

Roll No . .....

**BCA-11**

**Bachelor of Computer Applications**

**Sixth Semester Examination -2013**

**System Programming (BCA-20)**

**Time : 3 Hours**

**Max. Marks: 60**

**Note : The Questions paper has been divided in three sections . A , B and C . Answer the questions as per given instructions in each section.**

**Section A**

**Long Answer type questions**

**Attempt any 2 questions from this section, each question carries 15 marks . [2 \*15]**

- Q1. Draw and explain the structure of a compiler.
- Q2. Define the terms with reference to operating system. i) Paging ii) virtual memory.
- Q3. Draw the flowchart of pass 1 for direct linking loader and write about LALR parsing .
- Q4. Define the following terms: i)Binder ii) dynamic loading iii) linking editor iv) overlay

**Section B**

**Short Answer type questions**

**Attempt any 4 questions from this section, each question carries 5 marks . [4 \*5]**

- Q1. Describe the concept of subroutine linkages for loader.
- Q2. Develop algorithm for lexical analysis phase of compiler.
- Q3. Enlist and explain the data structures used in pass 1 and pass 2 of direct linking loader.
- Q4. Explain with example the regular expressions .

Q5. State some examples of Assembly level language.

Q6. What are expression trees? How you will use them in compiler designing .

Q7. What is bottom up parsing. Explain with a suitable example .

Q8. State some basic tasks a macro instruction processor performs.

### **Section B ( Objective type questions)**

**Attempt all , each question carry 1 mark .**

**[1 \* 10]**

**Pick up the correct Answer**

1. Translator for low level programming language were termed as

**(A)** Assembler

**(B)** Compiler

**(C)** Linker

**(D)** Loader

2. Load address for the first word of the program is called

**(A)** Linker address origin

**(B)** Load address origin

**(C)** Phase library

**(D)** Absolute library

3. The translator which perform macro expansion is called a

**(A)** Macro processor

**(B)** Macro pre-processor

**(C)** Micro pre-processor

**(D)** Assembler

4. A program in execution is called

- (A)** Process
- (B)** Instruction
- (C)** Procedure
- (D)** Function

5. Shell is the exclusive feature of

- (A)** UNIX
- (B)** DOS
- (C)** System software
- (D)** Application software

#### **State True / False**

- 1- The operating system manages the compiler and other process.
  - a. true
  - b. false
- 2- Virtual Memory is commonly implemented by Compiler.
  - a. true
  - b. false
- 3- FIFO page replacement algorithm suffers from Belady's anomaly.
  - a. true
  - b. false
- 4- A process said to be in safe state if it was waiting for an event that will never occur.
  - a. true
  - b. false
- 5- Interpreter and compilers are application software.
  - a. true
  - b. false