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BCS-041

BACHELOR OF COMPUTER APPLICATION (BCA) (Revised)

Term-End Examination

BCS-041 : FUNDAMENTALS OF COMPUTER NETWORKS

Time : 3 Hours] *[Maximum : Marks : 100*

Note: Question number 1 is compulsory. Answer any three questions from the rest. Use of calculator is allowed.

1. (a) Compare Analog and Digital communication systems. Give example of each. 5

(b) What is frequency modulation? Give two advantages and two disadvantages of frequency modulation. 5

(c) What is multiplexing? Briefly discuss the importance of multiplexing. List the basic multiplexing techniques. 5

(d) Differentiate between OSI and TCP/IP model. 5

(e) Discuss the role of switch as a inter networking king device. Compare layer 2 switch with layer 3 switch. 5

(f) Compare circuit switching with virtual circuit and Datagram. 5

(g) What is Block Cipher? Give two advantages and two disadvantages of Block Cipher. 5

(h) Explain Data Encryption Standard (DBS) with suitable example. 5

2. (a) Discuss OSI reference model with suitable block diagram. Briefly discuss the function of each layer in OSI reference model. 10

(b) Explain the following Digital modulation techniques: 6

(i) Amplitude Shift Keying

(ii) Frequency Shift Keying

(iii) Phase Shift keying

(c) Compare synchronous and Asynchronous transmission. Give advantage and disadvantage of both. 4

3. (a) Draw block diagram to show the classification of Medium access control techniques. 5

(b) What is Address Resolution Protocol (ARP)? Discuss the working of ARP with a suitable block diagram. 5

(c) What is the function of Datalinf Layer? Briefly discuss the role of two sublayers of Datalink layer. 5

(d) What do 10 base T and 100 Base T stand for? Also differentiate between the two. 5

4. (a) Compare Adaptive Routing algorithms with Non-Adaptive Routing algorithms. 5

(b) Discuss the leaky bucket algorithm. Give its advantages and disadvantages. 5

(c) What is the need of data fragmentation? Compare Transparent fragmentation with Non-transparent fragmentation. 5

(d) Explain silly window syndrome. Briefly dicuss the solution to silly window syndrome. 5

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

(i) Frame Relay

(ii) GSM architecture

(iii) MD 5

(iv) Cryptanalysis

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