



GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT & ENTREPRENEURSHIP  
DIRECTORATE GENERAL OF TRAINING

COMPETENCY BASED CURRICULUM

# COMPUTER OPERATOR AND PROGRAMMING ASSISTANT (COPA)

(Duration: One Year)

CRAFTSMEN TRAINING SCHEME (CTS)

NSQF LEVEL- 4



SECTOR – IT & ITES



Industrial Training Institute

**Computer Operator and Programming Assistant**

# **COMPUTER OPERATOR AND PROGRAMMING ASSISTANT**

**(Non-Engineering Trade)**



**CRAFTSMEN TRAINING SCHEME (CTS)**

**NSQF LEVEL - 4**

**Skill India**  
कौशल भारत - कुशल भारत

Developed By

Ministry of Skill Development and Entrepreneurship

Directorate General of Training

**CENTRAL STAFF TRAINING AND RESEARCH INSTITUTE**

EN-81, Sector-V, Salt Lake City,

Kolkata – 700 091

**ACKNOWLEDGEMENT**

The DGT sincerely acknowledges contributions of the Industries, State Directorates, Trade Experts, Domain Experts and all others who contributed in revising the curriculum. Special acknowledgement is extended by DGT to the following expert members who had contributed immensely in this curriculum.

| <b>List of Expert Members contributed/ participated for finalizing the course curriculum of Computer Operator and Programming Assistant trade on 13.01.2017 at CSTARI, Kolkata.</b> |  |  |                                       |
|---|--|--|---------------------------------------|
| <b>S No.</b>  | <b>Name &amp; Designation<br/>Sh/Mr./Ms.</b> | <b>Organization</b>                                | <b>Mentor Council<br/>Designation</b> |
| 1.  | DEEPANKAR MALLICK,<br>DDG (Trg.)             | DGT, MSDE, New Delhi                               | Chairman                              |
| 2.  | H. V. SAMVATSAR,<br>Director                 | CSTARI, Kolkata                                    | Secretary (Trade<br>Committee)        |
| 3.  | SANJAY KUMAR<br>Joint Director of Trg.       | CSTARI, Kolkata                                    | Member                                |
| 4.  | L. K. MUKHERJEE<br>Dy. Director of Trg.      | CSTARI, Kolkata                                    | Member                                |
| 5.  | R. N. BADIYOPADHYAYA<br>Chairman             | Board of Studies & Skill,<br>WBSCT&VE&SD           | Member                                |
| 6.  | AMALENDU JANA<br>Manager                     | TATA Communication Pvt. Ltd.<br>Ultadanga, Kolkata | Member                                |
| 7.  | NIRMALYA NATH<br>Asst. Director of Trg.      | CSTARI, Kolkata                                    | Member                                |
| 8.  | BRINDABAN DAS<br>Asst. Director of Trg.      | CSTARI, Kolkata                                    | Member                                |
| 9.  | Sk. ALTAF HOSSAIN<br>Training Officer        | ATI Kolkata, Dasnagar, Howrah -<br>711105          | Member                                |
| 10.   | D. W. PATNE,<br>Secretary/Principal          | Association of Non Govt. ITI,<br>Maharashtra       | Member                                |
| 11.   | BUDHADITYA BISWAS<br>Training Officer        | RDAT, Kolkata                                      | Member                                |
| 12.   | B. K. Nigam<br>Training Officer              | CSTARI, Kolkata                                    | Member                                |
| 13.   | SOMNATH B. SAPKAL,<br>Instructor             | ITI Anudh, Pune, Maharashtra                       | Member                                |



| <b>MEMBERS OF SECTOR MENTOR COUNCIL</b> |   |   |                        |
|---|---|---|------------------------|
| <b>S No.</b>                            | <b>Name of the member with Post<br/>(Shri /Smt/Ms)</b>  | <b>Organisation</b>   | <b>Position in SMC</b> |
| 1                                       | R Chandrasekaran, Chief Executive, Technology & Operations  | Cognizant Technology Solutions India Pvt. Ltd., 12th & 13th Floor, "A" wing, Kensington Building Hiranandani Business Park, Powai, Mumbai - 400 076 | Member                 |
| 2                                       | Srikantan Moorthy, SVP & Head, Education & Research   | Infosys Electronics City, Hosur Road, Bangalore 560 100   | Member                 |
| 3                                       | Deepak Jain, Senior VP & Global Head-Work Force Planning  | WIPRO, Doddakannelli, Sarjapur Road, Bangalore - 560 035  | Member                 |
| 4                                       | K. Ganesan<br>Vice President -Global Head Talent Acquisition Group<br>TCS<br>TCS House, Raveline street<br>Fort, Mumbai - 400 001 | TCS, TCS House, Raveline street, Fort, Mumbai - 400 001   | Member                 |
| 5                                       | Avinsh Vashishta, Chairman & GU Managing Director   | Accenture Services Pvt. Ltd., 71, Cunningham Road, Bangalore – 560052   | Member                 |
| 6                                       | Ravi Shankar B.   | Mindtree Ltd, Global Village, RCVE Post, Mysore Road, Bangalore 59  | Member                 |
| 7                                       | Mr. Umesh Gupta, Network of ICT Entrepreneurs and Enterprises   | USO House, USO Road, 6 Special Institutional Area, New Delhi- 110067  | Member                 |
| 8                                       | Prof. S.C. De Sarkar,   | Indian Institute of Technology Bhubaneswar, Bhubaneswar-751 013   | Member                 |
| 9                                       | Dr. Arti Kashyup, Associate Professor   | Academic Block, Indian Institute of Technology Mandi, PWD Rest House, Near Bus Stand, Mandi - 175 001, Himachal Pradesh                             | Member                 |
| 10                                      | Dr. Sanjeev Kumar Gupta, Head, Technical Wing   | National Institute of Electronics and Information Technology, Electronics Niketan, 6, CGO Complex, New Delhi 110 003                                | Chairman               |
| 11                                      | Dr. B. Mahanty, Professor   | Indian Institute of Technology Kharagpur, Kharagpur, India - 721302   | Member                 |
| 12                                      | Dr. Narayanaswamy N S,  | D/o Computer Science and Engg   | Member                 |

