

Total Pages : 3

101

**End Semester Examination of Semester-I, 2015**

**Subject : BCA**

**Paper : 1110 (Computer fundamental  
& Problem Solving Technique)**

**Full Marks : 70**

**Time : 3 Hrs**

*The figures in the margin indicate the marks  
corresponding to the question*

*Candidates are requested to give their answers  
in their own word as far as practicable.*

*Illustrate the answers wherever necessary*

**Group A**

1. Answer any five questions : 5x2=10
- a) What are the disadvantages of DRAM?
  - b) What is based width?
  - c) What are the layers of TCP/IP?
  - d) What are the applications of Excess-3 Code?
  - e) Convert the following binary number to its equivalent hexadecimal number  $(11000100111010111)_2$
  - f) What are the activities of session layer in network?
  - g) Define even and odd parity.
  - h) What do you mean by the statement `int i = 5`, in a C-programming?

( 2 )

**Group B**

Answer any five questions :

5×4=20

2. Prove Demorgan's law  $\overline{A+B} = \overline{A} \cdot \overline{B}$  using truth table.
3. What is a operating system? State its use.
4. What is a super computer? Why it is used to perform complex tasks?
5. Describe Von Neumann structure?
6. What is flowchart? and why it is used? 2+2
7. a) Convert  $3076 \cdot 013_8 = (?)_{16}$   
b) What is dual theorem in Boolean algebra? 3+1
8. Write an algorithm to check whether a number is prime or not. 4

**Group C**

Answer any four questions :

4×10=40

9. Briefly, state the different generation of computer with at least one example. 10
10. a) What is cache memory?  
b) Briefly explain the concept of 'locality of reference'.  
c) State hit ratio. Give an example. 2+4+4

( 3 )

11. Write short notes (any four) :  $2\frac{1}{2} \times 4 = 10$
- a) Multiplexer
  - b) CD-ROM
  - c) BCD
  - d) GUI
  - e) Ring Topology
  - f) Internet conferencing
12. a) What is web browser? How web browser correlates with www? 4
- b) What is cold booting and warm booting? 3
- c) What is the difference between high level and low level language? 3
13. a) Describe different types of data transmission Modes? 3
- b) Differentiate between Twisted Pair Cable and Coaxial Cable. 3
- c) State the functions of Kernel. 2
- d) Describe Packet Switching Techniques. 2
14. a) Subtract  $(1011011)_2$  from  $(10111)_2$  using 2's complement method.
- b) Why NAND and NOR gates are called universal gate?
- c) Convert 1024 to its corresponding Gray Code. 4+3+3
-