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End Semester Examination of Semester–III, 2015

Subject : BCA

Paper : 2111 (System Programming)

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 : 2X5=10
- i) What is assembler?
 - ii) What is bootstrap loader?
 - iii) What is the purpose of debugger?
 - iv) What do you mean by assembler directives?
 - v) What is overlay structure?
 - vi) What is a relocation bit?
 - vii) What do you mean by forward reference?
 - viii) Write the disadvantages of a compile-go-loader?

(2)

Group B

Answer **any five** questions :

4x5=20

2. Write down the main functions of a loader.
3. State the main functions of a macro-processor.
4. Differentiate between macro and sub-routine.
5. What kind of errors are detected during the phases of compiler?
6. What are the differences between linkage editor and linking loader?
7. What is Pre-processor? What are the functions of Pre-Processor?
8. What is problem in encountered when symbols in assembler are used before their definition? How is this problem overcome.

Group C

Answer **any four** questions :

10x4=40

9. What is compiler? Discuss different phases of compiler with suitable example. 2+8
10. i) What is 3-address code system? $2\frac{1}{2}$
ii) Translate the expression : $X = (a+b)*(c+d)+(a*b+c)$ into quadruples, triples and indirect triples. $7\frac{1}{2}$

11. Draw and explain the working of Pass-1 assembler. Also state the database used in Pass-1. 6+4
12. Briefly describe conditional macro and nested macro with suitable examples. 10
13. a) What are the advantages of using Base Register and Index Register in addressing mode.
- b) Define Compile-and-go loader. 4+6
14. Differentiate between the followings: 5+5
- i) LEX and YACC.
- ii) Syntax and Semantics.
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