**Computer Operator and Programming Assistant**

|    |  |  |                             |
|----|--|--|-----------------------------|
|    | Associate Professor                                | Indian Institute of Technology<br>Madras<br>IIT P.O., Chennai 600 036  |                             |
| 13 | Ms. Koushalya Barik,AD (VE)                        | National Institute of Open<br>Schooling, Noida   | Member                      |
| 14 | Prof. Ashis.K. Pani, Professor,<br>XLRI Jamshedpur | XLRI Jamshedpur  | Member                      |
| 15 | Shri S.K. Prasad                                   | National Institute of Open<br>Schooling, Noida   | Member                      |
| 16 | P N Nayak, Head -<br>Organizational Training       | HCL Services Ltd., (A subsidiary of<br>HCL INFOSYSTEMS LTD.),<br>Hyderabad Campus, Road No 2,<br>Hardware Technology Park,<br>Kancha Imarat, Pahadi Shareef,<br>Hyderabad – 500005 | Member                      |
| 17 | Hemant Darbadi, Ex. Director                       | CDAC, Pune University Campus,<br>Pune-411007   | Member                      |
| 18 | Arnab Bhattacharya, Associate<br>Professor         | Department of Computer Science<br>and Engineering, IIT, Kanpur   | Member                      |
| 19 | Ms. Sheetal Chopra, Dy. Director                   | NIELIT, Delhi, 2nd Floor<br>Parshwanath Mero Mall, Indralok<br>Metro Station, New Delhi  | Member                      |
| 20 | Dr Vijayarajeswaran, Managing<br>Director          | VI Micro Systems Pvt. Ltd,<br>Chennai  | Member                      |
| 21 | Pramod Tripathi, SEO                               | National Institute of Open<br>Schooling, Noida   | Member                      |
| 22 | Shri Naresh Chandra, Jt.<br>Director, DGET, HQ     | DGE&T  | Mentor                      |
| 23 | B.K. Singha, DDT                                   | CSTARI, Kolkata  | Representative of<br>CSTARI |
| 24 | Shri Sundar Rajan, DPA Gr. B                       | NIMI, Chennai  | Representative of<br>NIMI   |
| 25 | Dr. M. Jayprakasan, DDT                            | ATI, Chennai   | Champion Master<br>Trainer  |
| 26 | V. Babu, DDT                                       | DGET, New Delhi  | Member                      |
| 27 | K. Singh, DDT                                      | ATI, Ludhiana  | Member                      |
| 28 | Annapurna, TO                                      | ATI Hyderabad  | Member                      |
| 29 | S.K. Acharya, VI (DTP)                             | NVTI, NOIDA  | Member                      |
| 30 | B.Biswas, VI COPA                                  | RVTI Kolkata   | Member                      |
| 31 | Sanjay Kr. Gupta, VI –COPA                         | RVTI Vadodara  | Member                      |
| 32 | Kunal Shanti Priya, VI                             | ITI, Daltonganj, Jharkhand   | Member                      |
| 33 | Anwar Muhammed, VI                                 | RVTI, Trivendrum   | Member                      |
| 34 | Sunil. M.K. TO                                     | CTI, Chennai   | Member                      |



Industrial Training Institute

## Computer Operator and Programming Assistant

|    |   |                               |        |
|----|---|-------------------------------|--------|
| 35 | Narmada, VI   | RVTI, Bangalore               | Member |
| 36 | Rohit Sama, ATO                                     | ITI Shantinagar,<br>Hyderabad | Member |
| 37 | J. Herman, Assistant Training<br>Officer            | Govt. ITI (W), Nagarkoil, TN  | Member |
| 38 | P. Parthiban, Assistant Training<br>Officer (ITESM) | Govt ITI(W),Salem, TN         | Member |
| 39 | S. Raja, ADT  | DET, Telangana                | Member |
| 40 | Mohd. Akram,  | ITI, Shanthi Nagar, Hyderabad | Member |
| 41 | Geeta Sikhen , VI                                   | RVTI, Panipat                 | Member |



# Skill India

कौशल भारत - कुशल भारत



**CONTENTS**

| <b>S No.</b> | <b>Topics</b>   | <b>Page No.</b> |
|--------------|---|-----------------|
| 1.           | Course Information                                    | 1               |
| 2.           | Training System                                       | 2-4             |
| 3.           | Job Role  | 5               |
| 4.           | NSQF Level Compliance                                 | 6               |
| 5.           | General Information                                   | 7-8             |
| 6.           | Learning Outcome                                      | 9               |
| 7.           | Learning Outcome with Assessment Criteria             | 10-14           |
| 8.           | Syllabus - Professional Skill, Professional Knowledge | 15-25           |
| 9.           | Syllabus - Employability Skill                        | 26-29           |
| 10.          | Annexure I - List of Trade Tools & Equipment          | 30-33           |
| 11.          | Annexure II - Format for Internal Assessment          | 34              |

Skill India  
कौशल भारत - कुशल भारत



## **1. COURSE INFORMATION**

---

During the one year duration of Computer Operator and Programming Assistant trade a candidate is trained on professional skill, professional knowledge and Employability skill. In addition to this a candidate is entrusted to undertake project work and extracurricular activities to build up confidence. The Broad components covered professional skill, subjects are as below:-

In the duration of one year the trainee learns about safety and environment, use of fire extinguishers. They learn about trade tools, identifies computer peripherals, internal components, basic DOS commands, Windows and Linux interface and its related software installation process. Trainees will work with MS Office package to create word document, practice with excel sheet and get idea to create a good power point presentation, maintain database with MS Access. They will set up and configure a network system of an organization. They will use internet to search information using browser along with official/social communication process. Trainees will create basic static webpage using HTML. Trainees can go on industrial visit or projects specified in the syllabus. The trainee learns scripting language i.e. JavaScript and will develop dynamic webpage and hosting technique in a registered domain. They will use VBA to create & edit various types of macros in MS Excel and to develop user form using VBA. They can maintain accounts of an organization using accounting software Tally. Trainees will learn E-commerce system and will be able to browse, select and transact using different E-commerce websites. They will identify different type of cyber crimes now days and will be able to secure information from Internet by using cyber security concept. At the end of the training trainees can go on industrial visit or projects specified in the syllabus.

