

Total No. of Questions : 12]

SEAT No. :

**P1800**

**[4761] - 302**

**[Total No. of Pages :2**

**S.Y.M.C.A. (Engg.)**

**DATABASE MANAGEMENT SYSTEM  
(2013 Course) (Semester - III) (410902)**

**Time : 3 Hours]**

**[Max. Marks : 50**

**Instructions to the candidates:**

- 1) Neat diagrams must be drawn wherever necessary.**
- 2) Figures to the right side indicate full marks.**
- 3) Assume Suitable data if necessary.**

**Q1) a) Explain advantages and disadvantages of DBMS approach. [4]**

**b) Describe Data Abstraction in detail. [4]**

**OR**

**Q2) a) Discuss advantages and disadvantages of different Database Models.[4]**

**b) What is Data Independence? Give example. [4]**

**Q3) Construct ER diagram of Hospital Database System. Consider different doctors, patients, nurses, test & different wards. Convert it into Relational schema. [10]**

**OR**

**Q4) Construct the ER diagram of Library Management consider required data. Convert it into Relational schema. [10]**

**Q5) a) Write a short note on any 4 Codd's Rules. [4]**

**b) What is view? Create a view for Employee database. [4]**

**OR**

**Q6) a) Explain different keys used in relational model & domain constraints with example. [4]**

**b) Explain - how Group By clause works? What is the difference between where and having clause? [4]**

**PTO.**

- Q7) a)** What is Trigger? Explain types of triggers with example. [4]  
b) Write a short note on Aggregate Functions. [4]

OR

- Q8) a)** Explain with example PL/SQL procedure. [4]  
b) Explain Nested Queries with example. [4]

- Q9) a)** Explain: [4]  
i) Multivalued Dependencies.  
ii) Overlapping Candidate Key.  
b) Explain Trivial dependency. [4]

OR

- Q10)a)** The closure set of F of functional dependencies for relational schema  $R = (A, B, C, D, E, F, G)$  is [4]

$A \rightarrow B$      $C \rightarrow DEF$      $E \rightarrow F$

Discuss the different dependencies present in this set. Normalize it upto 3NF.

- b) With example explain Lossy and Lossless decomposition. [4]
- Q11)a)** How you relate Big Data with Non Relational Database. [4]  
b) Explain the concept of Big Data with example. [4]

OR

- Q12)a)** Discuss HBASE architecture in detail. [4]  
b) Explain - No SQL. [4]

