

Roll No. ....

## **BCA–20**

### **System Programming**

Bachelor of Computer Applications

(BCA-11/16/17)

Sixth Semester, Examination, 2018

**Time : 3 Hours**

**Max. Marks : 80**

**Note :** This paper is of **eighty (80)** marks containing **three (03)** Sections A, B and C. Attempt the questions contained in these Sections according to the detailed instructions given therein.

#### **Section–A**

##### **(Long Answer Type Questions)**

**Note :** Section ‘A’ contains four (04) long answer type questions of nineteen (19) marks each. Learners are required to answer *two* (02) questions only.

1. What is a two pass assembler ? How does it work ?  
Give the diagramatic overview of pass 1 and pass 2 activities.
2. Differentiate between the following :
  - (a) Direct linking loader and binder
  - (b) Compile-and-go loader and relocating loader
  - (c) Syntax analysis and semantic analysis

**(B-46) P. T. O.**

3. The development of operating system has gone a long way since its inception days. Give a detailed account on the evolution of operating system in the light of system programming.
4. Give the advantages of using assembly language instead of machine language. Is there any disadvantage also ? If yes, then mention if them.

### **Section-B**

#### **(Short Answer Type Questions)**

**Note :** Section 'B' contains eight (08) short answer type questions of eight (8) marks each. Learners are required to answer *four* (04) questions only.

1. Why is the study of system programming required ? Is system programming a subset of applications programming ?
2. What do you understand by lexical analysis ? Explain with the help of an example.
3. What is Top down parsing ? Also explain Top down parsing without backtracking.
4. What is statement format for Assembly language statements ? Give suitable example.
5. Explain the Architecture of Intel 8088. Give suitable diagram.
6. What is memory allocation ? Explain static and dynamic memory allocation.
7. What is linker ? Explain the design of linker.
8. What are symbol table requirements ? Explain its requirement.

**Section-C****(Objective Type Questions)**

**Note :** Section 'C' contains ten (10) objective type questions of one (01) mark each. All the questions of this section are compulsory.

1. The coded object modules of the program to be assembled are present in :
  - (a) .ASM file
  - (b) .OBJ file
  - (c) .EXE file
  - (d) .OBJECT file
2. The disadvantage of machine level programming is :
  - (a) time consuming
  - (b) chances of error are more
  - (c) debugging is difficult
  - (d) All of the mentioned
3. The assembly level programming uses :
  - (a) Only Binary number for programming
  - (b) Only Octal number for programming
  - (c) Only Hexadecimal number for programming
  - (d) None of the above
4. The extension that is essential for every assembly level program is :
  - (a) .ASP
  - (b) .ALP
  - (c) .ASM
  - (d) .PGM

5. Which of the following system software resides in main memory always ?
- (a) Text Editor
  - (b) Assembler
  - (c) Linker
  - (d) Loader
6. A program in execution is called :
- (a) Process
  - (b) Instruction
  - (c) Procedure
  - (d) Function
7. A garbage is a :
- (a) un-allocated storage
  - (b) allocated storage with all across path to it destroyed
  - (c) allocated storage
  - (d) uninitialized storage
8. Object program is a :
- (a) Program written in machine language
  - (b) Program to be translated into machine language
  - (c) Translation of high-level language into machine language
  - (d) None of the mentioned

9. In order for a computer to understand a program, it must be converted into machine language by a(n) ..... .
- (a) operating system
  - (b) utility
  - (c) device driver
  - (d) language translator
10. Which of the following is not a function of the operating system ?
- (a) Manage resources
  - (b) Internet access
  - (c) Provide a user interface
  - (d) Load and run applications