ENGINEERING & MANAGEMENT EXAMINATIONS, JUNE – 2008

ANALYSIS AND DESIGN OF INFORMATION SYSTEM

SEMESTER – 4

Time : 3 Hours] [Full Marks : 70

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for the following : 10 × 1 = 10

i) The relationship of data elements in a module is called

a) Coupling b) Cohesion

c) Modularity d) none of these.

ii) Which of the following is not a phase in the SDLC ?

a) Analysis current system b) Define the latest technology

c) Design a new system d) Develop a new system.

iii) Alpha testing is done by

a) customer b) tester

c) developer d) all of these.

iv) During what phase is the SRS performed ?

a) System design phase b) System development phase

c) System analysis phase d) All of these.

v) What is abstract in coding ?

a) The classification of objects, grouped according to their significant similarities

b) The classification of objects, grouped according to their significant differences

c) The classification of objects, grouped according to their names

d) Hiding information inside a class so that it can only be known in an abstract manner.

vi) A data dictionary is a list containing details of

a) data elements input to the system

b) data elements output to the system

c) all data elements, data structure and data flows

d) none of these.

vii) Project risk factor is considered in

a) Waterfall model b) Prototyping model

c) Spiral model d) Iterative enhancement model.

viii) A decision table is

a) a truth table

b) a table that facilitates taking decisions

c) a table listing conditions and actions to be taken based on the testing of conditions

d) a table in a decision support system.

ix) Normalisation is a process of restructuring a relation to

a) minimize redundancy

b) maximize duplication of data to ensure reliability

c) achieve uniform resizing

d) allow data addition.

x) A context diagram

a) describes the context of system

b) is a DFD that gives an overview of the system

c) is a detailed description of system

d) is not used in drawing a detailed DFD.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

2. What is SDLC ? What are the steps in SDLC ? 2 + 3

3. What are the limitations of waterfall model ? 5

4. What is Spiral model ? What are the four main phases in Spiral model ? Why is Spiral model called meta model ? 1 + 2 + 2

5. What are the characteristics of a good SRS document ? 5

6. a) Why do you try to minimize coupling and maximum cohesion ?

   b) What are the different types of cohesion ? 2 + 3

GROUP – C

(Long Answer Type Questions)

Answer any *three* questions. $3 \times 15 = 45$

7. Define generalization and specialization. What is aggregation ? Draw an ERD of a Hospital with all its entity and activity. 4 + 3 + 8

8. Consider the following data :

Task	*Preceding Task*	*Duration (in months)*
A	—	3
B	—	4
C	B	3
D	A	1
E	A	2
F	D	3

   i) Draw a PERT chart for the above activities.

   ii) Calculate the earliest starting time, earliest finishing time, latest starting.

   iii) Determine the critical path. 5 + 6 + 4

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