Total No. of Questions: 6 *Total No. of Printed Pages:3*

Enrollment No.....

Faculty of Engineering

End Sem (Even) Examination May-2018

EN3ES05 Basic Computer Engineering

Programme: B.Tech. Branch/Specialisation: All

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. Which of the following uses FIFO method **1**

(a) Queue (b) Stack (c) Hash Table (d) Binary Search Tree

ii. push() and pop() functions are found in **1**

(a) Queues (b) Lists (c) Stacks (d) Trees

iii. Which one of the following is used to define the structure of the relation, deleting relations and relating schemas? **1**

(a) DML (Data Manipulation Language)

(b) Relational Schema

(c) Query

(d) DDL(Data Definition Language)

iv. A relational database consists of a collection of **1**

(a) Tables (b) Fields (c) Records (d) Keys

v. DOS was the first widely-installed operating system for personal computers. What does DOS stand for? **1**

(a) Digital Operating System

(b) Disk Operating System

(c) Desktop Operating System

(d) It's an abbreviation of the word "doors."

vi. What is operating system? **1**

(a) Collection of programs that manages hardware resources

(b) System service provider to the application programs

(c) Link to interface the hardware and application programs

(d) All of these

P.T.O.

vii. Physical or logical arrangement of network is **1**
(a) Topology (b) Routing
(c) Networking (d) None of these

viii. Two devices are in network if **1**
(a) A process in one device is able to exchange information with a process in another device
(b) A process is running on both devices
(c) PIDs of the processes running of different devices are same
(d) None of the mentioned

ix. MS-Word is a **1**
(a) System Software (b) Application Software
(c) Kernel (d) None of these

x. Second generation programming language use_____ **1**
(a) Binary Code (b) High Level Language
(c) Mnemonic Language (d) All of these

Q.2	i.	Differentiate primary memory & secondary memory.	**3**
	ii.	What is a non primitive data structure, Give an example? How do you insert an element in an array?	**7**
OR	iii.	What do you mean by stack overflow? What are the limitations of simple queue?	**7**
Q.3	i.	Define DBMS; List any two advantages of DBMS.	**3**
	ii.	Introduce data independence. Differentiate logical data independence & physical data independence.	**7**
OR	iii.	What is structure query language? Explain its types with example. What are its advantages and disadvantages?	**7**
Q.4	i.	What is the relationship between operating systems and computer hardware?	**3**
	ii.	Discuss various components of Linux system. Explain file management and device management of operating system.	**7**
OR	iii.	Define dead lock. Describe deadlock prevention method.	**7**

Q.5	i.	Discuss basic networking devices used in 'STAR' Topology.	**3**
	ii.	Introduce different layers of OSI Model.	**7**
OR	iii.	What do you understand by switching techniques? Introduce different types of switching techniques.	**7**
Q.6	i.	What is programming language? Explain basic features of good programming language.	**3**
	ii.	How to select a programming language for a project? Explain with example and explain generation of programming language brief.	**7**
OR	iii.	Define software. Compare system software & application software.	**7**

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Marking Scheme
EN3ES05 Basic Computer Engineering

Q.1	i.	Which of the following uses FIFO method (a) Queue		**1**
	ii.	push() and pop() functions are found in (c) Stacks		**1**
	iii.	Which one of the following is used to define the structure of the relation, deleting relations and relating schemas? (d) DDL(Data Definition Language)		**1**
	iv.	A relational database consists of a collection of (a) Tables		**1**
	v.	DOS was the first widely-installed operating system for personal computers. What does DOS stand for? (b) Disk Operating System		**1**
	vi.	What is operating system? (d) All of these		**1**
	vii.	Physical or logical arrangement of network is (a) Topology		**1**
	viii.	Two devices are in network if (a) A process in one device is able to exchange information with a process in another device		**1**
	ix.	MS-Word is a (b) Application Software		**1**
	x.	Second generation programming language use_____ (c) Mnemonic Language		**1**
Q.2	i.	Difference primary memory & secondary memory. Each difference 1 mark	(1 mark * 3)	**3**
	ii.	Definition of non primitive data structure Example Insert an element in an array	2 marks 1 mark 4 marks	**7**
OR	iii.	Stack overflow Condition Example Limitations of simple queue minimum 3 points	2 marks 1 mark 1 mark 3 marks	**7**
Q.3	i.	DBMS Any two advantages of DBMS 0.5 mark each	2 marks 1 mark	**3**
	ii.	Data independence Diagram Difference logical data independence & physical data independence	2 marks 1 mark 4 marks	**7**
OR	iii.	Structure query language Its types with example Its advantages and disadvantages	2 marks 3 marks 2 marks	**7**
Q.4	i.	Relationship between operating systems and computer hardware Minimum 3 points	(1 mark * 3)	**3**
	ii.	Components of Linux system File management Device management of operating system.	3 marks 2 marks 2 marks	**7**
OR	iii.	Dead lock Example Deadlock prevention method 1 mark for each point	2 marks 1 mark 4 marks	**7**
Q.5	i.	Basic networking devices used in 'STAR' Topology. Name Description	 1 mark 2 marks	**3**
	ii.	Different layers of OSI Model 1 mark each layer	(1 mark * 7)	**7**
OR	iii.	Switching techniques Types of switching techniques 2 marks for each type	1 mark 6 marks	**7**
Q.6	i.	Programming language Basic features of good programming language	1 mark 2 marks	**3**
	ii.	Selection of a programming language for a project Example Generation of programming language brief	2 marks 1 mark 4 marks	**7**
OR	iii.	Definition software Example Comparison system software & application software Minimum 4 differences	2 marks 1 mark 4 marks	**7**

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