USN | | | | | | | | | | **15MN73**

Seventh Semester B.E. Degree Examination, Dec.2018/Jan.2019
Computer Application in Mining

Time: 3 hrs.   Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1   a. With a neat diagram, explain the design process of a computer aided design. (08 Marks)
    b. Write a note on benefits of computer aided design. (08 Marks)

OR

2   a. Explain keyboard and mouse input devices. (08 Marks)
    b. Explain the central processing unit in detail. (08 Marks)

Module-2

3   a. Discuss the ground rules in designing graphics software. (08 Marks)
    b. Explain functions of a graphics package (any four). (08 Marks)

OR

4   a. Explain wire – frame mode and list its advantages. (08 Marks)
    b. Write a note on applications of computers in mining engineering. (08 Marks)

Module-3

5   a. Write the algorithm for ore reserve estimation. (08 Marks)
    b. Write the algorithm for bulk material handling equipment. (08 Marks)

OR

6   a. Write the algorithm for ground vibration prediction. (08 Marks)
    b. Mention the uses of pillar design. Write the algorithm for pillar design in longwall. (08 Marks)

Module-4

7   a. Define the following :
        i)   Data base
        ii) DBMS
        iii) Data model
        iv) Data Independence. (08 Marks)
    b. List and explain advantages of DBMS. (08 Marks)

OR

8   a. Define the term entity and attribute. Explain the types of attributers with example. (08 Marks)
    b. Draw the E- R diagram for COMPANY database. (08 Marks)

Module-5

9 a. Explain the following operators with example :
   i) Select   vii) Project   iii) Cartesian product   iv) Join. (08 Marks)

   b. Consider the following schema and write the queries in relational algebra.
   EMPLOYEE (Name, SSN, Salary, Super_ssn, Gender, Dno)
   DEPARTMENT (Dname, Dnumber, Mgr_ssn)
   PROJECT (Pname, Pnumber, Plocation, Dnum)
   i)   Find the employee name who work for research department
   ii) List names of the projects not controlled by department number 2
   iii) Retrieve SSN of all employees who either work in department number 4 or directly
        supervise an employee who work is department 4.
   iv) Retrieve the names of the managers of each department (08 Marks)

OR

10 a. Write short notes on aggregate functions in SQL with example. (08 Marks)
   b. Define normalization. Explain 2 NF and 3NF in detail. (08 Marks)

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