1. (a) Describe the meaning and contents of digital signatures. Who issues digital signatures? Under what conditions digital signatures may be revoked by the issuing authority?

(b) "Information is a corporate resource." Comment.

(c) How are data warehousing and data mining useful for an organisation? Answer taking a large retail firm as an example.

(d) What is meant by 'test pack'? What are the uses of test pack in information systems audit?

(5 marks each)

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

2. (a) (i) What does a 'computer network' mean in the Information Technology Act, 2000?

(ii) Which court has jurisdiction over matters pertaining to the Cyber Appellate Tribunal (CAT)?

(2 marks each)

(b) (i) Mention briefly what does section 43A of the Information Technology Act, 2000 provide for.

(ii) Which section deals with the punishment for violation of privacy? What is the maximum punishment provided for violation of privacy?

(2 marks each)

(c) Distinguish between 'assembler', 'compiler' and 'interpreter'.

(4 marks)

(d) What is 'e-payment portal'? What are the benefits of electronic payments?

(4 marks)
2A. Distinguish between the following:

(i) 'Batch processing', 'online processing' and 'real-time processing'.

(ii) 'DDL' and 'DML'.

(iii) 'Internet', 'intranet' and 'extranet'.

(iv) 'TPS', 'MIS' and 'EIS'.

(4 marks each)

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

3. (a) How does database play an important role in management information system (MIS)?

(b) List the security threats to information systems that generate from both inside and outside the organisation.

(c) What are the tasks involved in preparation of information systems audit plan?

(d) What is 'interactive service model of e-governance'? Give three possible areas where this model can be meaningfully deployed.

(4 marks each)

**OR (Alternate question to Q.No. 3)**

3A. Write notes on the following:

(i) Powers of Cyber Appellate Tribunal

(ii) Agile system development

(iii) Database system *vis-à-vis* file based system

(iv) Programming methodologies (*any four*).

(4 marks each)
4. (a) What is 'm-commerce'? What are its salient characteristics? Name two supporting technologies for m-commerce.

(b) Why is change management an important aspect of software life-cycle? List the steps for proper change management.

(c) Draw a flowchart to find the largest of three numbers.

(d) Discuss the role of electronic data interchange (EDI) in B2B electronic commerce. Give a real life example supporting your answer.

(4 marks each)

5. (a) What are the objectives of national service delivery gateway (NSDG)?

(8 marks)

(b) "ERP is concerned with organisation of computing systems and not business processes and procedures." Comment on the correctness or otherwise of the statement. Also state the benefits of ERP.

(8 marks)

6. (a) What is an 'expert system'? What are its limitations?

(b) What are the common types of systems documentation used by information systems (IS) auditors? State the minimum contents of a systems documentation.

(c) Explain in brief the major characteristics of a good software.

(d) What is electronic funds transfer (EFT)? How is it useful for a business organisation?

(4 marks each)