Skill India

कौशल भारत - कुशल भारत





## **2. TRAINING SYSTEM**

---

### **2.1 GENERAL**

Directorate General of Training (DGT) under Ministry of Skill Development & Entrepreneurship offers range of vocational training courses catering to the need of different sectors of economy/ Labour market. The vocational training programmes are delivered under aegis of National Council of Vocational Training (NCVT). Craftsman Training Scheme (CTS) and Apprenticeship Training Scheme (ATS) are two pioneer programmes of NCVT for propagating vocational training.

Computer Operator and Programming Assistant trade under CTS is one of the most popular courses delivered nationwide through network of ITIs. The course is of one year duration. It mainly consists of Domain area and Core area. The Domain area (Trade Theory & Practical) impart professional skills and knowledge, while Core area (Employability Skills) impart requisite core skill, knowledge and life skills. After passing out the training program, the trainee is awarded National Trade Certificate (NTC) by NCVT which is recognized worldwide.

#### **Trainee needs to demonstrate broadly that they are able to:**

- Read and interpret technical parameters/ documentation, plan and organize work processes, identify necessary materials and tools;
- Perform task with due consideration to safety rules, accident prevention regulations and environmental protection stipulations;
- Apply professional knowledge & employability skills while performing the job and repair & maintenance work.
- Check the job/ assembly as per drawing for functioning identify and rectify errors in job/ assembly.
- Document the technical parameter related to the task undertaken.

### **2.2 CAREER PROGRESSION PATHWAYS**

- Can join Apprenticeship programme in different types of industries leading to National Apprenticeship certificate (NAC).
- Can join Crafts Instructor Training Scheme (CITS) in the trade for becoming instructor in ITIs.

### **2.3 COURSE STRUCTURE**

Table below depicts the distribution of training hours across various course elements during a period of one year: -



| S No. | Course Element                        | Notional Training Hours |
|-------|---------------------------------------|-------------------------|
| 1     | Professional Skill (Trade Practical)  | 1260                    |
| 2     | Professional Knowledge (Trade Theory) | 252                     |
| 3     | Employability Skills                  | 110                     |
| 4     | Library & Extracurricular activities  | 58                      |
| 5     | Project work                          | 160                     |
| 6     | Revision & Examination                | 240                     |
|       | <b>Total</b>                          | <b>2080</b>             |

## 2.4 ASSESSMENT & CERTIFICATION

The trainee will be tested for his skill, knowledge and attitude during the period of course and at the end of the training programme as notified by Govt of India from time to time. The Employability skills will be tested in first year itself.

a) The **Internal assessment** during the period of training will be done by **Formative assessment method** by testing for assessment criteria listed against learning outcomes. The training institute have to maintain individual *trainee portfolio* as detailed in assessment guideline. The marks of internal assessment will be as per the template (Annexure –II).

b) The final assessment will be in the form of summative assessment method. The All India Trade Test for awarding NTC will be conducted by NCVT as per guideline of Govt of India. The pattern and marking structure is being notified by govt of India from time to time. **The learning outcome and assessment criteria will be basis for setting question papers for final assessment. The examiner during final examination will also check** individual trainee's profile as detailed in assessment guideline before giving marks for practical examination.

### 2.4.1 PASS REGULATION

For the purposes of determining the overall result, weightage of 100% is applied for six months and one year duration courses and 50% weightage is applied to each examination for two years courses. The minimum pass percent for Practical is 60% & minimum pass percent for Theory subjects is 33%.

### 2.4.2 ASSESSMENT GUIDELINE

Appropriate arrangements should be made to ensure that there will be no artificial barriers to assessment. The nature of special needs should be taken into account while undertaking assessment. Due consideration should be given while assessing for team work, avoidance/reduction of scrap/wastage and disposal of scarp/wastage as per procedure,



### Computer Operator and Programming Assistant

behavioral attitude, sensitivity to environment and regularity in training. The sensitivity towards OSHE and self-learning attitude are to be considered while assessing competency.

Assessment will be evidence based comprising the following:

- Job carried out in labs/workshop
- Record book/ daily diary
- Answer sheet of assessment
- Viva-voce
- Progress chart
- Attendance and punctuality
- Assignment
- Project work

Evidences of internal assessments are to be preserved until forthcoming year examination for audit and verification by examination body. The following marking pattern to be adopted while assessing:

| Performance Level  | Evidence   |
|--|--|
| <b>(a) Weightage in the range of 60 -75% to be allotted during assessment</b>  |  |
| For performance in this grade, the candidate with occasional guidance and showing due regard for safety procedures and practices, has produced work which demonstrates attainment of an acceptable standard of craftsmanship.                        | <ul style="list-style-type: none"> <li>• Demonstration of good skills and accuracy in the field of work/ assignments.</li> <li>• A fairly good level of neatness and consistency to accomplish job activities.</li> <li>• Occasional support in completing the task/ job.</li> </ul> |
| <b>(b)Weightage in the range of above75% - 90% to be allotted during assessment</b>  |  |
| For this grade, the candidate, with little guidance and showing due regard for safety procedures and practices, has produced work which demonstrates attainment of a reasonable standard of craftsmanship.   | <ul style="list-style-type: none"> <li>• Good skill levels and accuracy in the field of work/ assignments.</li> <li>• A good level of neatness and consistency to accomplish job activities.</li> <li>• Little support in completing the task/ job.</li> </ul>                       |
| <b>(c) Weightage in the range of above 90% to be allotted during assessment</b>  |  |
| For performance in this grade, the candidate, with minimal or no support in organization and execution and with due regard for safety procedures and practices, has produced work which demonstrates attainment of a high standard of craftsmanship. | <ul style="list-style-type: none"> <li>• High skill levels and accuracy in the field of work/ assignments.</li> <li>• A high level of neatness and consistency to accomplish job activities.</li> <li>• Minimal or no support in completing the task/ job.</li> </ul>                |



