CS/MCA/Even/2nd Sem/MCA-202/2014
2014
Information Systems Analysis & Design

Time Allotted : 3 Hours *Full Marks : 70*

The figure in the margin indicate full marks.
Candidates are required to give their answers in their
own words as far as practicable

Group-A
(Multiple Choice Type Questions)

1. Choose the correct alternative for the following : 1x10=10

    i) If the number of conditions in the decision table is n, the max number of rules possible is

    a) n b) 2n c) 2^n d) log n

    ii) Which is the cost liest phase of software development.

    a) Analysis b) Coding c) Maintenance d) Testing

    iii) The testing process only reveals

    a) failures b) errors in code

    c) errors in logic d) none of these

    iv) A bubble chart is known as

    a) ER diagram b) Data flow diagram

    c) Structured Chart d) all of the above

    v) What is not the job of system analyst?

    a) Fact finding from the customer

    b) interviewing the customer

2073 1 [Turn over]

CS/MCA/Even/2nd Sem/MCA-202/2014

   c) Preparing SRS document

   d) Coding of the requirement

vi) Which of the following is not one of the four categories described in the DD

   a) Data Structure   b) Data Store

   c) Process   d) Data flow

vii) In Object Oriented approach, a system is designed as a set interacting

   a) Class   b) Object   c) ADT   d) Class and Objects

viii)................. is a heuristics cost estimation technique.

   a) COCOMO   b) Cost benefit analysis

   c) Net benefit analysis   d) None of these

ix) CPM is a

   ɔ) Deterministic model   b) Probabilistic model

   c) Heuristic model   d) None ofthese

x) If the system testing is performed by the development team, it is known as

   a) α testing   b) β testing

   c) Regression testing   d) None of these

GROUP-B

(Short Answer Type Questions)
Answer any *three* questions: 3x5=15

2. What is the use of Data Dictionary?

3. What is a Spiral model? State its advantages.

4. How are OOA, OOD, OOP related to each other?

5. What is an SRS? What role does an SRS play in the preliminary stage of system development?

6. Draw a structure chart for the following code segment:

2073   2

```
main()
    {  int sum,n,N,a[Max];
readnums (a, &N); sort(a,N):scanf(&n);
sum=add _n(a,n);printf(sum); }
readnums(a,N)
 int a[ ],*N;
{ ......... }
sort(a,N)
 int a[ ],N;
{  if (a[i]>a[t]) switch(a[i], a[t]); }
add_n(a, n)
inta[],N;
    { ........ }
    }
```

GROUP-C
(Long Answer Type Questions)
Answer any *three* of the following: 3x15=45

7. If prototype model is used for software development, then is it necessary to build a SRS?

   Justify. Explain the importance of CASE tools with example. Explain merits and demerits of ISO certification. What are six sigma qualities?   [3+4+5+3]

8. (a) What is Normalization? What are the benefits of a normalized database?

   (b) Explain 2NF with the help of a suitable example.

   (c) What is a key? Differentiate between a candidate key and a super key.

   (d) What are the advantages of choosing a key of a relationship? What is Referential Integrity?   [2+3+2+4+4]

9. Consider the following data:

Task	Preceding Task	Duration(in months)
A	-	23
B	-	8
C	-	20
D	A	16
E	A	24
F	B, D	18
G	C	19
H	B, G	4
I	F, G	10

(a) Draw a PERT chart for the above activities.

(b) Calculate the earliest starting time, earliest finishing time, latest starting time and latest finishing time for all the activities.

(c) Determine the critical path. [5+7+3]

10. (a) What is data dictionary?

(b) Draw logical DFD and physical DFD for the encashment of cheques.

(c) What is context diagram?

(d) What is quality assurance? Explain its importance.

(e) What is S/W quality metric? [2+5+2+3+3]

11. Write shortnotes onanythree ofthe following:

(a) Structured English

(b) McCabe'sCyclomatic Complexity

(c) UML

(d) Alpha and Beta Testing

(e) CASE Tool [3x5]

____X-X-X____