

Roll No.....

Time allowed : 3 hours

Maximum marks : 100

Total number of questions : 6

Total number of printed pages : 4

NOTE : Answer **ALL** Questions.

1. ABC University is a public university; especially known for its Faculty of Commerce and Management in the country. The faculty offers various UG and PG programmes along with research programmes viz., M. Phil and Ph.D. Recently, the Academic Council of the university approved the proposal of the faculty to start some UG and PG programmes in distance learning mode too. It is observed that the students of distance education are normally dependent on self-study along with a little support from the department(s) concerned. In view of this aforementioned fact, the Dean concerned of the faculty decided to launch a web based knowledge portal to facilitate the students of different courses and he proposed to upload the study materials, e-lectures, suggested answers of last examinations, mock test papers relevant for the coming examinations, etc. of the approved courses on this knowledge portal. It is expected that the portal will be very useful for the students as it aims to provide the access of various academic resources on anytime anywhere basis. For the implementation of this project, a technical consultant was appointed by the university. Accordingly, an initial feasibility study was done to know whether system should be developed in-house or bought as a ready made package and a detailed report was submitted. As a next step, as per the recommendations of the consultant, an expression of interest was published by the university in various national and regional newspapers inviting various organisations to showcase their capabilities and suggest a good solution as per the requirements of the concerned faculty of the university.

Based on the above, answer the following —

- (a) What are three major attributes of information security ? Out of these attributes, which attribute will be having the highest priority while developing web based knowledge portal ? Explain with reasons.
- (5 marks)
- (b) What may be the possible factors, which have been considered by the technical consultant for taking a decision as to whether system should be developed in-house or bought as a readymade package ?

(5 marks)

: 2 :

- (c) Technical consultant also suggested that some of the services in the proposed knowledge portal should be available on intranet of the university. What are the major advantages of intranet ?

(5 marks)

- (d) Information security measures must be applied to all systems in today's vulnerable environment. What are the basic system security measures, which must be applied to the proposed web based knowledge portal ?

(5 marks)

Attempt all parts of either Q.No. 2 or Q.No. 2A

2. (a) On the basis of primary job functions, explain five types of database users.

(4 marks)

- (b) Explain the retention of electronic records as per section 7 of the Information Technology Act, 2000.

(4 marks)

- (c) What is 'assembler' ? Briefly explain various steps of assembling.

(4 marks)

- (d) Briefly explain major limitations of expert system.

(4 marks)

OR (Alternate question to Q.No. 2)

- 2A. (i) Describe major requirements for implementing successful e-governance initiatives.
(ii) To conduct information system audit, a plan has to be developed, similar to one used in financial auditing. Explain the key tasks involved in the same.
(iii) What is 'cloud computing' ? Describe in brief any three benefits of cloud computing.
(iv) What is data description language (DDL) ? Explain in brief basic functions of DDL.

(4 marks each)

: 3 :

Attempt all parts of either Q.No. 3 or Q.No. 3A

3. (a) Describe key objectives of enterprise resource planning (ERP).
(b) What is comparative analysis model under e-Governance ? Also explain possible ways through which this model can be applied in related areas.
(c) Explain 'audit and accountability' requirements under advanced system security measures which are applied to high criticality systems.
(d) Explain information need of middle level management in the context of information systems.

(4 marks each)

OR (Alternate question to Q.No. 3)

- 3A. (i) Define the following terms under Information Technology Act, 2000 :

- (a) Asymmetric crypto system
(b) Digital signature
(c) Private key
(d) Public key.

(1 mark each)

- (ii) What do you understand by mainframe computer ? Distinguish between mainframe computer and super computer.

(4 marks)

- (iii) Differentiate between 'database' and 'data warehouse'.

(4 marks)

- (iv) State major characteristics of algorithms.

(4 marks)

4. (a) Discuss various revision characteristics of software.
(b) In a typical installation, what are the key responsibilities of a database administrator (DBA).
(c) Explain in brief four major capabilities of decision support systems (DSS).
(d) Describe any four characteristics of 'internet protocol'.

(4 marks each)

5. (a) What are the basic elements of management information systems (MIS) ? Also, discuss the limitations of MIS.

(8 marks)

- (b) A Certifying Authority certifies some parameters/conditions while issuing a digital signature certificate. Identify the section under which these parameters/conditions have been provided in the Information Technology Act, 2000 and explain the same in detail.

(8 marks)

6. Write notes on the following :

- (a) Parallel testing
(b) Vision of national service delivery gateway (NSDG)
(c) Integrated approach of MIS development
(d) Features of WiFi.

(4 marks each)