### 3. JOB ROLE

---

**Computer Operator;** operates computer and peripheral equipment to process business, scientific, engineering, or other data, according to operating instructions. Enters commands, using keyboard of computer terminal, and presses buttons and flips switches on computer and peripheral equipment, such as tape drive, printer, data communications equipment, and plotter, to integrate and operate equipment, following operating instructions and schedule. Loads peripheral equipment with selected materials, such as tapes and printer paper for operating runs, or oversees loading of peripheral equipment by Peripheral Equipment Operators. Enters commands to clear computer system and start operation, using keyboard of computer terminal. Observes peripheral equipment and error messages displayed on monitor of terminal to detect faulty output or machine stoppage. Enters commands to correct error or stoppage and resume operations. Notifies supervisor of errors or equipment stoppage. Clears equipment at end of operating run and reviews schedule to determine next assignment. Records problems which occurred, such as down time, and actions taken. May answer telephone calls to assist computer users encountering problem. May assist workers in classifying, cataloguing, and maintaining tapes.

**Programming Assistant;** installs, maintains and updates computer programs by making minor changes and adjustments to them under the guidance of computing professionals. Maintains and updates documents of computer programs and installations. Applies knowledge of principles and practices in the area of programming and computing in order to identify and solve problems arising in the course of their work. They may receive guidance from managers or professionals. May supervise other workers also.

**Reference NCO-2015: -**

- i) 4131.0600 - Computer Operator
- ii) 3514.0300 - Programming Assistant

## 4. NSQF LEVEL COMPLIANCE

NSQF level for **Computer Operator and Programming Assistant** trade under CTS: **Level 4**

As per notification issued by Govt. of India dated- 27.12.2013 on National Skill Qualification Framework total 10 (Ten) Levels are defined.

Each level of the NSQF is associated with a set of descriptors made up of five outcome statements, which describe in general terms, the minimum knowledge, skills and attributes that a learner needs to acquire in order to be certified for that level.

Each level of the NSQF is described by a statement of learning outcomes in five domains, known as level descriptors. These five domains are:

- a. Process
- b. professional knowledge
- c. professional skill
- d. core skill
- e. Responsibility

The Broad Learning outcome of **Computer Operator and Programming Assistant** trade under CTS mostly matches with the Level descriptor at Level- 4.

The NSQF level-4 descriptor is given below:

| Level   | Process Required  | Professional Knowledge                           | Professional Skill   | Core Skill  | Responsibility                            |
|---------|---|--|--|---|---|
| Level 4 | Work in familiar, predictable, routine, situation of clear choice | Factual knowledge of field of knowledge or study | Recall and demonstrate practical skill, routine and repetitive in narrow range of application, using appropriate rule and tool, using quality concepts | Language to communicate written or oral, with required clarity, skill to basic Arithmetic and algebraic principles, basic understanding of social political and natural environment | Responsibility for own work and learning. |



## 5. GENERAL INFORMATION

|   |  |
|---|--|
| <b>Name of the Trade</b>                                    | <b>COMPUTER OPERATOR AND PROGRAMMING ASSISTANT</b>   |
| <b>NCO - 2015</b>   | 4131.0600, 3514.0300   |
| <b>NSQF Level</b>   | Level-4  |
| <b>Duration of Craftsmen Training</b>                       | One Year   |
| <b>Entry Qualification</b>                                  | Passed 10 <sup>th</sup> class examination  |
| <b>Unit Strength (No. Of Student)</b>                       | 24   |
| <b>Space Norms</b>  | 70 Sq. m   |
| <b>Power Norms</b>  | 3.45 KW  |
| <b>Instructors Qualification for</b>                        |  |
| <b>1. Computer Operator And Programming Assistant Trade</b> | <p>B.E./ B. Tech in Computer Science/ IT from Recognized University with one year experience in the relevant field.</p> <p><b>OR</b></p> <p>Post Graduate in Computer Science /Computer Application / IT or NIELIT B Level with one year experience in the relevant field.</p> <p><b>OR</b></p> <p>Bachelor in Computer Science / Computer Application / IT <b>OR</b> PGDCA from UGC recognized University or NIELIT A Level with two year experience in the relevant field.</p> <p><b>OR</b></p> <p>Three year Diploma from recognized Board/ Institute in Computer Science / IT with two year experience in the relevant field.</p> <p><b>OR</b></p> <p>National Apprenticeship Certificate or National Trade Certificate in the trade of Computer Operator and Programming Assistant and National Craft Instructor Training Certificate in the trade if available with three year experience in the relevant field.</p> <p><b>Essential Qualification:</b></p> <p>Craft Instructor Certificate in relevant trade under NCVT.</p> <p><b>NOTE:</b></p> <p><b>Out of two Instructors required for the unit of 2(1+1), one must have Degree/Diploma and other must have NTC/NAC qualifications.</b></p> |
| <b>2. Employability Skill</b>                               | <p>MBA OR BBA with two years experience OR Graduate in Sociology/ Social Welfare/ Economics with Two years experience OR Graduate/ Diploma with Two years experience and trained in Employability Skills from DGT institutes.</p> <p><b>AND</b></p>  |



|  |  |                     |                             |                                  |
|--|--|---------------------|-----------------------------|----------------------------------|
|  | Must have studied English/ Communication Skills and Basic Computer at 12 <sup>th</sup> / Diploma level and above.<br><b>OR</b><br><b>Existing Social Studies Instructors duly trained in Employability Skills from DGT institutes.</b> |                     |                             |                                  |
| <b>List of Tools &amp; Equipment</b>                               | As per Annexure-I  |                     |                             |                                  |
| <b>Distribution of training on Hourly basis: (Indicative only)</b> |  |                     |                             |                                  |
| <b>Total Hrs /week</b>   | <b>Trade Practical</b>   | <b>Trade Theory</b> | <b>Employability Skills</b> | <b>Extra-Curricular Activity</b> |
| 40 Hours   | 30 Hours   | 6 Hours             | 2 Hours                     | 2 Hours                          |



