

CBSE | DEPARTMENT OF SKILL EDUCATION

CURRICULUM FOR SESSION 2021-2022

INFORMATION TECHNOLOGY (CODE – 402)

JOB ROLE: DOMESTIC DATA ENTRY OPERATOR

CLASS – X

COURSE TITLE: Domestic Data Entry Operator

Domestic Data Entry Operator in the IT-ITeS Industry is also known as Data Entry Operator. Individuals are responsible to provide daily work reports and work on daily hour bases. The individual is responsible for electronic entry of data from the client side to the office site or viceversa. Individual tasks vary depending on the size and structure of the organization. This job requires the individual to have thorough knowledge of various technology trends and processes as well as have updated knowledge about database management systems and IT initiatives. The individual should have fast and accurate typing/data encoding. This job involves working in a personal computer, and appropriate software to enter accurate data regarding different issues like retrieving data from a computer or to a computer

COURSE OUTCOME:

On completion of the course, students should be able to:

- Apply effective oral and written communication skills to interact with people and customers;
- Identify the principal components of a computer system; Demonstrate the basic skills of using computer;
- Demonstrate self-management skills;
- Demonstrate the ability to provide a self-analysis in context of entrepreneurial skills and abilities;
- Demonstrate the knowledge of the importance of green skills in meeting the challenges of sustainable development and environment protection; □ Work safely on computer.
- Start the computer.
- Open and use the related software.
- Exit from the software.
- Shut down the computer.
- Use the computer for data entry process.
- Collect all necessary information about the query.
- Log any decision about the query on the data entry tracking form.
- Follow Rules and guidelines for data entry.
- Handle queries.
- Undertake data entry with speed and accuracy.
- Identify and control hazards in the workplace that pose a danger or threat to their safety or health, or that of others.

COURSE OBJECTIVES:

In this course, the students will be introduced to the fundamental concepts of digital documentation, digital spreadsheet, digital presentation, database management and internet security.

The following are the main objectives of this course:

- To familiarize the students with the world of IT and IT enabled services.
- To provide an in-depth training in use of data entry, internet and internet tools.
- To develop practical knowledge of digital documentation, spreadsheets and presentation.
- To enable the students to understand database management system and have updated knowledge about digital record keeping.
- To make the students capable of getting employment in Private Sector, Public Sector, Ministries, Courts, House of Parliament and State Legislative Assemblies.
- To develop the following skills:
 - Data Entry and Keyboarding skills
 - The concept of Digital Documentation
 - The concept of Digital Presentation
 - The concept of Electronic Spreadsheet
 - The concept of Databases
 - Internet Technologies

SALIENT FEATURES:

To be a data entry operator/analyst, one requires a lot of hard work and practical hands-on experience. One should have an intensive knowledge of Office applications, computer operations, and knowledge of clerical, administrative techniques and data analysis. Along with this, as a data entry operator/analyst, you will be expected to have fast typing speed, accuracy, and efficiency to perform tasks.

As a data entry operator/analyst, one should improve their computer skills, numerical and literacy skills. These skills can help one expand into a new career path in the future

CLASS – X SESSION 2021-2022
Total Marks: 100 (Theory-50+Practical-50)

SCHEME OF UNITS

This course is a planned sequence of instructions consisting of units meant for developing employability and vocational competencies of students of Class X opting for skill subject along with other subjects. The unit-wise distribution of hours and marks for class X is as follows: z

INFORMATION TECHNOLOGY (402) Class X (Session 2021-22)					
	TERM	UNITS	NO. OF HOURS for Theory and Practical 200		MAX. MARKS for Theory and Practical 100
Part A	Employability Skills				
	TERM I	Unit 1 : Communication Skills-II	10		5
		Unit 2 : Self-Management Skills-II	10		
		Unit 3 : Information and Communication Technology Skills-II	10		
	TERM II	Unit 4 : Entrepreneurial Skills-II	15		5
		Unit 5 : Green Skills-II	05		
		Total	50		10
Part B	Subject Specific Skills		Theory (In Hours)	Practical (In Hours)	Marks
	TERM I	Unit 1: Digital Documentation (Advanced)	12	18	8
		Unit 2: Electronic Spreadsheet (Advanced)	15	23	10
		Unit 3: Database Management System	04	07	02
	TERM II	Unit 3: Database Management System	14	20	10
		Unit 4: Web Applications and Security	15	22	10
		Total	60	90	40
Part C	Practical Work				
		Practical Examination • Advanced Documentation: 5 Marks • Advanced Spreadsheets: 5 Marks • Databases : 10 Mark			20
		Viva Voce			10
		Total			30

