

Total No. of Questions: 6

Total No. of Printed Pages:3

Enrollment No.....



Faculty of Engineering
End Sem (Odd) Examination Dec-2018
CA5CO02 Information Technology
Programme: MCA Branch/Specialisation: Computer
Application

Duration: 3 Hrs.

Maximum Marks: 60

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

- Q.1 i. The primary function of the _____ is to set up the hardware and load and start an operating system 1
(a) System Program (b) BIOS
(c) CPU (d) Memory
- ii. On-line real time systems become popular in _____ generation 1
(a) First Generation (b) Second Generation
(c) Third Generation (d) Fourth Generation
- iii. Assembly language statement declares constants or storage areas in a program 1
(a) Imperative (b) Declarative
(c) Assembler Directive (d) None of these
- iv. An assembler is _____ 1
(a) Programming language dependent
(b) Syntax dependant
(c) Machine dependant
(d) Data dependant
- v. _____ uses the rules of grammar to decide whether the input is valid or not 1
(a) Lexical Analysis (b) Syntactical Analysis
(c) Semantic Analysis (d) None of these
- vi. Interpreter used as a language processor in _____ 1
(a) C++ (b) Basic (c) C (d) Java

P.T.O.

[2]

- vii. A system program that combines the separately compiled modules of a program into a form suitable for execution. **1**
(a) Assembler (b) Linking Loader
(c) Cross compiler (d) Load and Go
- viii. Dynamic memory allocation is typically performed during **1**
_____ (a) Loading of the program (b) Compilation of the program
(c) Execution of the program (d) None of these
- ix. Files that uses a clustering index for search key, are called **1**
(a) Sequenced Index File (b) Index-sequential files
(c) Index-structured files (d) Sequence-structured files
- x. Total number of entries in the index is same as the number of disk blocks in the ordered data file **1**
(a) Primary Index (b) Clustering Index
(c) Secondary Index (d) None of these
- Q.2 i. Differentiate data and information with example. **3**
ii. Explain generations of computers with their technological advancement. **7**
OR iii. Explain levels of programming languages. **7**
- Q.3 i. What are the different types of statements in an assembly language program? **3**
ii. What is pass structure of assembler? Explain the design of single pass assembler. **7**
OR iii. Define Macro. Explain the expansion process of Macro with example? **7**
- Q.4 i. Differentiate between compiler and interpreter. **3**
ii. What the various phases of compiler? Explain in detail with suitable examples. **7**
OR iii. List out the categories of software tools and explain them in detail. **7**
- Q.5 i. Define Loader. What are the various functions of loader? **3**

[3]

- ii. With diagram explain how loading and calling of a subroutine is done using dynamic linking. **7**
OR iii. Explain various schemes of loaders with suitable diagrams. **7**
- Q.6 i. What is the updating process of sequential file? **3**
ii. Write short notes on any two **7**
(a) Inverted file (b) Indexed file (c) Multi list file
OR iii. What is the need of hashing in direct access file organisation. **7**
Explain any two open addressing collision resolution techniques with suitable diagram.

Marking Scheme
CA5CO02 Information Technology

Q.1	i.	The primary function of the _____ is to set up the hardware and load and start an operating system (b) BIOS	1
	ii.	On-line real time systems become popular in _____ generation (c) Third Generation	1
	iii.	Assembly language statement declares constants or storage areas in a program (b) Declarative	1
	iv.	An assembler is _____ (c) Machine dependant	1
	v.	_____ uses the rules of grammar to decide whether the input is valid or not (b) Syntactical Analysis	1
	vi.	Interpreter used as a language processor in _____ (b) Basic	1
	vii.	A system program that combines the separately compiled modules of a program into a form suitable for execution. (b) Linking Loader	1
	viii.	Dynamic memory allocation is typically performed during _____ (c) Execution of the program	1
	ix.	Files that uses a clustering index for search key, are called (b) Index-sequential files	1
	x.	Total number of entries in the index is same as the number of disk blocks in the ordered data file (a) Primary Index	1
Q.2	i.	Differentiate data and information with example. Definition- 2 marks Example- 1 mark.	3
	ii.	Generations of computers with their technological advancement. List of generations - 2 marks Explanation- 5 marks	7
OR	iii.	Levels of programming languages.	7

		Levels of programming language- 2 marks Explanation- 5 marks	
Q.3	i.	Different types of statements in an assembly language program Types of statements 2 marks Example- 1 mark	3
	ii.	Pass structure of assembler Definition- 2 marks Explanation with example- 5 marks	7
OR	iii.	Definition of Macro 2 marks Explanation of expansion process with example 5 marks	7
Q.4	i.	Difference between compiler and interpreter. Definition 1 mark. Functionality of translators 2 marks	3
	ii.	Phases of compiler- 2 marks Explanation with suitable examples 5 marks	7
OR	iii.	List out the categories of software tools 2 marks Explanation 5 marks	7
Q.5	i.	Define Loader- 1 mark Various functions of loader 2 marks	3
	ii.	Loading and calling of a subroutine is done using dynamic linking 5 marks Diagram 2 marks	7
OR	iii.	Schemes of loaders list 2 marks Explanation with suitable diagrams 5 marks	7
Q.6	i.	Updating process of sequential file 2 marks Diagram 1mark	3
	ii.	Write short notes on any two 3.5 marks each (a) Inverted file (b) Indexed file (c) Multi list file	7
OR	iii.	Need of hashing in direct access file organisation 3 marks Two techniques with diagram. 2.5 marks each 5 marks	7