**Skill India**

कौशल भारत - कुशल भारत

## 6. LEARNING OUTCOME

---

*Learning outcomes are a reflection of total competencies of a trainee and assessment will be carried out as per the assessment criteria.*

### 6.1 GENERIC LEARNING OUTCOME

1. Apply safe working practices.
2. Comply with environment regulation and housekeeping.
3. Work in a team, understand and practice soft skills, technical English to communicate with required clarity.
4. Understand and explain the concept in productivity, quality tools, and labour welfare legislation and apply such in day to day work to improve productivity & quality.
5. Explain energy conservation, global warming and pollution and contribute in day to day work by optimally using available resources.
6. Explain personnel finance, entrepreneurship and manage/organize related task in day to day work for personal & societal growth.

### 6.2 SPECIFIC LEARNING OUTCOME

7. Install and setup operating system and related software in a computer.
8. Create, format and edit document using word processing application software.
9. Create, format, edit and develop a workbook by using spreadsheet application software.
10. Create and customize slides for presentation.
11. Create and manage database file using MS Access.
12. Install, setup/configure, troubleshoot and secure computer network including Internet.
13. Develop static web pages using HTML.
14. Develop web pages using Java Script.
15. Develop simple spread sheets by embedding VBA.
16. Maintain accounts using accounting software.
17. Browse, select and transact using E commerce websites.
18. Secure information from Internet by using cyber security concept.





## 7. LEARNING OUTCOME WITH ASSESSMENT CRITERIA

| GENERIC LEARNING OUTCOME   |   |
|--|---|
| LEARNING OUTCOME   | ASSESSMENT CRITERIA   |
| 1. Apply safe working practices.   | 1.1 Follow and maintain procedures to achieve a safe working environment in line with occupational health and safety regulations and requirements and according to site policy.     |
|  | 1.2 Recognize and report all unsafe situations according to site policy.  |
|  | 1.3 Identify and take necessary precautions on fire and safety hazards and report according to site policy and procedures.  |
|  | 1.4 Identify, handle and store / dispose off dangerous goods and substances according to site policy and procedures following safety regulations and requirements.                  |
|  | 1.5 Identify and observe site policies and procedures in regard to illness or accident.   |
|  | 1.6 Identify safety alarms accurately.  |
|  | 1.7 Report supervisor/ Competent of authority in the event of accident or sickness of any staff and record accident details correctly according to site accident/injury procedures. |
|  | 1.8 Identify and observe site evacuation procedures according to site policy.   |
|  | 1.9 Identify Personal Protective Equipment (PPE) and use the same as per related working environment.   |
|  | 1.10 Identify basic first aid and use them under different circumstances.   |
|  | 1.11 Identify different fire extinguisher and use the same as per requirement.  |
| 2. Comply with environment regulation and housekeeping.                                  | 2.1 Identify environmental pollution & contribute to the avoidance of instances of environmental pollution.   |
|  | 2.2 Deploy environmental protection legislation & regulations   |
|  | 2.3 Take opportunities to use energy and materials in an environmentally friendly manner  |
|  | 2.4 Avoid waste and dispose waste as per procedure  |
|  | 2.5 Recognize different components of 5S and apply the same in the working environment.   |
| 3. Work in a team, understand and practice soft skills, technical English to communicate | 3.1 Obtain sources of information and recognize information.  |
|  | 3.2 Use and draw up technical drawings and documents.   |
|  | 3.3 Use documents and technical regulations and occupationally related provisions.  |



**Computer Operator and Programming Assistant**

|   |     |   |
|---|-----|---|
| with required clarity.  | 3.4 | Conduct appropriate and target oriented discussions with higher authority and within the team.        |
|   | 3.5 | Present facts and circumstances, possible solutions & use English special terminology.                |
|   | 3.6 | Resolve disputes within the team  |
|   | 3.7 | Conduct written communication.  |
| 4. Understand and explain the concept in productivity, quality tools, and labour welfare legislation and apply such in day to day work to improve productivity & quality. | 4.1 | Yearly examination to test the concept in productivity, quality tools and labour welfare legislation. |
|   | 4.2 | Their applications will also be assessed during execution of assessable outcome.                      |
| 5. Explain energy conservation, global warming and pollution and contribute in day to day work by optimally using available resources.                                    | 5.1 | Yearly examination to test knowledge on energy conservation, global warming and pollution.            |
|   | 5.2 | Their applications will also be assessed during execution of assessable outcome.                      |
| 6. Explain entrepreneurship and manage/organize related task in day to day work for personal & societal growth.   | 6.1 | Yearly examination to test knowledge on entrepreneurship.   |
|   | 6.2 | It's applications will also be assessed during execution of assessable outcome.                       |



