

Class 9 · Information Technology (402) · Part B Subject Skills · Unit 1 · CBSE 2026-27

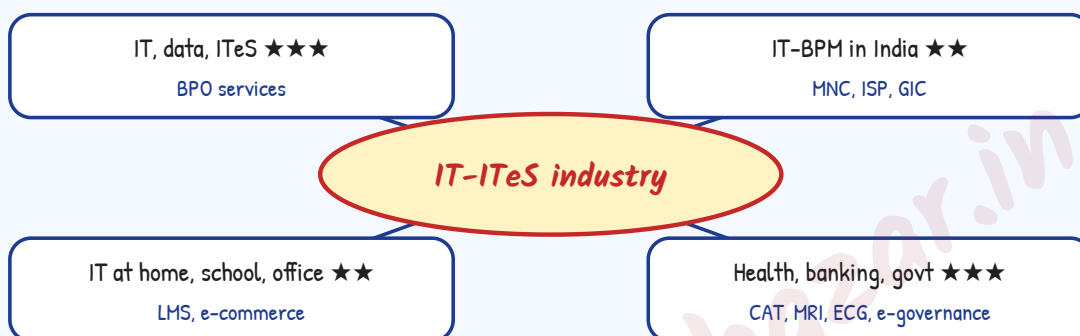
Chapter 6

Introduction to IT-ITeS Industry



Information Technology, data and information · IT enabled Services (ITeS) · BPO services · IT-BPM industry in India and its structure (MNCs, Indian service providers, GICs) · applications of IT: home, everyday life, library, workplace, education, entertainment, communication, business, science and engineering, banking, insurance, marketing, health care, government

Chapter map (★ = most important for exams)



Syllabus and weightage

Unit 1 (Introduction to IT-ITeS industry) carries **4 marks** in the Part B theory (30 marks in all). Typical questions: define IT/ITeS, BPO services, structure of the IT-BPM industry, uses of IT in health care, banking and education.

★ **Exam tip:** The job role for Class 9 IT (402) is **Domestic Data Entry Operator** (Qualification Pack SSC/Q2212), in the IT-ITeS sector.

6.1 Information Technology and ITeS ★★★

Information Technology (IT) means creating, managing, storing and exchanging information; it includes all computer hardware and software used to create, store and transfer information.

Data = raw facts (the number of boys and girls in a class). **Information** = the result of processing data (a conclusion drawn from it). Decisions are based on data and information.

IT benefits for business: reach more customers, better customer relationships, streamlined operations, lower costs, higher efficiency and profit, less waste, better service, better partner relationships.

IT enabled Services (ITeS) use IT to improve the quality of service of a business. Also called **web-enabled** or **remote services**; defined as **outsourcing of processes that can be enabled with IT** in finance, HR, administration, health care, telecommunication, manufacturing.

ITeS careers/services: call centres, payroll, logistics, revenue claims processing, medical billing and coding, **medical transcription**, legal databases, back office, content development, GIS, web services, HR services, customer relationship management, **data entry and processing**, data warehousing, IT help desk, ERP, telecom services.

6.2 BPO and the IT-BPM industry ★★★

Business Process Outsourcing (BPO) means performing business operations through an **outside service provider**. India is a major BPO destination because it keeps costs low with firm quality control.

BPO services: financial and accounting; taxation and insurance; e-publishing and web promotion; legal services and content writing; multimedia and design; document management; software testing; health care.

IT-BPM (Business Process Management) in India adds to GDP and exports, creates jobs, raises incomes, gives India the image of a knowledge-based economy and attracts venture capital. Revenue and GDP share almost doubled over 2008-18. **Why BPOs do well in India:** hi-tech hardware/software and quality checks; government infrastructure and logistic support; a highly developed industry offering many services.

Four main sub-sectors of IT-BPM (NASSCOM): IT services, Business Process Management (BPM/ITeS), software products and engineering services, hardware.

Structure (types of organisations)	Meaning
Multinational Companies (MNCs)	headquarters outside India, operate in many countries including India; serve external clients
Indian Service Providers (ISPs)	started in India, headquarters in India with offices abroad; global and/or domestic clients
Global In-house Centres (GICs)	serve only their parent company , not external clients

Organisations are categorised by the sector served, type and range of offerings, geographic spread, and revenue/size.

6.3 Applications of IT ★★★

Area	Use of IT
Home computing	household accounts, games, web surfing, e-mail, music, online courses, online shopping
Everyday life	washing machines and microwave ovens with embedded software ; storing appointments and contacts

Library	each book has a barcode to track it; software to issue/return; magnetic strip deactivated before borrowing
Workplace	office applications; automation in assembly lines
Entertainment	download/stream movies, games, chat, multimedia effects; digital broadcasting with interactive TV
Communication	e-mail, chatting, FTP, telnet, video conferencing

IT in education

- **In the classroom:** e-learning classrooms, smart-board presentations, videos of experiments, educational games, desktop publishing, Internet research.
- **Anywhere, anytime:** NCERT books online at epathshala.nic.in; Web-Based Training (WBT) reaches remote areas.
- **Teaching aids:** pictures, animations, audio-visuals, presentations.
- **Learning Management System (LMS):** Learn anytime, submit queries in forums, join activities by video; parents monitor progress.
- Online assessment checks students without bias.

