INTERMEDIATE (IPC) COURSE
STUDY MATERIAL

PAPER : 7A

INFORMATION TECHNOLOGY
[Revised Syllabus - Relevant from November, 2014 Examination onwards]

BOARD OF STUDIES
THE INSTITUTE OF CHARTERED ACCOUNTANTS OF INDIA
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The emergence of Information Technology (IT) has a very significant impact on all activities related to Accounting Profession. An accountant who does not comprehend computer-based accounting system is likely to be left high and dry in the profession. Recognizing the importance of IT, Chartered Accountancy course has included it as a part of the course curriculum both at Intermediate (IPC) and Final levels. A paper on ‘Information Technology’ forming the part of curriculum at Intermediate (IPC) level of the Chartered Accountancy course is to provide the understanding of the fundamental concepts of how Business Process Management and Information Systems are closely interfaced with IT to provide the required Business Process Automation for enterprises.

In this prompt shifting world of Information and Communication Technologies, the Institute felt an urgent need to revisit the syllabus of IT related papers separately and hence, the syllabus of ‘Information Technology’ paper has been revised with a view to rationalize the same in the light of recent technological developments by making necessary additions/deletions and modifications therein.

This paper enables students to understand how business processes are automated and explains the business implications, considerations and imperatives for practical deployment of IT in enterprises. The topics covered are closely linked with the topics covered in other papers viz. “Strategic Management” and “Audit and Assurance”, which will facilitate students to understand the conceptual framework of business processes and information systems and thus assist better understanding of topics covered in the curriculum. The topics covered in this paper elucidate how business processes and information systems are inter-linked and how these can be automated using different IT components.

Students may note that the CA course is not just about understanding of theory but provides a platform for practical application of the knowledge gained, through their work as articles in the area of compliance, assurance or advisory services. The study material covered both concepts and practical aspects and hence, students are advised to read the study material not only from examination point of view but also from practical perspective of how this is relevant and can be applied to their work environment.

The overall learning objective of this paper “To develop understanding of Information technology as a key enabler and facilitator of implementing Information systems in enterprises and their impact on business processes and controls” has been kept in mind while developing the material. The learning objectives are translated into a set of task statements, which outline what the students should learn “to do”. The task statements are linked to a set of knowledge statements, which outline what they should “know” to be able to perform the tasks. All these together have been used to develop the topics, which provide the detailed contents with a logical flow. Chapter-wise coverage of various topics in the study material is given as follows:
Chapter 1 introduces the concept of Business Process Management (BPM) and Business Process Re-Engineering (BPR) in bringing about integration and significant improvement in business processes. Impact of IT on business processes, its risks and benefits are also discussed in this chapter. Further, it provides an insight to the different mapping systems like Entity Diagrams, DFDs, Decision Trees and some more.

Chapter 2 includes the discussion on the relevance of auditing in Business Processes, the phases of System Development Life Cycle (SDLC) and overview of Information Systems layers. Overview of latest technological devices and popular computing models and architectures are also focused here.

Chapter 3 deals with the topics on fundamentals, components and functioning of Telecommunication systems, different types of networks and their architectures. Afterwards, the chapter provides an insight on the working of internet and its different technologies.

Chapter 4 comprehensively converses in detail various types of Business Information Systems at different levels of an organization. Further, the students are also introduced with some specialized systems like Core Banking system, CRM, ERP, CBS etc. used world wide. Business reporting through IT and organization roles and importance of access controls are outlined in this chapter for the sake of clarity of students of the concept.

Chapter 5 highlights various aspects pertaining to business process automation through application software. Emerging concepts in the field of IT like virtualization, Grid computing, cloud delivery model etc. are also covered in this chapter.

The significant additions in the revised edition are highlighted in **Bold** and *Italics* and have also been consolidated in the form of table “Significant Additions in the Revised Edition” in subsequent page.

In case you need any further clarification/guidance, please send your queries at bosnoida@icai.in/ sukriti.arora@icai.in.
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SYLLABUS (REVISED)

Paper - 7A: Information Technology (50 Marks)

Level of Knowledge: Working Knowledge

Objective: “To develop understanding of Information Technology as a key enabler and facilitator of implementing Information Systems in enterprises and their impact on business processes and controls”.

Contents


processes, Accounting Information Systems and linkages to Operational systems, Business Reporting, MIS & IT. Organization Roles & responsibilities and table or authorities, importance of access controls, privilege controls. Specialized systems - MIS, DSS, Business Intelligence, Expert Systems, Artificial Intelligence, Knowledge Management systems etc.

The primary objective for the inclusion of the ‘Information Technology’ at Intermediate (IPC) Level of the Chartered Accountancy course is to provide conceptual understanding of different aspects of Information Systems, Business Processes and their automation and management. This paper provides a platform to students to build their conceptual understanding on Information systems, challenges, risks, threats and controls during implementation of Business Process Automation; much helpful for them while dealing with Paper 6: Information Systems Control and Audit at Final Level of their Chartered Accountancy Course.

