Roll No. ....

MCA–302(O)

M. C. A. (Third Semester) EXAMINATION, June, 2008

(Old Course)

INFORMATION SYSTEM AND DESIGN

[MCA–302 (O)]

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 40

Note : Attempt any *five* questions. All questions carry equal marks.

1. (a) What are the characteristics of open system ? In what way is system entropic ?　　10

   (b) Why does an analyst terminate a project ? How does it tie in with post-implementation ? Explain.　　10

2. Contrast the following terms :　　20

   (i) Mission, Objective statements

   (ii) Corporate strategic planning and Information system planning

   (iii) Top down planning, bottom up planning

   (iv) Tangible and intangible benefits

   (v) Break even analysis, net value and present value analysis

P. T. O.

3. (a) What are the various risks and challenges involved in system analysis and design project ? How are they managed ? Explain.　　　　　　　　　10

(b) Consider a project that is defined to contain a well-defined set of tasks. Various tasks, required time for completion and task relationship are provided below :

Task	Weeks	Predecessors
A	6	—
B	9	A
C	7	B
D	11	A
E	3	—
F	6	E
G	3	D, F
H	6	E
I	3	D, F
J	11	H, L
K	4	C, G, I

Draw Gantt chart, PERT chart, and network diagram for the above activities. Also show critical path and slack time.　　　　　　　　　10

4. (a) Explain how cost benefit analysis is done and how it helps in comparing projects. At what phase of SDLC analysis is done ?　　　　　　　　　10

(b) (i) Compare and contrast group interview process with individual interview.　　　　　　　　　10

(ii) What are CASE tools ?

5. Contrast the following terms :　　　　　　　　　20

(i) Sub type, Super type

(ii) Disjoint and overlap rule

(iii) Total specialization and partial specialization

(iv) Abstract and concrete class

(v) Decision tree and decision table

6. (a) Explain prototyping and rapid application development (RAD) life cycle. How do they differ ? 8

(b) Explain Feasibility study. What is it importance ? 12

7. (a) Discuss Quality control in MIS. What are the factors of failure and success ? 10

(b) Discuss the implementation issues of ERP. 10

8. Write short notes on any *three* of the following : 20

(a) Decision support system

(b) Implementation of MIS

(c) Form design methodologies

(d) Disaster management

MCA–302(O)

M. C. A. (Third Semester)
EXAMINATION, Nov.-Dec., 2007
(Old Course)
INFORMATION SYSTEM AND DESIGN
[MCA—302(O)]

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 40

Note :   Attempt any *five* questions. All questions carry equal marks.

1. (a) What do you understand by 'synergy' of system ? What are open systems and what forms the environment of the system ?   10

   (b) Differentiate among data, information and knowledge. What are the characteristics of information ? Discuss the types of information.   10

2. (a) What do you understand by system planning ? Where does it fit in SDLC ? What are planning goals ?   10

   (b) Compare and contrast the following :   10

       (i)   System flowchart and DFD

       (ii) System Analysis and System Design

3. (a) What are the merits and demerits of interviewing ? When will you prefer interview to questionnaire ? 10

   (b) What do you understand by prototyping ? How water fall model and prototype models differ and how would you choose one of them for your project ?   10

4. (a) What are security threats to a software system ? What are disaster management techniques ?   10

   (b) In a form, what are the resources which have to be optimally utilized ? Discuss form design methodologies.   10

5. (a) Enumerate software quality attributes. Define each of them.   10

   (b) How software systems are tested ? What is the role of users in testing ? Is functionality testing sufficient ?   10

6. (a) Differentiate between the following :   10

   (i)   Short range and Long range planning

   (ii) MIS and DSS

   (b) What are common causes of MIS failures ? Why involvement of user in MIS is important ? Discuss importance of user involvement in various phases of system development.   10

7. (a) Discuss requirements of a typical inventory management system and discuss MIS approach to this.   10

   (b) What is the difference between information requirements of top level management and middle level management ? Briefly discuss DSS concepts.   10

8. Write short notes on any *four* of the following :   5 each

   (i)   Spiral model

   (ii) Structural English

   (iii) Service Sector

   (iv) ERP

   (v) Decision tree

   (vi) Context level DFD

MCA–302

M. C. A. (Third Semester)
EXAMINATION, May/June, 2006
INFORMATION SYSTEM AND DESIGN
(MCA – 302)

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 40

Note : Attempt any *five* questions. All questions carry equal marks.

