



VI Semester B.C.A. Examination, May 2017
(2016-17 and Onwards) (CBCS)
COMPUTER SCIENCE
BCA 602 : System Programming

Time : 3 Hours

Max. Marks : 100

Instruction : Answer all Sections.

SECTION – A

I. Answer **any ten** questions, **each** question carries **two** marks : **(2×10=20)**

- 1) Define compiler, assembler.
- 2) What are the functions of a Loader ?
- 3) Explain PSW.
- 4) What is Instruction Interpreter ?
- 5) Write the format of POT.
- 6) What is a symbol table ? Give its format.
- 7) Differentiate between a macro and subroutine.
- 8) What is an argument list array ?
- 9) What are overlays ?
- 10) What is dynamic loading ?
- 11) What are the three classes of uniform symbols ?
- 12) Define local and global optimization.

SECTION – B

II. Answer **any five** questions, **each** question carries **five** marks. **(5×5=25)**

- 13) Explain open subroutine and closed subroutine with an example.
- 14) Explain different instruction formats of IBM 360/370 machine.
- 15) Explain address modification using instruction as data.
- 16) Explain shell sort with an example.

P.T.O.



- 17) Explain pass-2 overview of an assembler with flow-chart.
- 18) Explain macro definitions with an example.
- 19) Describe four types of cards used in direct linking loader.
- 20) Explain intermediate phase with an example.

SECTION - C

III. Answer **any three** questions, **each** question carries **fifteen** marks. **(3×15=45)**

- 21) a) Explain the general machine structure of IBM 360/370 with a neat diagram. 7
b) Draw the detailed PASS-1 flow-chart of an assembler. 8
- 22) a) Explain databases used in PASS-1 and PASS-2 of assembler. 8
b) Explain different data formats used in IBM 360/370 with an example. 7
- 23) a) Explain simple one pass macro processor. 10
b) Explain conditional macro expansion. 5
- 24) a) Explain design of absolute loader with a neat diagram. 8
b) Explain direct-linking loaders. 7
- 25) a) Explain the passes of compiler with neat diagram. 10
b) Discuss briefly about lexical phase of compiler. 5

SECTION - D

IV. Answer **any one** question, **each** question carries **ten** marks. **(1×10=10)**

- 26) With a neat diagram explain the structure of compiler. 10
- 27) Write short note on :
a) Relocating loaders. 5
b) Draw the micro flow-chart of ADD instruction. 5



SM – 624

VI Semester B.C.A. Examination, May/June 2018
(CBCS) (F+R) (2016-17 and Onwards)
COMPUTER SCIENCE
BCA 602 : System Programming

Time : 3 Hours

Max. Marks : 100

Instruction : Answer all Sections.

SECTION – A

I. Answer **any ten** questions. Each question carries **two** marks. (10×2=20)

- 1) What is system software ?
- 2) What is location counter ? What is its purpose ?
- 3) List any two advantages of assembly language.
- 4) What is Declaration Statement ? Give example.
- 5) Mention any two disadvantages of Radix Sort.
- 6) What is Macro call ?
- 7) Define Macro definition table.
- 8) Write the four basic task that can be performed by macro-instruction processor.
- 9) What are the functions of loader ?
- 10) Define Relocation factor.
- 11) What is intermediate form ?
- 12) What is a token ? Give example.

SECTION – B

II. Answer **any five** questions. Each question carries **five** marks. (5×5=25)

- 13) Explain the general machine structures with neat diagram.
- 14) What is sorting ? Explain briefly about Bubble sort.
- 15) Explain databases used in Pass 1 and Pass 2 assemblers.
- 16) Explain the features of Macro facility in detail.
- 17) Explain macro instructions defining macros.
- 18) Explain compile-and-go loader with a neat diagram.
- 19) Define binder. What are the classes of binders ? Explain.
- 20) What are the functions of analysis and synthesis phases of compiler ?

P.T.O.



SECTION - C

- III. Answer **any three** questions. **Each** question carries **fifteen** marks. **(3×15=45)**
- 21) a) Explain various instruction formats used in IBM 360. **8**
 b) Explain the use of literals in assembly language programs using example. **7**
- 22) a) Draw the detailed pass 2 flowchart of an assembler. **8**
 b) What is an assembler directive ? Explain any five assembler directives with an example. **7**
- 23) a) Give the database specifications for pass 1 and pass 2 of macro processor. **8**
 b) Explain the four basic tasks of macroprocessor. **7**
- 24) a) Explain design of absolute loader with a neat diagram. **8**
 b) Explain the overlay structures for linking. **7**
- 25) a) Explain structure of compiler with a diagram. **8**
 b) Explain identifier table for the phases of compiler. **7**

SECTION - D

- IV. Answer **any one** question. **Each** question carries **ten** marks. **(1×10=10)**
- 26) a) Differentiate between Pseudo-op and machine-op with example. **5**
 b) Draw the micro-flow chart for ADD instruction. **5**
- 27) a) Explain Relocatable, non-relocatable and self relocatable programs. **5**
 b) Explain the use of EXTERN and ENTRY statements. **5**

SECTION - B

(25=25)

P.T.O.

**GS-643**

VI Semester B.C.A. Examination, May/June 2019
(CBCS - F+R) (2016-17 & onwards)

COMPUTER SCIENCE**BCA 602 : System Programming**

Time : 3 Hours

Max. Marks : 100

Instruction : Answer *all* sections.**SECTION - A**

- I.** Answer **any ten** questions. Each question carries **two** marks. **10x2=20**
1. Define System Programming.
 2. Mention the functions of loader.
 3. Explain BCT and LTDRG pseudo-ops.
 4. Define DC and DS.
 5. What is Macro ? Write down its syntax.
 6. Define open and closed subroutine.
 7. Define PSW.
 8. Define local and global Optimization.
 9. What is MDT and MNT ?
 10. What is sorting ?
 11. Differentiate between compiler and assembler.
 12. Mention any 4 components of SP.

SECTION - B

- II.** Answer **any five** questions, Each question carries **five** marks. **5x5=25**
13. Explain Data formats of IBM 360/370 machine.
 14. Explain Long-Way-No-Looping with example.
 15. Sort following array using Radix exchange Sort
21, 14, 19, 11, 7, 12
 16. Explain Macro definition with arguments with an example.
 17. Write specification of databases used in pass 1 and pass 2 Assembler.
 18. Explain General Loader Scheme.
 19. Explain Machine independent optimisation.
 20. Explain databases used in lexical analysis phase of a compiler.

P.T.O.

**SECTION - C**

III. Answer any three questions. Each question carries fifteen marks. 3x15=45

21. (a) Explain General Machine Structure of IBM 360/370 with a neat diagram.
(b) Explain instruction formats of IBM 360/370 with syntax and example.
22. (a) Draw detailed pass 2 flow chart of an assembler.
(b) Give format of all five tables used in assembler.
23. (a) Give specification of databases used in pass 1 and pass 2 of Macroprocessor.
(b) Explain Macro instructions defining Macros with an example.
24. (a) Explain design of an absolute loader with a neat diagram.
(b) Give specification of databases used in pass 1 and pass 2 of Direct Linking Loader.
25. (a) Explain different phases of a Compiler with a neat diagram.
(b) Explain syntax Phase of a Compiler.

SECTION - D

IV. Answer any one question. Each question carries ten marks. 1x10=10

26. (a) Explain the terms macro definition, macro call, macro expansion with syntax and example. 5
(b) Draw Micro-flow chart for ADD instruction. 5
27. (a) Explain different types of cards used in Direct Linking loader. 5
(b) Write a note on compile and go loader. 5