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

Faculty of Engineering
End Sem (Odd) Examination Dec-2017
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. The basic architecture of computer was developed by   **1**
        (a) Charles Babbage   (b) Blaise Pascal
        (c) Von Neumann   (d) Garden Moore

    ii. Which of the following is not a data copy/ transfer instruction   **1**
        (a) MOV   (b) PUSH   (c) DAS   (d) POP

    iii. Which one of the following is used to define the structure of the relation, **1**
        deleting relations and relating schemas?
        (a) DML (Data Manipulation Language)
        (b) DDL (Data Definition Language)
        (c) Query
        (d) Relational Schema

    iv. To remove a relation from an SQL database, we use the _____ command. **1**
        (a) Delete   (b) Purge   (c) Remove   (d) Drop table

    v.   To access the services of operating system, the interface is provided by **1**
        the_____.
        (a) System calls (b) API   (c) Library   (d) Assembly instructions

    vi. Which one of the following is not true?   **1**
        (a) Kernel is the program that constitutes the central core of the operating
            system.
        (b) Kernel is the first part of operating system to load into memory
            during booting.
        (c) Kernel is made of various modules which cannot be loaded in
            running operating system.
        (d) Kernel remains in the memory during the entire computer session.

P.T.O.

vii. OSI stands for: **1**
(a) Open source interface   (b) Open source interconnection
(c) Open system interface   (d) Open system interconnection

viii. In which topology there is a central controller or hub. **1**
(a) Star   (b) Mesh
(c) Ring   (d) Bus

ix. The most commonly used standard data code to represent alphabetical, numerical and punctuation characters used in electronic data processing system is called? **1**
(a) ASCII   (b) EBCDIC   (c) BCD   (d) All of these

x. A program which interprets each line of high level program at time of execution is called? **1**
(a) Instructor (b) Interpreter   (c) Translator (d) Executor

Q.2 i. Write difference between RAM and ROM. **2**
ii. Explain Von Neumann Architecture. **3**
iii. Explain how effective address is calculated in different types of addressing modes. **5**
OR iv. Differentiate the following **5**
(a) User defined data structure and inbuilt data structure.
(b) One Dimensional array and two dimensional array.

Q.3 i. Write advantages of database approach over the file base approach. **2**
ii. (a) Explain the duties of DBA (Database Administrator) and DBD database Designer. **8**
(b) Explain the following: DDL (Data Definition Language), DML (Data Manipulation Language) and DCL (Data Control Language)
OR iii. Explain three level architecture of DBMS. **8**

Q.4 i. Write difference between UNIX and WINDOWS operating system. **3**
ii. Explain different types of operating system in details. **7**
OR iii. What is deadlock? Explain different methods of dead lock prevention. **7**

Q.5 i. Write difference between circuit switching and packet switching. **4**
ii. Explain functions of layers of OSI model. **6**

OR iii. Explain advantages and disadvantages of different topologies. **6**

Q.6 Attempt any two:
i. What is programming language? Briefly explain generations of programming language. **5**
ii. (a) Justify the statement "Operating System is a System software" **5**
(b) Why we need high level language as we already have machine language?
iii. Write difference between compiler and interpreters. **5**

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EN3ES05 Basic Computer Engineering
Marking Scheme

Q.1 i. The basic architecture of computer was developed by **1**
(c) Von Neumann

ii. Which of the following is not a data copy/ transfer instruction **1**
(c) DAS

iii. Which one of the following is used to define the structure of the relation, **1**
deleting relations and relating schemas?
(b) DDL (Data Definition Language)

iv. To remove a relation from an SQL database, we use the _____ command. **1**
(d) Drop table

v. To access the services of operating system, the interface is provided by **1**
the_____.
(a) System calls

vi. Which one of the following is not true? **1**
(c) Kernel is made of various modules which cannot be loaded in
running operating system.

vii. OSI stands for: **1**
(d) Open system interconnection

viii. In which topology there is a central controller or hub. **1**
(a) Star

ix. The most commonly used standard data code to represent alphabetical, **1**
numerical and punctuation characters used in electronic data processing
system is called?
(a) ASCII

x. A program which interprets each line of high level program at time of **1**
execution is called?
(b) Interpreter

Q.2 i. 2 Difference between RAM and ROM. (1 mark * 2 = 2 marks) **2**

ii. Von Neumann Architecture. **3**
1 mark for diagram
2 mark for explanation

iii. Different types of addressing modes. **5**
At least five addressing modes 1 mark each (1 mark * 5 = 5 marks)

OR iv. Differentiate the following **5**
(a) User defined data structure and inbuilt data structure minimum 5

diff.
 (5*0.5 mark = 2.5 marks)
(b) One Dimensional array and two dimensional array minimum 5 diff.
(5*0.5 mark = 2.5 marks)

Q.3 i. At least four advantages of database approach (0.5 mark * 4= 2 marks) **2**
ii. (a) Duties of DBA and DBD four duties 0.5 mark each **8**
(0.5 mark * 4= 2 marks)
(b) DDL, DML and DCL -> 1 mark for each explanation & 1 mark for
example of each. (2 marks * 3 = 6 marks)
OR iii. Three level architecture of DBMS. **8**
2 marks for diagram
2 marks for each level explanation (2 marks * 3 = 6 marks)

Q.4 i. Differences UNIX and WINDOWS Three differences 1 mark for each **3**
(1 mark * 3 = 3 marks)
ii. Types of operating system 1 mark for each type (1 mark * 7 = 7 marks) **7**
OR iii. Deadlock – 2 marks **7**
Methods of dead lock prevention 5 marks

Q.5 i. At least 4 difference between circuit switching and packet switching. **4**
1 for each (1 mark * 4 = 4 marks)
ii. Functions of layers of OSI model. **6**
2 marks for diagram
4 marks for explanation
OR iii. Advantages and disadvantages of different topologies. **6**
Six topologies 1 mark for each (1 mark * 6 = 6 marks)

Q.6 Attempt any two:
i. Programming language – 1 mark **5**
At least 4 generations - (1 mark * 4 = 4 marks)
ii. (a) Operating System is a System software- 2.5 point wise **5**
(b) Need of high level language – 2.5 marks
iii. At least 5 difference differences between compiler and interpreters. **5**
(1 mark * 5 = 5 marks)

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