IT in business, banking, insurance, marketing

- **Business:** payroll, budgeting, sales analysis, financial forecasting, stock management; **e-commerce** (browsing, cart, checkout, order processing); smart/credit/debit cards with PIN and account number on a strip/chip; airline reservation systems.
- **Banking:** every activity is online: e-RD, e-FD, NEFT/RTGS transfers, online transactions; **ATMs** for cash deposit/withdrawal and balance.
- **Insurance:** records in databases: policy dates, instalments, maturity, bonus; online policies.
- **Marketing:** graphics for advertisements; e-commerce websites to buy from home.

IT in science and engineering

Complex calculations; **CAD** (Computer Aided Design) and **CAM** (Computer Aided Manufacturing) for drawing, designing, simulating and testing; storing large data; visualising 3D objects; rocket launching and space exploration.

IT in government and public service

Using ICT to provide services to people is **e-governance** (Digital India). Income tax, sales tax, voter lists, PAN cards, online electricity bills, **electronic voting machines**, online enrolment in electoral rolls.

6.4 IT in health care ★★★

Hospital Management System keeps patients' records and hospital administration. Computerised machines do ECG, EEG, ultrasound and CT scans; instruments monitor patients in surgery; **expert systems** help diagnosis at early stages.

Machine	Use
CAT (Computerised Axial Tomography)	3D images of body parts
MRI (Magnetic Resonance Imaging)	images of internal organs using strong magnetic fields and radio waves
ECG (Electrocardiogram)	records electrical impulses of the heartbeat as a graph
Cardiac screening machine	shows movements inside the heart; detects problems such as thinning of veins

EEG (Electro-encephalography)	records brain activity through probes on the head, awake or asleep
Blood sugar testing machine	blood glucose level
Blood pressure machine (wrist band)	BP at rest or during activity

Important exam questions

Differentiate between data and information.

2

Ans. Data are raw facts (marks of 40 students); information is processed data that gives meaning (class average 72%, topper's name).

What is a Global In-house Centre?

1

Ans. An IT-BPM organisation that serves only its parent company and no external clients.

Name the machine used to (a) record brain activity (b) make 3D images of body parts (c) record heartbeat as a graph.

1½

Ans. (a) EEG (b) CAT (c) ECG.

What is e-governance? Give two examples.

2

Ans. Use of ICT by the government to provide services to people: paying electricity bills online, enrolling in the electoral roll, PAN card and income tax filing.

Give two reasons for the success of BPOs in India.

2

Ans. Investment in hi-tech hardware and software with quality checks; government support with infrastructure and logistics (also a developed industry with many services at low cost).

Textbook questions, solved ★★★

A. Example of IT use: classroom content, assessment, library, student records.

Ans. Classroom content: a smart-board video of a science experiment. Assessment: an online quiz (Google Forms) graded automatically. Library: barcode scanning to issue and return books. Student records: a school management database of admission details, attendance and marks.

1. What do you understand by IT and ITeS?

Ans. IT is creating, managing, storing and exchanging information using computer hardware and software. ITeS is the outsourcing of processes that can be enabled by IT (call centres, medical transcription, data entry) to improve an organisation's efficiency.

2. Pros and cons of using ICT.

Ans. Pros: fast communication, information anytime anywhere, online services (banking, shopping), lower costs, better learning. Cons: cyber crime and loss of privacy, health problems from overuse (eye strain, posture), addiction, unemployment due to automation, digital divide.

3. Precautions for safe ICT use.

Ans. Strong passwords, do not share personal details, use antivirus and updates, avoid unknown links/attachments, log out after use, take regular breaks with correct posture, keep backups.

4. Four main sub-sectors of IT-BPM.

Ans. IT services; Business Process Management (BPM); software products and engineering services; hardware.

5. Uses of IT in everyday life.

Ans. Embedded software in washing machines and microwaves; storing contacts and appointments; online payments and ticket booking; music and movies; video calls.

6. How is IT used in libraries?

Ans. Barcodes on books to track them and their availability; software to issue and return books; magnetic strips deactivated before borrowing; online catalogues.

7. Processes of education where IT is used.

Ans. Teaching (smart boards, videos, presentations), learning anytime (e-pathshala, LMS, WBT), assessment (online tests), administration (student records, results).

8. Software used in digital communication.

Ans. E-mail clients (Gmail, Outlook), chat/messaging apps (WhatsApp), video conferencing (Zoom, Google Meet), FTP and telnet programs, web browsers.

9. Purposes of IT in business.

Ans. Payroll, budgeting, sales analysis, forecasting, stock management, e-commerce, card payments, reservation systems.

10. Areas of IT in science and engineering.

Ans. Complex calculations, CAD/CAM design and simulation, storing large data, 3D visualisation, rocket launches and space exploration.