Part D		Project Work/Field Visit Any Interdisciplinary Real World Case Study to be taken. Summarized data reports of same can be presented in base. Input should be taken using forms and output should be done using reports using base. Documentation of the case study should be presented using writer.		10
		PORTFOLIO/ PRACTICAL FILE: (Portfolio should contain printouts of the practical done using Writer, Calc and Base with minimum 5 problems of each)		10
		Total		20
		GRAND TOTAL	200	100

DETAILED CURRICULUM/TOPICS:

Part-A: EMPLOYABILITY SKILLS

S. No.	Units	Duration in Hours
1.	Unit 1: Communication Skills-II	10
2.	Unit 2: Self-management Skills-II	10
3.	Unit 3: Information and Communication Technology Skills-II	10
4.	Unit 4: Entrepreneurial Skills-II	15
5.	Unit 5: Green Skills-II	05
	TOTAL DURATION	50

NOTE: For Detailed Curriculum/ Topics to be covered under Part A: Employability Skills can be downloaded from CBSE website.

Part-B – SUBJECT SPECIFIC SKILLS

S. No.	Units	Duration in Hours
1.	Unit 1: Digital Documentation (Advanced)	30
2.	Unit 2: Electronic Spreadsheet (Advanced)	38
3.	Unit 3: Database Management System	45
4.	Unit 4: Web Applications and Security	37
	TOTAL DURATION	150

UNIT 1: DIGITAL DOCUMENTATION (ADVANCED)

S. No.	LEARNING OUTCOMES	THEORY	PRACTICAL
1.	Create and Apply Styles in the document	• Styles/ categories in Word Processor • Styles and Formatting window. • Fill Format. • Creating and updating new style from selection • Load style from template or another document. • Creating a new style using drag-and-drop. • Applying styles.	• List style categories. Select the style from the Styles and Formatting window. • Use Fill Format to apply a style to many different areas quickly. • Create and update new style from a selection. • Load a style from a template or another document. • Create a new style using drag-and drop.
S. No.	LEARNING OUTCOMES	THEORY	PRACTICAL
2.	Insert and use images in document	• Options to insert image to document from various sources. • Options to modify, resize, crop and delete an image. Drawing objects and its properties. • Creating drawing objects and changing its properties. Resizing and grouping drawing objects. • Positioning image in the text.	• Insert an image to document from various sources. • Modify, resize, crop and delete an image. • Create drawing objects • Set or change the properties of a drawing object • Resize and group drawing objects • Position the image in the text

3.	Create and use template	• Templates. • Using predefined templates. • Creating a template. • Set up a custom default template. • Updating a document. • Changing to a different template. • Using the Template.	• Create a template. • Use predefined templates. • Set up a custom default template. • Update a document. • Change to a different template. • Use the Template.
4.	Create and customize table of contents	• Table of contents. Hierarchy of headings. Customization of table of contents. • Character styles. Maintaining a table of contents.	• Create table of contents. Define a hierarchy of headings. • Customize a table of contents. • Apply character styles. Maintain a table of contents.
5	Implement Mail Merge	• Advance concept of mail merge in word processing, • Creating a main document, • Creating the data source, • Entering data in the fields, • Merging the data source with main document, • Editing individual document, • Printing a letter and its address label	• Demonstrate to print the label using mail merge, do the following to achieve • Create a main document, • Create the data source, • Enter data in the fields, • Merge the data source with main document, • Edit individual document, • Print the letter and address label

UNIT 2: ELECTRONIC SPREADSHEET (ADVANCED)