| <b>SPECIFIC LEARNING OUTCOME</b>   |   |
|--|---|
| <b>LEARNING OUTCOME</b>  | <b>ASSESSMENT CRITERIA</b>  |
| 7. Install and setup operating system and related software in a computer.                  | 7.1 Assemble computer and configuring the CMOS setup.   |
|  | 7.2 Install and configure Windows OS and application software.  |
|  | 7.3 Install the printer and other peripheral devices.   |
|  | 7.4 Burn CD/DVD.  |
|  | 7.5 Troubleshoot the PC.  |
|  | 7.6 Execute DOS and LINUX commands.   |
|  | 7.7 Customize Windows and LINUX OS.   |
| 8. Create, format and edit document using word processing application software.            | 8.1 Identify Word tools in the Ribbon.  |
|  | 8.2 Create a resume using various tools.  |
|  | 8.3 Design and print Magazine covers using various tools.   |
|  | 8.4 Demonstrate the use of shortcut keys ,autocorrect and macros.   |
|  | 8.5 Perform Mail merge in MS Word.  |
|  | 8.6 Typing practice using open source typing tutor tools.   |
| 9. Create, format, edit and develop a workbook by using spreadsheet application software.  | 9.1 Create tables, chart and print using various functions and formulas, apply Conditional formatting.                                      |
|  | 9.2 Create a table and Perform Sorting; filtering, Subtotal, validation and goal seek on a table.   |
|  | 9.3 Prepare a pivot table and chart on any existing table.  |
| 10. Create and customize slides for presentation.  | 10.1 Edit images with Open Office Applications.   |
|  | 10.2 Create Slides and run slideshows.  |
|  | 10.3 Format objects, add Audio and Video.   |
|  | 10.4 Use Open Office for creating presentations.  |
| 11. Create and manage database file by using MS Access.                                    | 11.1 Create simple application on Relational Database in MS Access using data validation, filters, sorting, forms, query, report and macro. |
|  | 11.2 Import, Export, Link, Backup and Retrieve database in MS Access.   |
| 12. Install, setup/configure, troubleshoot and secure computer network including Internet. | 12.1 Identify different cables and connectors used in networking.   |
|  | 12.2 Assign Computer Name and workgroup to a computer   |
|  | 12.3 Prepare UTP cross cable & connect computers  |
|  | 12.4 Share a printer with Network   |
|  | 12.5 Share Internet using Windows Tools   |
|  | 12.6 Check Network connectivity   |
|  | 12.7 Configure HUB & Switch   |
|  | 12.8 Configure DHCP and firewall  |
|  | 12.9 Setup Video conferencing   |
|  | 12.10 Secure Network with various tools   |



|  |   |
|--|---|
|  | 12.11 Practice Web Browsing and create E Mail ID and sending receiving mails                          |
|  | 12.12 Perform text chat and video chat using social network sites                                     |
|  | 12.13 Configure Outlook Express   |
|  | 12.14 Use Skype and Google+ or any other video conferencing site.                                     |
| 13. Develop static web pages using HTML.                   | 13.1 Create simple static Web Pages using HTML tags.  |
|  | 13.2 Create simple static WebPages using internal styles (CSS) and external style.                    |
|  | 13.3 Design static web pages using Kompozer.  |
| 14. Develop web pages using Java Script.                   | 14.1 Design a dynamic Web Page in JavaScript using various operators.                                 |
|  | 14.2 Design a dynamic Web Page in JavaScript using various control statements and looping structures. |
|  | 14.3 Design a dynamic Web Page in JavaScript using strings and functions.                             |
|  | 14.4 Design a dynamic Web Page in JavaScript using Arrays and objects.                                |
|  | 14.5 Design a dynamic Web Page in JavaScript using Web Forms and images.                              |
| 15. Develop simple spread sheets by embedding VBA.         | 15.1 Create various types of macros in MS Excel.  |
|  | 15.2 Develop and execute a program in VBA using various operators and data types.                     |
|  | 15.3 Develop and execute a program in VBA using control statements and looping structures.            |
|  | 15.4 Develop and execute a program in VBA using strings and functions.                                |
|  | 15.5 Develop and execute a program in VBA using Arrays.   |
|  | 15.6 Design a VBA User Form and develop program using various control buttons and boxes.              |
| 16. Maintain accounts using accounting software.           | 16.1 Create a company in Tally.   |
|  | 16.2 Create opening ledgers using an existing Balance Sheet.  |
|  | 16.3 Post voucher in tally in different modes.  |
|  | 16.4 Performing Cost Centre & Cost category.  |
|  | 16.5 Manufacture and transfer materials in Tally.   |
|  | 16.6 Show P/L A/c, Balance Sheet and other reports.   |
|  | 16.7 Apply Budget.  |
|  | 16.8 Post VAT & Service Tax related entry in Tally  |
| 17. Browse, select and transact using E-commerce websites. | 17.1 Place order for products from E commerce websites for purchase.                                  |
|  | 17.2 Upload a product in E Commerce site for sale.  |



|   |  |
|---|--|
|   | 17.3 Identify security issues in E- commerce and payment operations.       |
| 18. Secure information from Internet by using cyber security concept. | 18.1 Provide firewall security for Internet connection and Network System. |
|   | 18.2 Make backup copies of important file, data and information.           |
|   | 18.3 Secure your Wi-Fi networks using wireless security features.          |