11. Uses of IT in banking.

Ans. Online records of customers and transactions, e-RD/e-FD, NEFT/RTGS transfers, net banking, ATMs, online capital market services.

12. Areas of health care using IT, and how.

Ans. Hospital management (patient records), diagnosis (CAT, MRI, ECG, EEG, expert systems), monitoring during surgery, laboratories, manufacturing of diagnostic tools.

13. Five Indian government websites giving IT enabled services.

Ans. india.gov.in (National Portal), digilocker.gov.in, incometax.gov.in, epathshala.nic.in, voters.eci.gov.in (also irctc.co.in, umang.gov.in).

Practice set

1. Expand ITeS, BPO, BPM and GIC.

2. Give two examples of ITeS.

3. Name two BPO services.

4. What is an MNC?

5. Expand CAD and CAM.

6. How does an LMS help parents?

Answers

- Ans.** 1. IT enabled Services; Business Process Outsourcing; Business Process Management; Global In-house Centre.
 2. Medical transcription, call centres.
 3. Financial and accounting; software testing.
 4. A company headquartered outside India operating in many countries including India.
 5. Computer Aided Design; Computer Aided Manufacturing.
 6. Parents can monitor their child's progress.

Multiple choice: 20 MCQs

1. Raw facts are called:
 (a) knowledge (b) information (c) data (d) output
2. Processed data is:
 (a) information (b) input (c) noise (d) code
3. ITeS is also called:
 (a) hardware services (b) postal services (c) manual services (d) web-enabled or remote services
4. Performing business operations through an outside provider:
 (a) GIC (b) BPO (c) LMS (d) CAD
5. Which is an ITeS?
 (a) farming (b) medical transcription (c) weaving (d) mining
6. Organisations serving only their parent company:
 (a) MNCs (b) NGOs (c) ISPs (d) GICs
7. A company headquartered abroad with offices in India:
 (a) MNC (b) GIC (c) NGO (d) LMS
8. Washing machines run on:
 (a) web software (b) e-mail (c) embedded software (d) CAD
9. Libraries track each book using a:
 (a) PIN (b) password (c) URL (d) barcode
10. NCERT books can be read online at:
 (a) irctc.co.in (b) epathshala.nic.in (c) gmail.com (d) incometax.gov.in
11. A system to learn anytime and track progress:
 (a) CAM (b) ATM (c) LMS (d) GIS
12. Buying and selling over the Internet:
 (a) e-commerce (b) e-learning (c) e-governance (d) e-voting
13. Used by engineers to design and simulate:
 (a) ATM (b) CAD (c) EEG (d) LMS
14. Online money transfer between banks:
 (a) GIS (b) CAT (c) NEFT (d) FTP
15. Machine to withdraw cash:
 (a) MRI (b) ECG (c) EVM (d) ATM
16. Machine that records brain activity:
 (a) EEG (b) ECG (c) CAT (d) MRI
17. Machine using strong magnets and radio waves:
 (a) MRI (b) CAT (c) EEG (d) ECG
18. Records the heartbeat as a graph:
 (a) CAT (b) EEG (c) MRI (d) ECG
19. Providing government services through ICT:
 (a) e-commerce (b) e-governance (c) BPO (d) GIC
20. Traditional ballot boxes have been replaced by:
 (a) ATMs (b) MRI (c) electronic voting machines (d) barcodes

1 (c) · 2 (a) · 3 (d) · 4 (b) · 5 (b) · 6 (d) · 7 (a) · 8 (c) · 9 (d) · 10 (b) · 11 (c) · 12 (a) · 13 (b) · 14 (c) · 15 (d) · 16 (a) · 17 (a) · 18 (d) · 19 (b) · 20 (c)

Assertion–Reason (6)

(a) Both A and R true, R explains A. (b) Both true, R does not explain A. (c) A true, R false. (d) A false, R true.

1. A: India is a major BPO destination. R: Indian BPOs keep costs low with firm quality control.
2. A: A GIC serves many external clients. R: A GIC serves only its parent company.
3. A: Data and information are the same. R: Information is obtained by processing data.
4. A: An LMS helps students learn anytime. R: Lessons are available online through the LMS.
5. A: IT reduces costs for businesses. R: IT streamlines operations and reduces waste.
6. A: Electricity bills can be paid online. R: The ECG machine records heartbeats.

Key: 1 (a) · 2 (d) · 3 (d) · 4 (a) · 5 (a) · 6 (b)

- **Last-night summary:** IT = create, manage, store, exchange information; data (raw) → information (processed). ITeS = outsourcing IT-enabled processes (web-enabled/remote services). BPO = outside provider; IT-BPM sub-sectors: IT services, BPM, software products/engineering, hardware.
- Structure: MNCs, Indian Service Providers, GICs (parent only). Applications: home, everyday (embedded), library (barcode), workplace, education (e-pathshala, LMS, WBT), entertainment, communication, business (e-commerce), CAD/CAM, banking (NEFT, RTGS, ATM), insurance, marketing.
- Health: CAT (3D), MRI (magnets, radio waves), ECG (heart), EEG (brain), sugar and BP machines; government: e-governance, EVMs, online bills.