S. No.	LEARNING OUTCOMES	THEORY	PRACTICAL
1.	Analyse data using scenarios and goal seek.	- Using consolidating data. Creating subtotals. - Using “what if” scenarios. Using “what if” tools - Using goal seek and solver.	- Use consolidating data Create subtotals - Use “what if” scenarios Use “what if” tools - Use goal seek and solver
2.	Link data and spreadsheets	- Setting up multiple sheets. Creating reference to other sheets by using keyboard and mouse. - Creating reference to other document by using keyboard and mouse. - Relative and absolute hyperlinks - Hyperlinks to the sheet. - Linking to external data. - Linking to registered data sources.	- Setup multiple sheets by inserting new sheets. - Create reference to other sheets by using keyboard and mouse. - Create reference to other document by using keyboard and mouse. - Create, Edit and Remove hyperlinks to the sheet. - Link to external data. - Link to registered data source.
3.	Share and review a spreadsheet	- Setting up a spreadsheet for sharing. - Opening and saving a shared spreadsheet. Recording changes. - Add, Edit and Format the comments. - Reviewing changes – view, accept or reject changes. Merging and comparing.	- Set up a spreadsheet for sharing. - Open and save a shared spreadsheet. - Record changes. - Add, Edit and Format the comments. - Review changes – view, accept or reject changes. - Merge and compare sheets.
4.	Create and Use Macros in spreadsheet	- Using the macro recorder. Creating a simple macro. Using a macro as a function. - Passing arguments to a macro. - Passing the arguments areas values. - Macros to work like built-in functions. - Accessing cells directly. - Sorting the columns using macro.	- Use the macro recorder. Create a simple macro. Use a macro as a function. - Pass arguments to a macro. - Pass the arguments are as values. - Write macros that act like built-in functions - Access cells directly. - Sort the columns using macro.

UNIT 3: DATABASE MANAGEMENT SYSTEM

S. No.	LEARNING OUTCOMES	THEORY	PRACTICAL
1.	Appreciate the concept of Database Management System	• Concept and examples of data and information, • Concept of database, • Advantages of database, • Features of database, • Concept and examples of Relational database, • Concept and examples of field, record, table, database, • Concept and examples of Primary key, composite primary key, foreign key, • Relational Data base management system (RDBMS) software.	• Identify the data and information, • Identify the field, record, table in the database, • Prepare the sample table with some standard fields. • Assign the primary key to the field, • Identify the primary key, composite primary key, foreign key.
2.	Create and edit tables using wizard and SQL commands	• Introduction to a RDBMS • Database objects – tables, queries, forms, and reports of the database, • Terms in database – table, field, record, • Steps to create a table using table wizard, Data types in Base, • Option to set primary key Table Data View dialog box □ DDL Commands	• Start the RDBMS and observe the parts of main window, • Identify the data base objects Create the sample table in any category using wizard, Practice to create different tables from the available list and choosing fields from the available fields. • Assign data types of field, Set primary key, • Edit the table in design view, Enter the data in the fields. • Create and edit table using DDL Commands
3.	Perform operations on table	• Inserting data in the table, • Editing records in the table, • Deleting records from the table, • Sorting data in the table, Referential integrity, • Creating and editing relationships – one to one, one to many, many to many, • Field properties.	Demonstrate to: • Insert data in the table, Edit records in the table, Delete records from table, Sort data in the table, • Create and edit relationships • one to one, one to many, many to many, • Enter various field properties.

S. No.	LEARNING OUTCOMES	THEORY	PRACTICAL
4.	Retrieve data using query	- Database query, - Defining query, - Query creation using wizard, - Creation of query using design view, - Editing a query, - Applying criteria in query – single field, multiple fields, using wildcard, - Performing calculations, - Grouping of data, - Structured Query Language (SQL).	- Prepare a query for given criteria, - Demonstrate to create query using wizard, and using design view, - Edit a query, - Demonstrate to apply various criteria in query – single field, multiple fields, using wild card, - Performing calculations using query in Base, - Demonstrate to group data, - Use basic SQL commands,
5.	Create Forms and Reports using wizard	- Forms in Base, - Creating form using wizard, - Steps to create form using Form Wizard, - Options to enter or remove data from forms - Modifying form, - Changing label, background, - Searching record using Form, - Inserting and deleting record using Form View, - Concept of Report in Base, - Creating Report using wizard, - Steps to create Report using Wizard.	- Illustrate the various steps to create Form using Form Wizard, - Enter or remove data from Forms, - Demonstrate to modify Forms, - Demonstrate to change label, background, - Search record using Form, - Insert and delete record using Form View, - Illustrate the various steps to create Report using Report Wizard, - Demonstrate various examples of Report.

