Enrollment No......................................

Faculty of Engineering
End Sem (Even) Examination May-2018
ME2ES08 Basic Computer Engineering

Programme: Diploma   Branch/Specialisation: ME

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.   Touch screen is....................   **1**
(a) Input Device   (b) Output Device
(c) Both (a) and (b)   (d) None of these

ii.   The computer size was very large in   **1**
(a) First Generation   (b) Second Generation
(c) Third Generation   (d) Fourth Generation

iii.   .... provides process and memory management services that allow   **1**
two or more tasks, jobs or programs to run simultaneously
(a) Multitasking   (b) Multicomputing
(c) Multithreading   (d) None of these

iv.   Which of the following is not a CPU register   **1**
(a) Memory Address Register (b) Program Counter
(c) Accumulator   (d) Controller

v.   The output of an AND gate with three inputs A, B, C is HIGH when   **1**
(a) A=1 B=1 C=0   (b) A=0 B=0 C=0
(c) A=1 B=1 C=1   (d) A=1 B=0 C=1

vi.   Number of bits in EBCDIC code for computing are   **1**
(a) 8 bits   (b) 18 bits   (c) 28 bits   (d) 7 bits

vii.   EEPROM stands for   **1**
(a) Easily Erasable Programmable Read Only Memory
(b) Electrically Erasable Programmable Read Only Memory
(c) Electronic Erasable Programmable Read Only Memory
(d) None of these

P.T.O.

viii.	Laser Printer is a type of		**1**

(a) Impact Printing   (b) Non Impact Printing
(c) Both of (a) and (b)   (d) None of these

ix. The equipment needed to allow home computers to connect to the internet is called a   **1**
(a) Monitor   (b) Peripheral (c) Gateway   (d) Modem

x. A Microsoft Windows is a   **1**
(a) Graphic Program   (b) Database Program
(c) Operating System   (d) Word Processing

Q.2 i. Define Mainframe Computers, Mini Computers, Super Computers and Personal Computers.   **2**

ii. What are the characteristics of a computer?   **3**

iii. How will you classify computer systems?   **5**

OR iv. What are the components of a computer system explain with block diagram?   **5**

Q.3 Attempt any two:

i. What is a process? Draw and explain process state diagram.   **5**

ii. Write the functions of an operating system.   **5**

iii Evaluate X=(A+B)*(C+D) using one address instruction format   **5**

Q.4 i. Convert: **4**
(a) 142 into a binary number
(b) 01100 to a decimal number

ii. Explain the following logic gates with logic diagram and truth table: **6**
(a) AND   (b) OR (c) NOT   (d) XOR   (e) NAND   (f) NOR

OR iii. What is multimedia in computer systems? Also explain the components and applications of multimedia.   **6**

Q.5 i. Explain the types of computer printers.   **2**

ii. Explain the memory hierarchy in computers also explain the type of memory at each level in hierarchy.   **8**

OR iii. Write short notes on: **8**
(a) RAM   (b) ROM
(c) Cache Memory   (d) Secondary Memory

Q.6 i. What are the equipments required to setup an internet connection?   **4**

ii. List the advantages and disadvantages of Internet Explorer, Mozilla Firefox and Google Chrome web browsers.   **6**

OR iii Explain in detail Windows 7 desktop elements.   **6**

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Marking Scheme
ME2ES08 Basic Computer Engineering

Q.1 i. Touch screen is.................... **1**
   (c) Both (a) and (b)

ii. The computer size was very large in **1**
   (a) First Generation

iii. .... provides process and memory management services that allow two or more tasks, jobs or programs to run simultaneously **1**
   (a) Multitasking

iv. Which of the following is not a CPU register **1**
   (d) Controller

v. The output of an AND gate with three inputs A, B, C is HIGH when **1**
   (c) A=1 B=1 C=1

vi. Number of bits in EBCDIC code for computing are **1**
   (a) 8 bits

vii. EEPROM stands for **1**
   (b) Electrically Erasable Programmable Read Only Memory

viii. Laser Printer is a type of **1**
   (b) Non Impact Printing

ix. The equipment needed to allow home computers to connect to the internet is called a **1**
   (d) Modem

x. A Microsoft Windows is a **1**
   (c) Operating System

Q.2 i. Definition of Mainframe Computers, Mini Computers, Super Computers and Personal Computers **2**
   Each definition of 0.5 mark   (0.5 mark *4)

ii. Characteristics of a computer: any 6 characteristics **3**
   Each characteristic of 0.5 mark   (0.5 mark *6)

iii. Classification of computer systems on two major categories : based on signals and based on size, speed and processing capabilities: **5**
   Each category 2.5 marks   (2.5 mark *2)

OR iv. Components of a computer system with block diagram: **5**
   4 components each of 1 mark (1 mark * 4)   4 marks
   Block diagram   1 mark

Q.3 Attempt any two:

i. Definition of process   2 marks **5**
   Process state diagram and explanation   3 marks

ii. Functions of an operating system **5**
   Any 5 functions each of 1 mark   (1 mark * 5)

iii. Evaluate X=(A+B)*(C+D) using one address instruction format **5**
   Solution:
   LOAD A   AC ← M[A]
   ADD B   AC ← AC+M[B]
   STORE T   M[T]← AC
   LOAD C   AC ← M[C]
   ADD D   AC ← AC+M[D]
   MUL T   AC ← AC*M[T]
   STORE X   M[X] ← AC

Q.4 i. Convert: **4**
   (a) 142 into a binary number   2 marks
   (b) 01100 to a decimal number   2 marks

ii. Each gate is of 1 mark   (1 mark * 6) **6**
   (0.5 mark for logic diagram and 0.5 mark for truth table)
   (a) AND   (b) OR   (c) NOT   (d) XOR   (e) NAND   (f) NOR

OR iii. Definition of multimedia and its features   2 marks **6**
   Components of multimedia (any 4)   2 marks
   Applications of multimedia (any 4)   2 marks

Q.5 i. Types of computer printers: Any 2 **2**

ii. Memory hierarchy in computers   2 marks **8**
   Types of memory at each level in hierarchy
   (at least 4) 1.5 marks each (1.5 mark * 4)   6 marks

OR iii. Write short notes on: 2 marks each   (2 marks * 4) **8**
   (a) RAM   (b) ROM
   (c) Cache Memory   (d) Secondary Memory

Q.6 i. Equipments required to setup an internet connection **4**
   Any 4 of 1 mark each   (1 mark *4)

ii. Each web browser of 2 marks   (2 marks * 3) **6**
   (1 mark for advantage and 1 mark for disadvantage)
   List the advantages and disadvantages of
   Internet Explorer
   Mozilla Firefox
   Google Chrome

OR iii Windows 7 desktop elements **6**
   Any 6 desktop elements 1 mark each   (1 mark * 6)

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