



SA – 918

VI Semester B.C.A. Degree Examination, April/May 2015
(Y2K8 Scheme)
COMPUTER SCIENCE
BCA – 602 : System Programming
(100 mark – 2013-14 and Onwards/90 mark – Prior to 2013-14)

Time : 3 Hours

Max. Marks : 90/100

Instructions : 1) Answer **all** questions.

2) Section – **D** is applicable for **100** marks student only

(F+R – 100 : 2013 -14 and onwards R – 90 : Prior to 2013-14)

SECTION – A

- I. Answer **any ten** questions. **(10×2 = 20)**
- 1) Define processor. List its types.
 - 2) Differentiate between procedure and processor.
 - 3) Explain program status word.
 - 4) List different types of operands in an instruction format.
 - 5) Mention the steps in designing of an Assembler.
 - 6) What are the functions of an assembler ?
 - 7) Expand MDI and MDLC.
 - 8) Differentiate between macro and subroutine.
 - 9) List four types of cards used in direct linking loader.
 - 10) What is Binder ? What are the classes of Binders ?
 - 11) Define Machine Dependent Optimization.
 - 12) List the data bases of Lexical phase.

SECTION – B

- II. Answer **any five** questions. **(5×5 = 25)**
- 13) Explain general machine structure with a neat diagram.
 - 14) What is Pseudo-Op ? Explain its types.

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- 15) Explain databases used in Pass 1 and Pass 2 of Assembler.
- 16) Illustrate Binary Search with an example.
- 17) Explain macro facility with macro instruction argument with an example.
- 18) Explain Absolute Loader.
- 19) What are the functions of analysis and synthesis phases of compiler ?
- 20) Write a note on assembly phase of compiler.

SECTION – C

III. Answer **any three** questions.

(3×15=45)

- 21) a) Explain different types of instruction formats with example. 7
- b) Explain address modification using instruction as data. 8
- 22) a) Draw the detailed Pass 2 flow chart of an Assembler. 7
- b) List different types of sorting. Explain Interchange sort. 8
- 23) a) Write an algorithm for pass 1 processing macro definitions. 7
- b) Explain implementation of macro processor within assembler. 8
- 24) a) Write a note on direct linking loader. 7
- b) Draw a flow chart for pass 2 of loader. 8
- 25) a) Explain Intermediate form of compiler. 7
- b) Explain code generation phase of compiler. 8

SECTION – D

IV. Answer **any one**.

(1×10=10)

- 26) a) Write a note on evolution of system software. 5
- b) What is an assembler ? Explain any four assembler directives. 5
- 27) Explain the structure of a compiler with a neat diagram. 10