The level of knowledge required for the subject is 'Working knowledge' and the objective is ‘To develop understanding of Information Technology as a key enabler and facilitator of implementing Information Systems in enterprises and their impact on business processes and controls’. For this, students have to focus their study on fundamental comprehension of business processes; and automation of various business processes through Business Information Systems. Besides, students should also give due importance to the terms/definitions for proper conceptualization of the answers. The detailed learning objectives of the paper are given below:

- To be familiar with the concept of Business Processes, Business Process Management (BPM), Business Process Re-Engineering (BPR) and representation of these business processes using different mapping systems like Entity Diagrams, DFDs, Decision Trees and some more.
- To understand the importance of auditing in Business Processes, phases of System Development Life Cycle (SDLC) and overview of Information Systems layers.
- To comprehend the topics on fundamentals, components and functioning of Telecommunication systems, different types of networks and their architectures.
- To have a detailed understanding of various types of Business Information Systems (like Management Information Systems, Knowledge Management Systems, Office Automation Systems etc.) and also some specialized systems like Core Banking System, Customer Relationship Management, Enterprise Resource Planning, Core Banking System etc. used world wide.
- To acquire an insight about various controls during Business Process Automation, latest technological devices, popular computing models and emerging concepts like Virtualization, Grid Computing, and Cloud Computing.
A. Planning your study

1. Draw up a detailed study plan and allocate time for each topic/chapter of the subject
   - Make a study plan covering the entire syllabus and then decide how much time you can allocate to the subject on daily/weekly basis.
   - Maintain the time balance amongst various subjects such as purely descriptive type and numerical-based papers.
   - First of all, have an overview of the chapter to understand the broad contents and sequence of various sub-topics.
   - Do the introspection while going through the chapter and ask various questions to yourself.
   - Read each chapter slowly to ensure that you understand and assimilate the main concept. If need be, read once again with concentration and then try to attempt questions and exercises given in the Practice Manual.
   - Recapitulate the main concept after going through each chapter by way of brief notes.
   - Always assess your preparation periodically, say, on monthly basis. If necessary, revise your plan and allocate more time for the subject in which you feel deficient.
   - Read, understand and assimilate each chapter.
   - Preparation of the subject should never be selective in any case. Because broad coverage of the syllabus is more important than preparing 2-3 chapters exhaustively.
   - Jot down the key points, in each topic while reading, that would facilitate revision, especially when you have a limited time of just one day before each examination.

2. Make full use of BoS Knowledge inputs in a systematic pattern
   The Board of Studies brings out various publications from time to time with a view to assist the students in education. You are advised to make full use of the Study Material and other educational inputs provided to you in the hard copy mode and also in the soft copy format under BoS Knowledge Portal under the Students' section of the Institute's website www.icai.org. Study Material lays a strong foundation of the understanding of any particular topic in detail. After having a fair idea about the topic from the study material, attempt the questions from the practice manual, Revision Test Papers etc.

3. Chapter-wise Tips for Preparation
   While studying IT paper, students should try to understand the linkages between the chapters at macro-level. This will help them in recollecting the concepts during examination. We have made an attempt to explain with the help of tabular format given here under the manner in which concepts contained in the particular chapter of the study
material have to be interlinked with another chapter of the study material and read together:

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- During preparation of the first chapter, students should understand the concepts of various business processes and their representation through various mapping systems and how these business processes are impacted by IT. Students should pay emphasize on bringing a clarity on Business Process Management’s principles and practices and their implementation in a structured manner to have better understanding of them. Further, students should understand various business processes flows before representing them with the help of any mapping system.

- Consequently in the second chapter, students should stress on comprehending IT fundamentals and the emerging technologies/devices helpful in automating business processes. To provide better understanding of the Information systems, the Information Systems Life Cycle is incorporated in this chapter. Further an overview of latest devices and technologies used nowadays has been incorporated in the chapter to keep you updated.

- The third chapter deals with telecommunication and networking concepts which lay a foundation for a student to comprehend working of Internet, e-commerce and m-commerce. The understanding of these concepts is the hour of need. Students may draw comparative analysis on different architectures, topologies, transmission modes after establishing the topic clarity. Also Network Security is the major concern area, so the chapter provides an overview of different security measures that can be adopted against network threats, risks and vulnerabilities.

- The fourth chapter links the concepts of first three chapters and gives an insight about different business information systems and their reporting through Information Systems.
Technology and different online payment mechanisms. Students will get a fair idea about different types of Information Systems and their advantages in the real time world while reading this chapter.

- In the last chapter, students should appreciate numerous business applications and the emerging technologies in the IT field like Cloud Computing, Grid computing etc. The controls needed in Business Process Automation from an auditors’ perspective are dealt here in depth. The content of the chapter has been drafted in a comprehensive manner to enable the students to prepare in a better way for their examination.

B. Tips for Examination

- For the theoretical question, the answer should be laid down in bullets with brief description given in small paragraphs for making answer more appealing and legible.
- Make sure that your handwriting is neat and legible. Answer all parts of a question one after the other. Do not answer different parts of the same question at different places.
- Plan your time so that equal time is awarded for each mark. Keep sometime for revision as well.
- In case a question leaves room for making an assumption and there is a possibility of more than one assumption, it is important to clearly state the assumption you have taken and solve the question accordingly.
- Always attempt to do all questions. Remember that six average answers fetch more marks than five best answers. Therefore, it is important that you must finish each question within allocated time.
- Read the question carefully more than once before starting the answer to understand very clearly as to what is required by the paper-setter.
- Always be concise and write to the point and do not try to fill pages unnecessarily.
- There must be logical expression of the answer.
- Wherever possible, students should try to include relevant diagrams, tables, rough sketch etc.
- Revise your answers carefully and underline important points before leaving the examination hall.

C. To conclude

Last but not the least, remember that study will not be an arduous task if it is approached with a positive attitude and pursued with interest. If you enjoy your study; your learning will be permanent and profound. Always bear in mind that your own resolution to succeed is more important than any other. Therefore, give your hundred percent and there will be no looking back.

Best Wishes and Happy Learning!!!
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