UNIT 4: WEB APPLICATIONS AND SECURITY

S. No.	LEARNING OUTCOMES	THEORY	PRACTICAL
1.	Working with Accessibility Options.	- Understand various types of impairment that impact computer usage - Computer Accessibility Dialog box and its tabs - Serial Keys	- Illustrate use of various options under Computer Accessibility like Keyboard, mouse, sound, display setting serial keys, cursor options - use of toggle keys, filter keys, sticky keys, sound sentry, show sounds etc.
2.	Understand Networking Fundamentals	- Network and its types. - Client Server Architecture, Peer to-peer (P2P) Architecture, - internet, World Wide Web, - benefits of networking - internet, getting access to internet, - internet terminology - Some of the commonly used Internet connectivity options - Data transfer on the Internet	- Identify applications of Internet - comparing various internet technologies - identifying types of networks and selecting internet
3.	Introduction to Instant Messaging	- learn key features of instant messaging - Creating an instant messaging account - Launching Google Talk - Signing In into your Google Talk Account	- Illustrate steps to create instant messaging account - Signing In into your Google Talk Account
4.	Chatting with a Contact – Google Talk	- learn to chat with a contact that is already added to your contact list. - sending text chat messages instantly by double-clicking on a contact. - general rules and etiquettes to be followed while chatting. - chatting on various types of messengers	- Illustrate chat with a contact and send messages, - chatting with various messenger services
5	Creating and Publishing Web Pages – Blog ...-	- learn and appreciate a blog and its creation with the help of some blog providers - set up title and other parameters in a blog posting comments - using offline blog editors	□ Illustrate Blog Creation and setting various parameters in it

S. No.	LEARNING OUTCOMES	THEORY	PRACTICAL
6	Using Offline Blog Editors	□ Concept to create blogs using a blog application and publish the blog whenever internet connectivity is available.	• Demonstration on how to create blogs using a blog application offline. • posting messages in an offline application • Publish the blog whenever internet connectivity is available using various examples
7	Online Transaction	• concept of e-commerce and various online applications • importance of secure passwords	• Illustration of online shopping using various ecommerce sites • Demonstration of securing passwords for online transactions.
8.	Internet Security	• Need of internet security • Cyber threats like phishing, email-spoofing, char spoofing etc. • best practices for internet security and secure passwords • concept of browser, cookies, backup, antivirus • clearing data in browsers	• illustration of internet security threats through various ways • cyber security tips • tips for secure passwords • demonstration of strong passwords using various websites. • clearing data stored in browser applications.
9.	Maintain workplace safety	• Basic safety rules to follow at workplace – Fire safety, • Falls and slips, Electrical safety, Use of first aid. • Case Studies of hazardous situations.	• Practice to follow basic safety rules at workplace to prevent accidents and protect workers – Fire safety, • Falls and slips, Electrical safety, Use of first aid.
10.	Prevent Accidents and Emergencies	• Accidents and emergency, • Types of Accidents, • Handling Accidents • Types of Emergencies.	• Illustrate to handle accidents at workplace, • Demonstrate to follow evacuation plan and procedure in case of an emergency.
11.	Protect Health and Safety at work	• Hazards and sources of hazards, • General evacuation procedures, • Healthy living.	• Identify hazards and sources of hazards, • identify the problems at workplace that could cause accidents, • Practice the general evacuation procedures in case of an emergency.

ORGANISATION OF FIELD VISITS:

In a year, at least 3 field visits/educational tours should be organised for the students to expose them to the activities in the workplace.

Visit a data entry centre and observe the following: Location, Site, Office building, Computer Systems, Tools and Equipment, Printer, Scanner. During the visit, students should obtain the following information from the owner or the supervisor of the Data Centre:

1. Data Entry Centre.
2. Computer Infrastructure.
3. Sitting Posture of data entry operators.
4. Assistive technology.
5. Man power engaged.
6. Total expenditure of Data Entry Centre.
7. Total annual income.
8. Profit/Loss (Annual).
9. Any other information.