**Skill India**

कौशल भारत - कुशल भारत



| SYLLABUS FOR COMPUTER OPERATOR AND PROGRAMMING ASSISTANT |  |  |  |
|--|--|--|--|
| Duration: One Year                                       |  |  |  |
| Week No.   | Reference Learning Outcome   | Professional Skills (Trade Practical) With Indicative Hours  | Professional Knowledge (Trade Theory)  |
| 1  | <ul style="list-style-type: none"> <li>Apply safe working practices</li> <li>Install and setup operating system and related software in a computer.</li> </ul> | <p><b>Safe working practices</b></p> <ol style="list-style-type: none"> <li>Visit COPA Lab. of the institutes and locate the electrical connections with computer system setup. (6hrs)</li> <li>Identifying safety symbols and hazard identification. (4Hrs)</li> <li>Practice safe methods of fire fighting in case of electrical fire. (4hrs)</li> <li>Use of fire extinguishers. (4Hrs)</li> </ol> <p><b>Computercomponents</b></p> <ol style="list-style-type: none"> <li>Identify computer peripherals and internal components of a disassembled desktop computer. (6 Hrs)</li> <li>Assemble components of desktop computer. (6 Hrs)</li> </ol> | <p><b>Safe working practices</b></p> <ul style="list-style-type: none"> <li>Scope of the COPA trade.</li> <li>Safety rules and safety signs.</li> <li>Types and working of fire extinguishers.</li> </ul> <p><b>Introduction to Computercomponents</b></p> <ul style="list-style-type: none"> <li>Introduction to computer system. Concepts of Hardware and Software.</li> <li>Function of motherboard components and various processors.</li> <li>Various Input/ Output devices in use and their features.</li> </ul> |
| 2  | Install and setup operating system and related software in a computer.   | <p><b>Using WindowsOperating System</b></p> <ol style="list-style-type: none"> <li>Practice on Windows interface and navigating windows. (7Hrs)</li> <li>Practice on managing files and folders using removable drives. (5Hrs)</li> <li>Customize the desktop settings and manage user accounts. (5Hrs)</li> <li>View system properties and control panel details. (5Hrs)</li> <li>Work with keyboard shortcut commands. (5Hrs)</li> <li>Print and scan document using different commands. (3 Hrs)</li> </ol>  | <p><b>Introduction WindowsOperating System</b></p> <ul style="list-style-type: none"> <li>Introduction to operating System</li> <li>Main features of Windows OS</li> <li>Concept of various shortcut commands.</li> </ul>  |
| 3  | Install and setup operating system and related   | <p><b>Computer basics and Software Installation</b></p> <ol style="list-style-type: none"> <li>View the BIOS settings and their</li> </ol>   | <p><b>Computer basics and Software Installation</b></p> <ul style="list-style-type: none"> <li>Introduction to the booting</li> </ul>  |



|     |  |   |  |
|-----|--|---|--|
|     | software in a computer.  | modifications. (3 Hrs)<br>14. Install Windows operating system. (5 Hrs)<br>15. Format hard disk and create partition. (3 Hrs)<br>16. Identify and rectify common hardware and software issues during OS installation. (4 Hrs)<br>17. Install necessary application software for Windows i.e. Office Package, PDF Reader, Media Player etc. (5 Hrs)<br>18. Configure Bluetooth and wi-fi settings. (3 Hrs)<br>19. Install Drivers for printer, scanner, webcam and DVD etc. (4 Hrs)<br>20. Burn data, video and audio files on CD/DVD using application software. (3 Hrs)  | process.<br><ul style="list-style-type: none"> <li>• Introduction to various types of memories and their features.</li> <li>• Basic Hardware and software issues and their solutions.</li> <li>• Usage of Application software and Antivirus.</li> </ul>   |
| 4-5 | Install and setup operating system and related software in a computer. | <b>DOS Command Line Interface &amp; Linux Operating Systems</b><br>21. Use basic DOS commands for directory listing. (10 Hrs)<br>22. Manage files and folders using DOS commands. (6 Hrs)<br>23. Install Linux operating system. (6 Hrs)<br>24. Install necessary application software for Linux i.e. Office Package, PDF Reader, Media Player etc. (6 Hrs)<br>25. Use Basic Linux commands for directory listing, file and folder management, password etc. (10 Hrs)<br>26. Use the Linux graphical user interface for file and folder management, exploring the system etc. (10 Hrs)<br>27. Customize desktop settings and manage user accounts in Linux. (6 Hrs)<br>28. View system properties and manage system setting in Linux. (6 Hrs) | <b>Introduction to DOS Command Line Interface &amp; Linux Operating Systems</b><br><ul style="list-style-type: none"> <li>• Introduction to basic DOS Internal and External Commands.</li> <li>• Introduction to Open Source Software.</li> <li>• Introduction to Linux Operating System features, structure, files and processes.</li> <li>• Basic Linux commands.</li> </ul> |



|      |  |  |   |
|------|--|--|---|
| 6-8  | Create, format and edit document using word processing application software.           | <p><b>Using Word Processing Software</b></p> <p>29. Open MS Word and familiarise with basic word components. (3 Hrs)</p> <p>30. Practice creating, saving and renaming of word documents. (3 Hrs)</p> <p>31. Edit document using basic formatting tools. (8 Hrs)</p> <p>32. Practice Inserting and formatting tables and other objects. (12 Hrs)</p> <p>33. Work with Page layout settings and printing documents. (6 Hrs)</p> <p>34. Use templates, autocorrect tools, and record and execute a macro. (6 Hrs)</p> <p>35. Use Mail merge tool. Use conditional Mail Merge, External Data Source. Practice Letters, Label &amp; Envelop printing using Mail Merge. (10 Hrs)</p> <p>36. Use Table of Context, Indexing, Hyperlink, Bookmark, Comment, equation , symbols, citation, cross-reference, footnote, translate, synonyms, thesaurus, spell check &amp; grammar, compare etc. ( 6 Hrs )</p> <p>37. Practice Typing using open source typing tutor. (24 Hrs)</p> <p>38. Practice of using shortcut keys and use Open Office as word processor. (12 Hrs)</p> | <p><b>Word Processing Software</b></p> <ul style="list-style-type: none"> <li>• Introduction to the various applications in MS office.</li> <li>• Introduction to Word features, Office button, toolbars.</li> <li>• Creating, saving and formatting and printing documents using Word.</li> <li>• Working with objects, macro, mail merge, templates and other tools in Word.</li> </ul>                 |
| 9-11 | Create, format, edit and develop a workbook by using spreadsheet application software. | <p><b>Using Spread Sheet Application</b></p> <p>39. Open MS Excel and familiarise with basic application components. (4 Hrs)</p> <p>40. Practice creating, saving and formatting excel spread sheets. (9 Hrs)</p> <p>41. Use absolute and relative referencing, linking sheets, conditional formatting etc. (9 Hrs)</p> <p>42. Practice Excel functions of all</p>   | <p><b>Spread Sheet Application</b></p> <ul style="list-style-type: none"> <li>• Introduction to Excel features and Data Types.</li> <li>• Cell referencing and linking Sheets.</li> <li>• Introduction to various functions in all categories of Excel.</li> <li>• Concepts of sorting, filtering and validating data.</li> <li>• Analyzing data using charts, data tables, pivot tables, goal</li> </ul> |





