Skill India
कौशल भारत-कुशल भारत

सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP

N·S·D·C
National
Skill Development
Corporation
Transforming the skill landscape

IT - ITeS SSC
NASSCOM

Participant Handbook

Sector
IT - ITeS

Sub-Sector
IT Services

Occupation
Application Development

Reference ID: **SSC/Q 0508,Version 1.0**
NSQF Level 4

Junior Software Developer

Table of Contents

S.No.	Modules and Units	Page No.
1.	**Introduction**	**1**
	Unit 1.1 – Introduction to IT-ITeS Sector	3
	Unit 1.2 – Introduction to the Training Program	6
2.	**Core/Generic Skills**	**11**
	Unit 2.1 – Communication Skills	13
	Unit 2.2 – Team Work	15
3.	**Basic of IT (SSC/N0506)**	**19**
	Unit 3.1 – Basic Computer Skills	21
	Unit 3.2 – Internet	43
4.	**Assist in Performing Software Construction and Software Testing Entry-Level Tasks in the It Services Industry (SSC/N0506)**	**63**
	Unit 4.1 – C Programming	65
	Unit 4.2 – Analyze Various Concepts of PHP	119
	Unit 4.3 – Introduction to MYSQL	152
	Unit 4.4 – SQL using Oracle	170
5.	**Manage Work to Meet Requirements (SSC/N9001)**	**195**
	Unit 5.1 – Self and Work Management	197
6.	**Work Effectively with Colleagues (SSC/N9002)**	**209**
	Unit 6.1 – Team Work and Communication	211
7.	**Maintain a Healthy, Safe and Secure Working Environment (SSC/N9003)**	**217**
	Unit 7.1 – Hazards at Workplace	219
	Unit 7.2 – Dealing with Emergencies	222
8.	**Data and Information Management (SSC/N9004)**	**231**
	Unit 8.1 – Provide Data /information in Standard Formats	233
9.	**Develop your Knowledge, Skills and Competence (SSC/N9005)**	**241**
	Unit 9.1 – Learning and Self Development	243
10.	**Employability & Entrepreneurship Skills**	**249**
	Unit 10.1 – Personal Strengths & Value Systems	253
	Unit 10.2 – Digital Literacy: A Recap	272
	Unit 10.3 – Money Matters	277

Unit 10.4 – Preparing for Employment & Self Employment 288
Unit 10.5 – Understanding Entrepreneurship 297
Unit 10.6 – Preparing to be an Entrepreneur 324

Skill India
कौशल भारत-कुशल भारत

सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP

N·S·D·C
National
Skill Development
Corporation
Transforming the skill landscape

IT - ITeS SSC
NASSCOM

1. Introduction

Unit 1.1 – Introduction to IT-ITeS Sector

Unit 1.2 – Introduction to the Training Programme

Key Learning Outcomes

At the end of this unit, you will be able to:

1. explain the importance of IT-ITeS Sector
2. Introduction to the Training Program

UNIT 1.1: Introduction to IT-ITeS Sector

Unit Objectives

At the end of this unit, you will be able to:

1. Explain the importance of IT-ITeS Sector

Information Technology (IT)

Information technology (IT) is the application of computers and telecommunications equipment to store, retrieve, transmit or analyse data, often in the context of a business or other enterprise. The term is commonly used as a synonym for computers and computer networks, but it also encompasses other information distribution technologies such as television and telephones.

Today, a country's IT potential is paramount for its March towards global competitiveness, healthy gross domestic product (GDP) and meeting up energy and environmental challenges.

India is one of the fastest-growing IT services markets in the world. It is also the world's largest out sourcing destination. The country's cost competitiveness in providing IT services continues to be its USP in the global sourcing market.

India has the potential to build a US$ 100 billion software product industry by 2025, according to Indian Software Product Industry Round Table (ISPIRT).

Why is the IT sector growing?

- Rapid industrialization
- Partial privatization of telecommunication
- Growth of IT parks in the country
- Development of SEZ; which also help IT companies get tax benefits
- A large number of resources readily available in the country
- Low operating costs
- Tax breaks and cooperative policies offered by the government

Major IT companies in India

1. Tata Consultancy Services
2. Infosys
3. Wipro
4. Tech Mahindra
5. HCL Technologies
6. Mphasis
7. Oracle Financial Services
8. Mindtree
9. Polaris Technology
10. Rolta India

The IT industry can be broadly classified into three sectors:

- Software
- IT Services
- IT Enabled Services (ITeS) - BPO and Call Centers

ITeS (Information Technology Enabled Services)

Introduction to ITeS Industry

The CRM Non-Voice is a part of the ITeS sector. This sector aims at communicating with the customers to address his/her queries, requests and complaints or also to introduce company's products and services to him. These interactions are also used to market and sell the ITeS products and the service. The Indian IT Enabled Services industry represents one of the most successful industries showing consistent rapid growth over the past few years.

ITeS (Information Technology Enabled Services)

Information Technology Enabled Services (ITeS), is a form of outsourced service which has emerged due to involvement of IT in various fields such as telecommunication, banking, finance, telecom, insurance, travel among others. Some of the examples of ITeS are Chat based interactions, medical transcription, back-office accounting, insurance claim and credit card processing.

