

**DIPLOMA – VIEP – COMPUTER SCIENCE AND
ENGINEERING (DCSVI) / ADVANCED LEVEL
CERTIFICATE COURSE IN COMPUTER
SCIENCE AND ENGINEERING (ACCSVI)**

00511

Term-End Examination

December, 2017

BICS-027 : COMPUTER ORGANIZATION

Time : 2 hours

Maximum Marks : 70

Note : *Question no. 1 is compulsory. Attempt any four questions from the remaining. All questions carry equal marks.*

1. (a) The octal number 1777 is equivalent to which of the following hexadecimal numbers ?
- (i) 1FFF
 - (ii) 1777
 - (iii) 3FFF
 - (iv) 3777
- (b) Which of the following is a fourth generation language in the context of computer programming ?
- (i) C
 - (ii) C++
 - (iii) SQL
 - (iv) None of the above

- (c) Which of the following operating systems allows many processes to share CPU time equally ?
- (i) Batch Operating System
 - (ii) Multiprogramming Operating System
 - (iii) Time Sharing Operating System
 - (iv) Network Operating System
- (d) Which of the following is one of the topologies of a LAN ?
- (i) Straight
 - (ii) Random
 - (iii) Constellation
 - (iv) Bus
- (e) Which of the following systems predicts the future needs of an organisation ?
- (i) Scientific Application
 - (ii) Remote Sensing Application
 - (iii) Decision Support System
 - (iv) None of the above
- (f) 1's complement of 0110 1100 is
- (i) 0110 0011
 - (ii) 1001 0011
 - (iii) 0110 1111
 - (iv) 1001 0100

- (g) IP protocol is used for
- (i) Transmission Control
 - (ii) Addressing
 - (iii) Application Transfer
 - (iv) None of the above 7×2=14
2. (a) Explain the basic structure of a computer system with the help of a block diagram. What are the various classifications of a computer system ? 7
- (b) Perform binary addition and subtraction of the following number pairs using complement notation of 8 bits : 3+4=7
- (i) + 75 and + 25
 - (ii) - 65 and - 32
3. (a) What is the need of main memory and secondary memories in a computer system ? Describe any two storage devices. 7
- (b) Compare and contrast the features of high level programming languages to that of assembly language. 7
4. (a) Compare and contrast the features of Batch and Multiprogramming operating systems. 7

- (b) What is a network operating system ? Why is it needed ? Explain the features that should be supported by a network operating system. 7
5. (a) Differentiate between the features of LAN and WAN. Explain STAR topology of LAN. 7
- (b) What are the advantages of using the Internet ? Explain any two applications of the Internet. 7
6. (a) Explain how a computer can be used in an educational environment. 7
- (b) Explain various applications of a computer in banking. 7
7. Explain any **four** of the following : $4 \times 3 \frac{1}{2} = 14$
- (a) BCD Code
- (b) Floating Point Number
- (c) System Software
- (d) Input-Output Devices
- (e) Real-Time Operating System
- (f) TCP/IP Protocol
- (g) Role of Computer in Weather Forecasting