No. of Printed Pages : 4 **BICS-028**

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

00796 **Term-End Examination**

December, 2014

BICS-028 : PC ASSEMBLY AND MAINTENANCE

Time : 2 hours *Maximum Marks : 70*

Note : *Question number **1** is **compulsory**. Attempt any **four** from the rest of the questions.*

1. Choose the correct answer : *7×2=14*

(a) The number of characters that can be stored in a given physical space is

(i) Word length

(ii) Byte

(iii) Data density

(iv) Field

(b) The storage capacity of disk system depends on the bits per inch of track and tracks per inch of

(i) Cylinder

(ii) Cluster

(iii) Sector

(iv) Surface

(c) A storage device where the access time is dependent upon the location of the data is

(i) Random access

(ii) Serial access

(iii) Sequential access

(iv) Transaction access

(d) Dynamic address translation

(i) is part of the operating system paging algorithm

(ii) is useless when swapping is used

(iii) is the hardware necessary to implement paging

(iv) stores pages at a specific location on a disk

(e) Interrupts which are initiated by an I/O drive are

(i) Internal

(ii) External

(iii) Software

(iv) All of the above

(f) Where does a computer add and compare data ?

(i) Hard disk

(ii) Floppy disk

(iii) CPU chip

(iv) Memory chip

(g) A complete micro-computer system consists of

(i) Microprocessor

(ii) Memory

(iii) Peripheral equipment

(iv) All the above

2. (a) What does an IRQ do for floppy disk controller ? Which IRQ number is assigned to floppy disk controller ? *5+2*

(b) What is linear address ? How is it different from physical address ? *3+4*

3. (a) How many configurations does RAID support ? *7*

(b) Describe the process of how data is recorded on CD-ROM drive. *7*

4. (a) What are the different input and output signals of DMA controller ? Why are the read and write control signals bidirectional ? *4+3*

(b) What is an expansion slot ? How many types of PC expansion slots are available ? *2+5*

5. (a) Explain the I/O bus and its bus interface module. *4*

(b) What is the need to have a hierarchical memory organisation ? Explain the hierarchy in detail. *5+5*

6. (a) Define interrupts. What is the need for interrupts controller ? *3+3*

(b) Calculate hit ratio for a memory which has 99% hit rate, when accessed 100 times. *8*

7. (a) How is information written on and read from magnetic surfaces ? *6*

(b) Explain the functional diagram of keyboard and display controller. *8*

8. Write short notes on any ***four*** of the following : $4 \times 3\frac{1}{2} = 14$

(a) Extended and Expanded Memory

(b) Memory Organisation

(c) Memory-Mapped I/O

(d) Bus Structure

(e) Virtual Memory

(f) Components of Computer