1. (a) Define system and discuss its characteristics. What are different types of systems ? 10

   (b) Discuss the role of a system analyst as : 10

      (i) Politician

      (ii) Motivator

2. (a) What do you understand by software life cycle ? Discuss in brief each phase of life cycle. 10

   (b) Differentiate between initial investigation and feasibility study. What do you understand by behavioral feasibility ? 10

3. (a) Why a system proposal is needed ? 5

   (b) What are scenarios and what is their importance ? 5

(c) Describe in detail how an interview is carried out. Also discuss pros and cons of interviewing process. 10

4. (a) Why it st difficult to build a decision support system using linear cycle ? 5

(b) Discuss Evolutionary Development approaches. 10

(c) Briefly discuss quality assurance activities. 5

5. (a) Draw data flow diagram for a sales system outlined below :

(i). "Selling customers" request the organization to sell their itmes on their behalf.

(ii) "Buying customers" make requests to buy items.

(iii) Invoice is prepared and goods are dispatched.

(iv) The sales is through a website.

Make other assumptions from your imaginations and mention them. 12

(b) Summarize the characteristics of action, memory and reprot forms. 8

6. (a) Write a detailed note on applications of MIS in manufacturing sector. 10

(b) What are strategies, policies and goals ? What is short-term planning ? Explain through suitable examples. 10

7. (a) What are 'Walkthroughs' ? 6

(b) Define some common roles during walkthroughs and inspections. 6

(c) Briefly discuss DSS. 8

8. Write short notes on any *four* of the following : 20

   (a) KBES

   (b) Disaster Management

   (c) System Testing

   (d) Implementation issues of ERP

   (e) Role of user in software development process

MCA–302

M. C. A. (Third Semester) EXAMINATION, June, 2005
INFORMATION SYSTEM AND DESIGN
(MCA – 302)
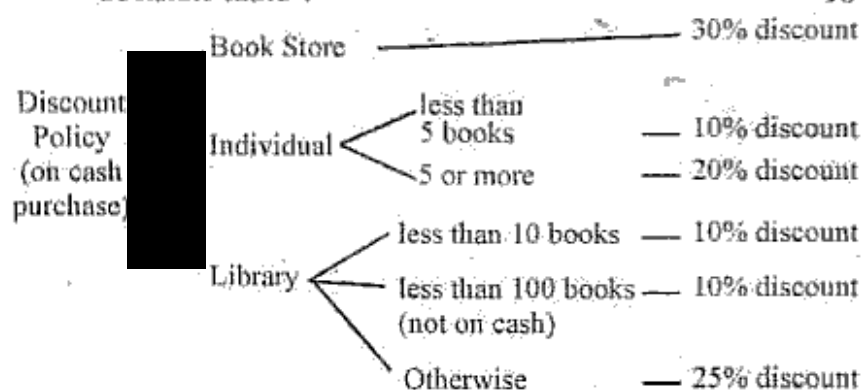
Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 40

Note :   Attempt any *five* questions. All questions carry equal marks.

