

$$(w) \{ s \} + (w) \{ t \} + (w) \{ u \} = (w)$$

# TAKE Away Exam 01

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## An. to Q. No - 1

a) False.  $\text{to } \text{erpb} = (\alpha\beta) \text{ to } \text{erpb}$

Reason: Internal Schema does it.

b) False.  $\text{catalog} \& \text{tables}$  are ~~not~~ part of external schema.

Reason: Database schema does it.

c) True.  $(\alpha\beta) \text{ to } \text{erpb}$  is consistent.

d) True.  $(\alpha_1, \alpha_2) = \alpha_1 \cup \alpha_2$

e) False.

Reason: SQL = Structured Query Language.

Ans. to Q No - 2

Data Model :

The composition of concepts which defines a database and also sets some rules (like a constitution does for a country) is known as data model.

for example, a data model of a database containing data of COVID-vaccine registered citizens, should contain their identification number, their health related data and other stuff and also define the constraints, like NID should be a number, etc.

## Ans. to Q.No - 3

| Database Schema                          | Database State                                    |
|--|---|
| 1) It changes very rarely.               | 1) It changes every time the database is updated. |
| 2) Schema is also termed as 'intension'. | 2) State is termed as 'extension'.                |

## Ans. to Q.No - 4

The most dominant and commercially used data model is the Representational Data model. This type of Data model creates a bridge between the Database designers and the end users.

Ans: to Q No - 5

Three advantages of database approach

Over a file based approach.

### 1) Data Redundancy:

It refers to the duplication of data.

Huge amount of storage can be saved

by choosing database approach over file

based approach. For example, say an

attendance system takes ~~of~~ student data

e.g. name, roll etc. everyday in the file

based system. But this everyday duplication

can easily be avoided if database

approach is followed.

## 2) Efficiency:

Query processing is much efficient in the database system. For example, in the previous example we used, if we want to know which days a student were present, we would have to go through the file of each and every day in the file based system. But in the database system, it's just one simple query.

### 3) Multiple interfaces:

Database system provides different interfaces to different types of users.

This is difficult to attain through file based approach. For example Database

system provides one interface for those who know SQL, one for application programmers and one for those who know neither. This type of data management

system ensures the ease of all types of users. But the file based system is linear in this regard.

## Ans. to Q No - 6

### Internal Schema:

It deals with the internal level and describes the physical storage structure.

### Conceptual Schema:

This hides the internal schema and focuses on describing the structures, such as, entities, data types, relationship etc.

### External Schema:

This type of schema is based on the interest of a particular user group from whom the rest of the database is hidden.

