2014

Time: 3 hours

Full Marks: 70

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Answer from **all** the Groups are directed.

Group – A

(Compulsory)

1. Fill in the blanks of the following: 1x5=5
   a) POST stands for ………………
   b) The decimal equivalent of 'C' is …………….
   c) 1234 GB is equal to ………………..bytes.
   d) EEPROM stands for …………….
   e) Computer works on ……………. Cycle.

2. State '**True**' or '**False**' statement of the following: 1x5 = 5
   a) RAM is a non-volatile memory.
   b) Virtual memory is also known as physical memory.
   c) A microprocessor can perform only arithmetic operation.
   d) During booting operating system is loaded into the memory.
   e) Cache is a permanent storage unit.

3. Expand the following: 1x5 = 5
   a) DMA

b) μp

c) RDRAM

d) DVD

e) ALU

Group – B

Answer any **five** questions of the following: 4x5=20

4. What is micro instructions? Explain.
5. Explain the architecture of a digital computer.
6. Discuss the working of a microprocessor.
7. Explain the memory organization.
8. What do you mean by Instruction set? Explain.
9. Write a brief note on vector processing.
10. Explain conversion of Binary number to a hexadecimal number.
11. Explain the concept of data path with suitable example.

Group – C

Answer any **five** questions of the following: 7x5=35

12. Explain the concept of virtual memory with suitable example.
13. What do you mean by DMA? Explain the DMA technique in detail.
14. Explain the Von-Neumann architecture in details.
15. Explain the synchronous and asynchronous data transfer modes.
16. Explain the various addressing modes.
17. Explain the structure of a Hard Disk with suitable diagram.
18. Write notes on the following:
    a) Associative memory

b) Micro Instructions

19. Perform the following conversions with explanations:

   a) 2AF to Binary

   b) $(1100110)_2$ to Decimal

………………*…………………