1. (a) What are the different kinds of communication found in organizations ?   6

   (b) What are the various roles that systems analyst has to play and why ?   10

   (c) What do you understand by Entropy of the system ?   4

2. (a) Write the advantages and disadvantages of the following fact gathering techniques :   10

   (i)   Interviewing

   (ii)   Questionnaire

   (iii) One site observation

   (b) Differentiate between the following :   10

   (i)   Initial Investigation and Feasibility study

   (ii)   Conceptual design and Detailed design

P. T. O.

3. (a) What is the basic difference between linear and evolutionary software process models ? 10

   (b) What do you understand by structured system analysis ? Discuss Data Dictionary Computer process model and Physical system model. 10

4. (a) What is the objective of preparing Data Flow diagrams ? How a good DED should be prepared ? How leveling of DFD is done ? 10

   (b) Convert the following Decision Tree into form of decision table : 10

5. (a) What do you understand by Form Design Methodologies ? Discuss in detail. 10

   (b) Discuss about Software Quality Assurance. Define software attributes Reliability and Availability. 10

6. (a) How modularity improves software design ? Discuss from the point of view of coupling and cohension. 10

   (b) Define the meaning of Implementation of MIS and explain the steps and basic methods of implementing MIS is an organization. 10

7. (a) What do you understand by Decision Support System ? To what level of management it is useful explain taking suitable scenarios ? 10

(b) How D. S. S. is developed ? How is it different from MIS ? 10

8. Write short notes on any *four* of the following :   5 each

   (a) Closed system

   (b) Software testing

   (c) Describe basic features of ERP

   (d) SDLC

   (e) Subsystem interaction

MCA-302

M. C. A. (Third Semester) EXAMINATION, Dec., 2004

INFORMATION SYSTEM AND DESIGN

(MCA – 302)

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 40

Note : Attempt any *five* questions. All questions carry equal marks.

1. (a) What are the characteristics of system ? Also explain the elements of system.   10

   (b) Differentiate between the following :   10

   (i)   Deterministic and Probabilistic

   (ii) Subsystem and Suprasystem

   (iii) Formal and Informal system

2. (a) If there are 18 subsystems and each subsystem must be able to communicate with each other, how may interconnections must be there ? Suppose the 18 subsystems are arranged in three clusters of 6 subsystems each communicating in cluster and clusters communicating with each other. How many interconnections are required ?   8

(b) Explain the sole system analyst.   6

(c) What is the difference between analysis and design ?
    Can one begin to design without analysis ?   6

3. (a) What are the advantages of Prototyping approach ?
    When it is appropriate for system development ? What
    are the costs ?   10

(b) Why system proposal is so crucial for system design ?
    Distinguish between initial invetigation and feasibility
    study. Write various steps of feasibility study.   10

4. (a) What are the strategies for determining information
    requirements ?   8

(b) What is a decision table ? What are the advantages of
    decision table ? Draw a decision table for the
    following. Also represent the information in structured
    English :

    If invoice total is Rs. 3,000 or over, discount is 20%.
    If invoice total is in between Rs. 2,000 and Rs. 2,999
    discount is 10%. If invoice total is between Rs. 1,000
    and Rs. 1,999, discount is 5%. If invoce total is under
    Rs. 1,000, no discount is allowed.   12

5. (a) Define quality assurance. Briefly describe the factors
    that affect the quality of a system. Also discuss the
    levels of quality assurance.   10

(b) Differentiate between the following :   10

    (i)   Maintenance and Enhancement

    (ii) Corrective and Adaptive maintenance

    (iii) Software modification and Software system audit

    (iv) Tangible and Intangible costs

    (v)   Snap out and Fan fold forms

6. (a) What is testing ? What are the various approaches of designing test case in Black box and White box testing ?   10

(b) Explain the following :   10

(i) Integration testing

(ii) System testing

(iii) Unit testing

(iv) Stress testing

7. (a) What is the difference between a set of decision rules and decision support system ? What are the consideration in deciding whether to develop a DSS using a procedural programming languages, a spread sheet processor or a model generator ?   10

(b) Describe different models that may be used to support each of the phases of decision-making.   10

8. Write short notes on any *four* of the following :   20

(i) Design methodologies

(ii) Steps of feasibility analysis

(iii) Gantt chart and PERT

(iv) Disaster and recovery planning

(v) Cohesion

MCA—302   4,850