LIST OF EQUIPMENT/ MATERIALS:

The list given below is suggestive and an exhaustive list should be compiled from the feedback given by various by the teachers teaching the subject. Only basic tools, equipment and accessories should be procured by the Institution so that the routine tasks can be performed by the students regularly for practice and acquiring adequate practical experience.

S. No.	ITEM NAME, DESCRIPTION & SPECIFICATION	QUANTITY
A	HARDWARE	
1.	Computer with latest configuration or minimum Pentium Processor with minimum 2GB RAM, 512 GB HDD, 17" LED Monitor, NIC Card, 3 button Mouse, 105 keys key board and built-in speakers and mic.	15
2.	Laser Printer - Black	01
3.	Inkjet Printers (Colour & Black)	01
4.	Scanner	01
5.	Online UPS 5 KVA	01
6.	16 Port Switches	01
7.	Air Conditioner 1.5 tonne	02
8.	Telephone line (For Internet)	01
9.	Fire extinguisher	01
B	SOFTWARE	
1.	Operating System Linux and Windows	
2.	Anti-Virus Latest version	
3.	Productivity Suite, Example – Open Office, Google Suite etc.	

C	FURNITURE	
1.	Class room chairs and desks	25
2.	Computer Tables	15
3.	Straight back revolving & adjustable chairs (Computer Chairs)	15
4.	Printer Tables	02
5.	Trainers Table	01
6.	Trainers Chair	01
7.	Steel cupboards drawer type	02
8.	Cabinet with drawer	01
9.	Steel Almira - big size	01
10.	Steel Almira- small size	01

TEACHER'S/ TRAINER'S QUALIFICATIONS:

Qualification and other requirements for appointment of teachers/trainers for teaching this subject, on contractual basis should be decided by the State/ UT. The suggestive qualifications and minimum competencies for the teacher should be as follows:

Qualification	Minimum Competencies	Age Limit
Diploma in Computer Science/ Information Technology OR Bachelor Degree in Computer Application/ Science/ Information Technology (BCA, B. Sc. Computer Science/ Information Technology) OR Graduate with PGDCA OR DOEACC A Level Certificate. The suggested qualification is the minimum criteria. However higher qualifications will also be acceptable.	- The candidate should have a minimum of 1 year of work experience in the same job role. - S/He should be able to communicate in English and local language. - S/He should have knowledge of equipment, tools, material, Safety, Health & Hygiene.	18-37 years (as on Jan. 01 (year)) - Age relaxation to be provided as per Govt. rules

Teachers/Trainers form the backbone of Skill (Vocational) Education being imparted as an integral part of Rashtriya Madhyamik Shiksha Abhiyan (RMSA). They are directly involved in teaching of Skill (vocational) subjects and also serve as a link between the industry and the schools for arranging industry visits, On-the-Job Training (OJT) and placement.

These guidelines have been prepared with an aim to help and guide the States in engaging quality Teachers/Trainers in the schools. Various parameters that need to be looked into while engaging the Vocational Teachers/Trainers are mode and procedure of selection of Teachers/Trainers, Educational Qualifications, Industry Experience, and Certification/ Accreditation.

The State may engage Teachers/Trainers in schools approved under the component of scheme of Vocationalisation of Secondary and Higher Secondary Education under RMSA in following ways:

- (i) Directly as per the prescribed qualifications and industry experience suggested by the PSS Central Institute of Vocational Education (PSSCIVE), NCERT or the respective Sector Skill Council (SSC). **OR**
- (ii) Through accredited Vocational Training Providers accredited under the National Quality Assurance Framework (NQAF*) approved by the National Skill Qualification Committee on 21.07.2016. If the State is engaging Vocational Teachers/Trainers through the Vocational Training Provider (VTP), it should ensure that VTP should have been accredited at NQAF Level 2 or higher.

