

**Advanced Diploma in Information Technology (ADIT) /
Bachelor in Information Technology (BIT)**

Term-End Examination

June, 2007

CST-302 : ADVANCED DATABASE MANAGEMENT SYSTEMS

Time : 3 Hours

Maximum Marks : 75

Note : *This paper consists of two sections. All questions are **compulsory** in Section A. There are three questions in Section B. Attempt any **two** questions from Section B.*

SECTION A

1. (i) Which of the following is a characteristic of data in data warehouse ?
 - (a) Subject oriented
 - (b) Non-volatile
 - (c) Time variant
 - (d) All of the above

- (ii) Which of the following is **not** an internet addressing system ?
 - (a) IP address
 - (b) Domain name
 - (c) URL
 - (d) http

- (iii) Which of the following is the probability that the system is up and running at a certain point in time ?
 - (a) Reliability
 - (b) Availability
 - (c) Maintainability
 - (d) None of the above

- (iv) What is the data about data called ?
- (a) Data Catalog
 - (b) Information
 - (c) Metadata
 - (d) None of the above
- (v) Which of the following is a compression technique ?
- (a) Run length encoding
 - (b) Huffman encoding
 - (c) Arithmetic encoding
 - (d) All of the above
- (vi) Which of the following programming languages supports Web database development ?
- (a) Perl
 - (b) Python
 - (c) PHP
 - (d) All of the above
- (vii) Heuristics can be defined as
- (a) algorithms
 - (b) domain knowledge
 - (c) rule of thumb derived from experience
 - (d) declarative knowledge

(viii) Mobile database technology involves

- (a) powerful modems
- (b) desktop computers
- (c) portable printing devices
- (d) All of the above

(ix) Multimedia databases require classification on the basis of

- (a) fixed length record data
- (b) audio data
- (c) structure of graphical data
- (d) digital video prints

(x) The data warehouse gathers information from which type of source and stores it in which type of scheme ? Choose correct option from the options given below.

- (a) Single source : unified scheme
- (b) Multiple source : unified scheme
- (c) Single source : non-homogeneous scheme
- (d) Multiple source : non-homogeneous scheme

2. (i) What are mobile databases ? What are the technology requirements for mobile database systems ?

(ii) What are object oriented databases ? What are the advantages and disadvantages of object oriented databases ?

(iii) The income tax department of the country accesses the accounts of all the income tax payees of the country. Assuming that income tax number of an individual is unique, describe the database scheme for the above situation. Also specify the model you will select to handle the situation. Support your answer with reasons.

- (iv) **Compare and contrast mobile databases versus distributed databases.**
- (v) **What is Java web database approach ? Explain what is Microsoft's approach to web database development.**