the various types of Communication Media used in computer networks.
5. Explain the Hamming code mechanism with a suitable example.

**Part-D (Unit-III)**

6. Briefly explain the following :  
(a) Modem (b) Repeater  
(c) Hub (d) Router 2½×4=10
7. Explain the TCP/IP model with working of each layer. 10

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**Part-E (Unit-IV)**

8. Discuss the following :  
(a) Classless and Classful Addressing  
(b) Special IP addressing 2×5=10
9. Explain the following :  
(a) TCP/IP protocol suite  
(b) DNS 2×5=10

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