Total No. of Questions: 6 *Total No. of Printed Pages:2*

Enrollment No.....

Faculty of Engineering

End Sem (Odd) Examination Dec-2019

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. Dot-matrix is a type of: **1**
(a) Tape (b) Disk (c) Printer (d) Bus

ii. Which of the following keeps track of the address of the next instruction? **1**
(a) Accumulator (b) Program counter
(c) Memory address register (d) Data register

iii. Which of the following data model schema is represented using a tree-structured diagram? **1**
(a) Network data model (b) Hierarchical data model
(c) Relational data model (d) Object-oriented data model

iv. The term _____ is used to refer to a row. **1**
(a) Attribute (b) Instance (c) Field (d) Tuple

v. Operating system is a **1**
(a) System software (b) Application software
(c) Compiler (d) Hardware device

vi. Which of the following schedulers is also known as job scheduler? **1**
(a) CPU scheduler (b) Long-term scheduler
(c) Mid-term scheduler (d) None of these

vii. OSI stands for **1**
(a) Open system interconnection
(b) Operating system interface
(c) Optical service implementation
(d) None of these

viii. Expand WAN? **1**
(a) World area network (b) Wide area network
(c) Web area network (d) None of these

P.T.O.

ix. In this programming language all the instructions written in the form of mnemonics code: **1**
(a) Assembly language (b) High level language
(c) Machine language (d) None of these

x. C, C++ are the examples of **1**
(a) First generation language (b) Second generation language
(c) Third generation language (d) Fourth generation language

Q.2 i. What is importance of input and output devices? **2**

ii. Briefly explain any two output devices. **3**

iii. What are the different types of buses? Explain the difference between address bus and the data bus. **5**

OR iv. What is memory? What are the different types of memory? **5**

Q.3 i. What is Data dictionary? **2**

ii. How is the hierarchical data model different from the network data model? Explain in detail. **8**

OR iii. Explain the architecture of DBMS and advantages of DBMS. **8**

Q.4 i. Explain the difference between multiprogramming and time-sharing operating system. **3**

ii. Define Operating System. Explain the different functions of operating system. **7**

OR iii. What is deadlock? What are the necessary condition for a deadlock to occur? **7**

Q.5 i. Why do we need computer networking? Differentiate between LAN, WAN and MAN. **4**

ii. Define TCP/IP and its different layers. **6**

OR iii. Explain the different topologies used in computer network. **6**

Q.6 Attempt any two:

i. What are the characteristics of good programming language? **5**

ii. What is software? What are different types of software? **5**

iii. Explain the categories of programming language. **5**

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Marking Scheme
EN3ES05 Basic Computer Engineering

Q.1	i.	Dot-matrix is a type of: (c) Printer		**1**
	ii.	Which of the following keeps track of the address of the next instruction? (b) Program counter		**1**
	iii.	Which of the following data model schema is represented using a tree-structured diagram? (b) Hierarchical data model		**1**
	iv.	The term _____ is used to refer to a row. (d) Tuple		**1**
	v.	Operating system is a (a) System software		**1**
	vi.	Which of the following schedulers is also known as job scheduler? (b) Long-term scheduler		**1**
	vii.	OSI stands for (a) Open system interconnection		**1**
	viii.	Expand WAN? (b) Wide area network		**1**
	ix.	In this programming language all the instructions written in the form of mnemonics code: (a) Assembly language		**1**
	x.	C, C++ are the examples of (c) Third generation language		**1**
Q.2	i.	Importance of input devices	1 mark	**2**
		Importance of output devices	1 mark	
	ii.	Any two output devices.		**3**
		1.5 mark for each	(1.5 mark * 2)	
	iii.	Types of buses	1 mark	**5**
		Difference between address bus and the data bus		
		At least 4 points 1 mark for each (1 mark * 4)	4 marks	
OR	iv.	Memory	2 marks	**5**
		Different types of memory	3 marks	
Q.3	i.	Data dictionary		**2**
	ii.	Hierarchical data model	4 marks	**8**
		Network data model	4 marks	
OR	iii.	Architecture of DBMS	3 marks	**8**
		Advantages of DBMS		
		At least 5 advantages 1 mark for each (1 mark * 5)	5 marks	
Q.4	i.	Multiprogramming operating system	1.5 marks	**3**
		Time-sharing operating system	1.5 marks	
	ii.	Define Operating System	2 marks	**7**
		Functions of operating system		
		At least five functions 1 mark for each (1 mark * 5)	5 marks	
OR	iii.	Deadlock	3 marks	**7**
		Necessary condition for a deadlock to occur		
		1 mark for each (1 mark * 4)	4 marks	
Q.5	i.	Need of computer networking	1 mark	**4**
		Difference between LAN, WAN and MAN		
		At least three points 1 mark for each (1 mark * 3)	3 marks	
	ii.	Define TCP/IP and its different layers.		**6**
		1 mark for each layer	(1 mark * 6)	
OR	iii.	Topologies used in computer network		**6**
		1 mark for each	(1 mark * 6)	
Q.6		Attempt any two:		
	i.	Characteristics of good programming language		**5**
		1 mark for each	(1 mark * 5)	
	ii.	Software	2 marks	**5**
		Types of software	3 marks	
	iii.	Categories of programming language.		**5**
		Low level language	2.5 marks	
		High level language	2.5 marks	

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