

**NA-802**

Seat No. \_\_\_\_\_

**Third Year B. C. A. Examination**

April/May – 2003

**B. C. A. (302) System Analysis & Design**

Time : 3 Hours]

[Total Marks : 50

**1 Do as directed. Answer any ten : 10**

- (1) Define Tactical Information.
- (2) Define Batch Processing.
- (3) What is Data Dictionary ?
- (4) What do you understand by the term consensus ?
- (5) Define Technical Feasibility.
- (6) A ——— giving system overview is used as the first step in developing a DFD.
- (7) ——— attempts to describe verbal statements made in natural English more precisely.
- (8) What is normalization of a relation ?
- (9) Is a concise code comprehensive ? If not, why ?
- (10) What do you understand by the term Data Integrity ?
- (11) What is a report generator ?
- (12) Add a Modulus-37 character for the code 4AB9W (HiNT : Modulus-37 check is suitable for alphanumeric codes)

**2 Answer any five : 10**

- (1) What is the difference between accuracy and trustworthiness of information ?
- (2) What are the characteristics of a good information system ?
- (3) A project costs Rs. 4 lakhs and the net benefits are Rs. 1,00,000 (1<sup>st</sup> year), Rs. 1,60,000 (2<sup>nd</sup> year) Rs. 1,80,000 (3<sup>rd</sup> year), Rs. 1,40,000 (4<sup>th</sup> year), Rs. 1,00,000 (5<sup>th</sup> year), Rs. 60,000 (6<sup>th</sup> year). Assuming 10% interest rate, would you proceed with this project if your criterion is cost-benefit ?

- (4) An offshore gas company bill its customer according to the following rate schedule :
- First 1000 Liters Rs. 20 (Flat)
  - Next 600 Liters Rs. 2.50 per 100 litres
  - Next 60000 Liters Rs. 2.40 per 100 litres
  - Next 2,00,000 Liters Rs. 2.20 per 100 litres
  - Above this, Rs. 2.00 per 100 liters.
- The input record has customer identification, name and address, meter reading, past and present. Write a structured English Procedure to obtain a bill for the customer.
- (5) Explain Third Normal Form with an example.
- (6) Explain Reasonableness check and Inter-field Relationship check.
- (7) What is the difference between a pilot-test and a parallel-test ?

**3** Answer any **two** :

**10**

- (1) Obtain a decision table for automatic stamp vending machine with the following specifications :
- (i) To dispense 20, 15, 10 or 5 paise stamp
  - (ii) To accept 50, 25, 10 or 5 paise coin
  - (iii) Do not return change if it is necessary to return more than two coins of the same denomination. In such a case, return the customer's coin and turn on "on change" light. The machine should dispense a stamp, the right amount of change, "no stamp available", " no change available" signals, etc.
- (2) Prepare physical and logical DFD for getting your mark sheet from a University office.
- (3) Explain system Development Life Cycle.

**4** Answer any **two** : **10**

- (1) Pick objects and model the following requirements statement using objects. "A magazine is printed monthly and posted to its subscribers. Two months before the expiry of subscription, a reminder is sent to the subscribers. If subscription is not received within 9 month, another reminder is sent. If renewal subscription is not received up to two weeks before the expiry of the subscription, the subscriber's name is removed from the mailing list and the subscriber informed."
- (2) Why is a DBMS divided into three layers, namely, conceptual model logical model, and internal model ? Also explain the responsibilities of a Database Administrator (DBA) in an organization.
- (3) Explain C2C e-commerce with an appropriate example.

**5** Write short notes on the following : (any **four**) **10**

- (1) Electronic Data Interchange
- (2) Control and Audit
- (3) Operational and Strategic Requirements
- (4) Attributes of a System Analyst
- (5) System Requirements Specifications
- (6) Unified Modelling Language.

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