The Indian IT and Information Technology Enabled Services (ITeS) sectors go hand-in-hand in every aspect. The industry has not only transformed India's image on the global platform, but also fuelled economic growth by energising the higher education sector (especially in engineering and computer science). These industries employ over 10 million Indians and, hence, have contributed significantly to economic growth and social transformation in our country.

About ITeS in India

- Call Centres provide customer interaction and communication services
- Back office operations of various large Companies are done in BPOs, eg. British Airways has its reservation system running out of India.
- Most of the top international banks channel their data- churning needs to their units in India.
- ITeS sector includes services ranging from
  - Call Centres
  - Claims processing, eg. Insurance
  - Office operations such as accounting, data processing, data mining
  - Billing and collection, eg. Telephone bills
  - Internal audit and pay roll, eg. Salary bills on monthly basis
  - Cash and investment management, eg.
  - Routine jobs given to a third party and giving importance to core business.

Employment Trends

The IT and ITeS sector has generated large employment in the past and continues to generate large number of jobs every year. With online shopping, social media and cloud computing flourishing more than ever before, there is great demand for IT professionals in e-Commerce and Business to Consumer firms. With the immense opportunities that this sector has to offer, a large number of Indian and MNCs are investing in expanding and setting up IT and ITeS businesses in India.

Major ITeS companies in India

HCL Technologies	Cognizant Technology Solutions
Tata Consultancy Services	Accenture
Capgemini	Amazon
Delloitte Consultancy	Microsoft Corporation
Wipro Technologies	

Exercise

1. Name 5 players in the IT sector in India.

2. Name 5 players in the ITeS sector in India.

3. The Indian Industry can be broadly divided into which of the 3 Sectors?

4. List down some of the major services offered by the ITES Sector?

UNIT 1.2: Introduction to the Training Program

Unit Objectives

At the end of this unit, you will be able to:

1. Introduction to the Training Program

1.2.1 Purpose of the Training Program

This training program is developed to impart specific skills to individuals who wish to perform as a Junior Software Developer the training program is intended for imparting basic skill and knowledge. It is based upon National occupation standards. The National occupation standards have been described in the following subsection of this chapter.

Junior Software Developer in the IT-ITeS Industry is also known as an Entry Level Programmer, Programmer Trainee, Assistant Developer etc.

After successful completion of training and passing the assessment you will be issued acertificate. This will prepare you to get employed as a Junior Software Developer in IT-ITeS companies. Individuals in this job will be assigned one of the many entry level roles in the software industry including support and help desk, testing, user interaction design, maintenance, enhancement, development and documentation. They will be responsible for assisting in performing the key activities and tasks involved in the assigned role.

This program is based on qualification pack called Junior Software Developer. The Qualification Pack Code for Junior Software Developer is SSC/Q0508. This is also called a QP. A QP consists of a set of National Occupational Standards (NOS). NOS specify the standard competency one must achieve when carrying out a function in the workplace. Under Junior Software Developer QP, there are six numbers of NOSs which detail the functions to be performed at a junior Software Developer. The total duration of the course (including theory and practical) is 400 hours.

NOS Code	Major Function/Task
SSC/N0506:	Assist in performing software construction and software testing entry-level tasks in the IT Services industry
SSC/N9001:	Manage your work to meet requirements
SSC/N9002:	Work effectively with colleagues
SSC/N9003:	Maintain a healthy, safe and secure working environment
SSC/N9004:	Provide data/information in standard formats
SSC/N9005:	Develop your knowledge, skills and competence

1.2.2 Role and Responsibilities of a Junior Software Developer

- Assist in performing the key activities and tasks in Software Construction.
- Test entry level roles in the IT Services industry where their business impact andtechnical complexity are low.
- Plan and organise your work in order to complete it to the required standards on time.
- Work effectively with colleagues, either in your own work group or in other work groups within your organization.
- Monitor the working environment and making sure it meets requirements for health, safety and security.
- Provide specified data/information related to your work in templates or other standard formats.
- Apply knowledge and skills to perform to the standards required.

1.2.3 Personal Attributes of a Junior Software Developer

A Junior Software Engineer in addition to his technical skills should also possess certain soft skills and personal qualities such as:

- Good communication skill
- Ability to work in a collaborative way
- Willingness to learn
- Undertake desk job entailing long hours
- Good problem solving skills
- Planning and organising skills
- Decision making skills
- Customer Centricity

Exercise

1. **State whether the following statements are true or false.**
   a. It is required to for a Junior Software Developer to know basic computer skills_____.
   b. Only technical skills are required to be a Junior Software Developer. _____

2. **List the roles and responsibilities of a Junior Software Developer.**

_____

_____

Notes

Skill India
कौशल भारत-कुशल भारत

सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP

N·S·D·C
National
Skill Development
Corporation
Transforming the skill landscape

IT - ITeS SSC
NASSCOM

Address: IT – ITeS Sector Skill Council **NASSCOM**
Plot No. – 7, 8, 9 & 10
Sector – 126, Noida
Uttar Pradesh – 201303
Web: Web: www.sscnasscom.com
Phone: Phone: 0120 4990111 – 0120 4990172

ISBN 978-81-8323-163-3
9 788183 231633

Price: ₹