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Paper Code : PCC- CS302/PCC-CS302/PCCCS302 Computer Organisation

UPID : 003444

Time Allotted : 3 Hours

Full Marks : 70

The Figures in the margin indicate full marks.

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

Group-A (Very Short Answer Type Question)

1. Answer *any ten* of the following :

[1 x 10 = 10]

- (I) What are the different categories of memory/storage?
- (II) Write one advantage of pipelining.
- (III) Which type of program acts as an intermediary between a user of a computer and the computer hardware?
- (IV) The 2's complement of 15 is _____.
- (V) Name some types of devices used for Auxiliary Memory.
- (VI) What is interpreter ?
- (VII) What are the functions of the operating system?
- (VIII) Carry, Overflow are also called _____.
- (IX) Which memory has the fastest speed in the computer memory hierarchy?
- (X) What is the full form of CISC?
- (XI) Which bus is bidirectional ?
- (XII) Which algorithms are based on add/subtract and shift category ?

Group-B (Short Answer Type Question)

Answer *any three* of the following :

[5 x 3 = 15]

2. What is Von Neumann bottleneck ? [5]
3. Describe IEEE 754 standard format for floating point representation. [5]
4. Explain the reading and writing operations of a SRAM [5]
5. Explain DMA controller. [5]
6. Explain the concept of hand shaking in IO operation . [5]

Group-C (Long Answer Type Question)

Answer *any three* of the following :

[15 x 3 = 45]

7. What are the advantages of Carry Look Ahead(CLA) over ripple carry adder? Explain with diagram. [7+8]
8. Explain the concept of virtual memory. What do you understand by page fault? [8+7]
9. Explain the difference between instruction pipeline and arithmetic pipeline. [15]
10. What is Operating System ? What are the different roles of an Operating System? [15]
11. Explain the difference between full associative and direct mapped cache mapping approaches . Explain "write through" and "write back" policies in cache. [8+7]

*** END OF PAPER ***