** The National Quality Assurance Framework (NQAF) provides the benchmarks or quality criteria which the different organizations involved in education and training must meet in order to be accredited by competent bodies to provide government- funded education and training/skills activities. This is applicable to all organizations offering NSQF-compliant qualifications.*

The educational qualifications required for being a Teacher/Trainer for a particular job role are clearly mentioned in the curriculum for the particular NSQF compliant job role. The State should ensure that teachers/ trainers deployed in the schools have relevant technical competencies for the NSQF qualification being delivered. Teachers/Trainers preferably should be certified by the concerned Sector Skill Council for the particular Qualification Pack/Job role which he will be teaching. Copies of relevant certificates and/or record of experience of the teacher/trainer in the industry should be kept as record.

To ensure the quality of the Teachers/Trainers, the State should ensure that a standardized procedure for selection of (Vocational) Teachers/Trainers is followed. The selection procedure should consist of the following:

- (i) Written test for the technical/domain specific knowledge related to the sector;
- (ii) Interview for assessing the knowledge, interests and aptitude of trainer through a panel of experts from the field and state representatives; and (iii) Practical test/mock test in classroom/workshop/laboratory.

In case of appointment through VTPs, the selection may be done based on the above procedure by a committee having representatives of both the State Government and the VTP.

The State should ensure that the Teachers/ Trainers who are recruited should undergo induction training of 20 days for understanding the scheme, NSQF framework and Vocational Pedagogy before being deployed in the schools.

The State should ensure that the existing trainers undergo in-service training of 5 days every year to make them aware of the relevant and new techniques/approaches in their sector and understand the latest trends and policy reforms in vocational education.

The Head Master/Principal of the school where the scheme is being implemented should facilitate and ensure that the (Vocational) Teachers/Trainers:

- Prepare session plans and deliver sessions which have a clear and relevant purpose and which engage the students;
- Deliver education and training activities to students, based on the curriculum to achieve the learning outcomes;
- Make effective use of learning aids and ICT tools during the classroom sessions;
- Engage students in learning activities, which include a mix of different methodologies, such as project based work, team work, practical and simulation based learning experiences;
- Work with the institution's management to organise skill demonstrations, site visits, on job trainings, and presentations for students in cooperation with industry, enterprises and other workplaces;
- Identify the weaknesses of students and assist them in up-gradation of competency;
- Cater to different learning styles and level of ability of students;
- Assess the learning needs and abilities, when working with students with different abilities
- Identify any additional support the student may need and help to make special arrangements for that support;
- Provide placement assistance

Assessment and evaluation of (Vocational) Teachers/Trainers is very critical for making them aware of their performance and for suggesting corrective actions. The States/UTs should ensure that the performance of the (Vocational) Teachers/Trainers is appraised annually. Performance based appraisal in relation to certain pre-established criteria and objectives should be done periodically to ensure the quality of the (Vocational) Teachers/Trainers.

Following parameters may be considered during the appraisal process:

- Participation in guidance and counseling activities conducted at Institutional, District and State level;
- Adoption of innovative teaching and training methods;
- Improvement in result of vocational students of Class X or Class XII;
- Continuous up-gradation of knowledge and skills related to the vocational pedagogy, communication skills and vocational subject;
- Membership of professional society at District, State, Regional, National and International level;
- Development of teaching-learning materials in the subject area;
- Efforts made in developing linkages with the Industry/Establishments;
- Efforts made towards involving the local community in Vocational Education
- Publication of papers in National and International Journals;
- Organisation of activities for promotion of vocational subjects; □ Involvement in placement of students/student support services.

CAREER OPPORTUNITIES:

The job of a data entry operator/ analyst is to work for a wide variety of public and private organisations. A data entry operator/analyst is responsible to input data in a quick and efficient manner, create data storage and should possess knowledge about the methods for recovering useful data when needed, organizing and analyzing data in a clear and effective way, navigating computer and database systems proficiently, editing and preparing reports based on the information they have put into the system. They also help the organisations to keep up with recording and analyzing the abundance of information received on a daily basis.

Some of the top sectors that require a data entry operator/analyst are listed below:

- Banks and Public Sector
- Marketing Companies
- Accounting Companies
- Human Resources
- Corporate Businesses
- MNCs
- Study Centers
- Schools and Universities
- Hospitals or Healthcare Service Providers
- Insurance Firms
- Small-scale Businesses

VERTICAL MOBILITY

- Students can pursue Polytechnic/Diploma/Certificate courses in IT fields.
- Can work as DEO
- Data Entry/Analysis work from home for different companies