

SEM-V I.T. (CBGS) 27/5/16.  
Advanced Database Management  
Systems QP Code : 31193

(Time: 3 Hrs)

Marks: 80

- N.B. : 1. Question no. 1 is compulsory.  
2. Solve any **Three** questions out of remaining **Five** questions.

- Q-1 a) What is referential integrity? Explain with suitable example. 5  
b) Explain in short Object Query Language (OQL). 5  
c) Explain in short dynamic SQL. 5  
d) List the different types of transparencies in distributed databases and explain any one in detail. 5
- Q-2 a) Differentiate between  
i. Data Warehouse Modeling Vs Operational Database Modeling. 5  
ii. OLTP vs OLAP 5  
b) Explain Dynamic Multilevel Indexes Using B-Trees or B<sup>+</sup>-Trees. 10
- Q-3 a) What are the different types of SQL injection attacks? What risks are associated with it? Explain any one attack in detail. 10  
b) Consider the following database that has to be distributed: 10
- PROJ (PNO, PNAME, BUDGET)  
PAY (TITLE, SALARY)  
EMP (ENO, ENAME, TITLE)  
ASG (ENO, PNO, RESPONSIBILITY, DURATION)
1. Show 2 examples of horizontal fragmentation.  
2. Show 1 example of derived fragmentation.  
3. Show 1 example of vertical fragmentation.
- Q-4 a) Explain with suitable example object identity, object structure and type constructors in OODB's. 10  
b) Explain with suitable example "Star Schema". 10
- Q-5 a) Explain ECA model with suitable example. 10

FW-Con. 11343-16.

[TURN OVER

b) Explain Discretionary Access Control based on Granting and Revoking Privileges **10**

**Q-6** a) Explain in short the concurrency control in distributed databases. **10**

d) Explain ETL phase in creating a data warehouse **10**

---