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CBCS SCHEME

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15MN73

# Seventh Semester B.E. Degree Examination, Dec.2019/Jan.2020
## 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. Explain the design process with flowsheet. **(08 Marks)**
b. With diagrams, explain the creating the manufacturing database. **(08 Marks)**

**OR**

2 a. With neat sketch, explain CRT, stroke writing and raster scan. **(08 Marks)**
b. Explain central processing unit in detail. **(08 Marks)**

### Module-2

3 a. Write a note on computer graphic software. **(08 Marks)**
b. With sketch, explain the following:
i) The graphics package
ii) The application program
iii) The application database. **(08 Marks)**

**OR**

4 a. Distinguish between wire frame and solid modeling. **(08 Marks)**
b. Write a note on CAD features. **(08 Marks)**

### Module-3

5 a. Write an algorithm for ultimate pit configuration. **(08 Marks)**
b. Write an algorithm for ore reserve estimation. **(08 Marks)**

**OR**

6 a. Write an algorithm for ventilation network analysis. **(08 Marks)**
b. Write an algorithm for Blast design. **(08 Marks)**

### Module-4

7 a. Define DBMS. What are the advantages and disadvantages? **(08 Marks)**
b. Distinguish between File Processing system and database approach. **(08 Marks)**

**OR**

8 a. Explain the classifications of management system in detail. **(08 Marks)**
b. Write the E-R diagram for a company. **(08 Marks)**

## Module-5

9 a. Explain select, project, rename and Cartesian Product operators with example. **(08 Marks)**

b. Consider the following relational schema and write relational algebra queries:
EMPLOYEE (Name, SS, Salary, Dno, SuperSSN, gender, Address)
DEPARTMENT (Dname, Dnumber, MgrSS)
PROJECT (Pname, Pno, Dnum)
DEPENDENT (ESSN, Dependent_name)
DEPT_LOCATION (Dnumber, Dlocation)
WORKS_ON (Essn, Pno, Hours)

i) Find the employees who work for department 5 and whose salary is greater than 25000.
ii) List name and location of the projects not controlled by dept 2.
iii) Retrieve SSN of all employees who either work in dept 4(or) directly supervise an employee who works in dept 4.
iv) Retrieve list of names of each female employees dependent.
v) Retrieve the names of the manager of each department. **(08 Marks)**

**OR**

10 a. Define Normalization. Explain 1NF, 2NF and 3NF with example based on their primary keys. **(08 Marks)**

b. Consider the following schema
Sailor (Sid, Sname, rating, age)
Reserver (Sid, boatid, day)
Boats (boatid, boatname, color)
using the above scheme solve the queries in SQL.

i) Find the names of sailors who have reserved all boats called 'Interlake'.
ii) Find the Sid's of all sailors, with age over 20, who have not reserved a red boat.
iii) Find the names of sailors, who have reserved atleast 2 boats. **(08 Marks)**

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