|       |  |   |  |
|-------|--|---|--|
|       |  | <p>major categories i.e. Financial, Logical, Text, date &amp; time, Lookup, Math, Statistical etc. (12 Hrs)</p> <p>43. Use various data types in Excel, sorting, filtering and validating data. (8 Hrs)</p> <p>44. Create and format various static and dynamic charts. (10 Hrs)</p> <p>45. Practice Importing &amp; exporting excel data. (4 Hrs)</p> <p>46. Perform data analysis using “what if” tools and Pivot Table and record and execute a macro. (10 Hrs)</p> <p>47. Modify Excel page setup and printing and use open office as Spreadsheet application. (4 Hrs)</p> <p>48. Execute simple projects using Excel &amp; Word. (20 Hrs)</p>  | <p>seek and scenarios.</p>   |
| 12-13 | <p>Create and customize slides for presentation.</p> | <p><b>Image editing and creating Presentations</b></p> <p>49. Use Windows Paint or image editing software like Open Office Draw, GIMP, Irfan View or a similar tool. (6 Hrs)</p> <p>50. Perform Image editing using open source applications. (12 Hrs)</p> <p>51. Open power point presentation and familiarise with basic application components. (6 Hrs)</p> <p>52. Create Slide shows, Insert picture and theme. (6 Hrs)</p> <p>53. Add new slide, format text, link with word and excel documents. (5 Hrs)</p> <p>54. Practice animating slide transitions and objects. (4 Hrs)</p> <p>55. Create slide shows by inserting audio &amp; video and synchronise with presentation. (6 Hrs)</p> <p>56. Modify slide page setup and print the slides. (3 Hrs)</p> <p>57. Create a simple presentation project using open office. (12</p> | <p><b>Image editing, Presentations</b></p> <ul style="list-style-type: none"> <li>• Introduction to Open Office.</li> <li>• Introduction to the properties and editing of images.</li> <li>• Introduction to different formats of images and their uses.</li> <li>• Introduction to Power Point and its advantages.</li> <li>• Creating Slide Shows.</li> <li>• Fine tuning the presentation and good presentation technique.</li> </ul> |



|       |   | Hrs)  |   |
|-------|---|---|---|
| 14-15 | Create and manage database file by using MS Access.                                     | <b>Database Management with MS Access</b><br>58. Create database and design a simple tables in Access. (6 Hrs)<br>59. Practice enforcing integrity constraints and modify properties of tables and fields. (6 Hrs)<br>60. Create relationships and join tables. (6 Hrs)<br>61. Create and format Forms. (6 Hrs)<br>62. Create simple queries with various criteria and calculations. (12 Hrs)<br>63. Create Simple update, append, make table, delete and crosstab queries. (9 Hrs)<br>64. Modify form design with controls, macros and events. (6 Hrs)<br>65. Import and export data to and from Access and create and format various types of reports. (6 Hrs)<br>66. Compress and Encrypt databases. (3 Hrs) | <b>Database Management Systems</b> <ul style="list-style-type: none"> <li>• Concepts of Data and Databases.</li> <li>• Overview of popular databases, RDBMS, OODB and NOSQL.</li> <li>• Rules for designing good tables. Integrity rules and constraints in a table.</li> <li>• Relationships in tables.</li> <li>• Introduction to various types of Queries and their uses.</li> <li>• Designing Access Reports and Forms.</li> <li>• Introduction to macros, designer objects controls, their properties and behaviour.</li> </ul>      |
| 16-17 | Install, setup/ configure, troubleshoot and secure computer network including Internet. | <b>Configuring and using Network</b><br>67. View Network connections. (3 Hrs)<br>68. Connect a computer to a network and share Devices i.e. Printers, files, folders and drives. (6 Hrs)<br>69. Work with various Network devices, connectors and cables. Create straight and cross cable and punch a UTP cable in the patch socket and test the connectivity. (6 Hrs)<br>70. Practice IP Addressing and Subnet masking for IPV4/ IPV6 and pinging to test networks. (6 Hrs)<br>71. Configure Hub and Switch. (6 Hrs)   | <b>Networking Concepts</b> <ul style="list-style-type: none"> <li>• Introduction to Computer Networks, Necessity and Advantages.</li> <li>• Client Server and peer to Peer networking concepts.</li> <li>• Concept of Proxy Server and proxy firewall server.</li> <li>• Concept of DHCP Server.</li> <li>• Network topologies. Introduction to LAN, WAN and MAN.</li> <li>• Network components, viz. Modem, Hub, Switch, Router, Bridge, Gateway etc.</li> <li>• Network Cables, Wireless networks and Blue Tooth technology.</li> </ul> |



|       |   |  |   |
|-------|---|--|---|
|       |   | <p>72. Set up and configure wired and wireless LAN in a Computer Lab within at least three computers. Use patch panel &amp; I/O Box for wired LAN and installing &amp; configuring Internet connection in a single PC and in a LAN. (12 Hrs)</p> <p>73. Set up a proxy server/ DHCP Server with firewall. (9 Hrs)</p> <p>74. Set up video conferencing using open source software. (6 Hrs)</p> <p>75. Use various tools (by open source /free) for network troubleshooting, maintenance and security for both Wired and Wireless(6 Hrs)</p>  | <ul style="list-style-type: none"> <li>• Concept of ISO - OSI 7 Layer Model.</li> <li>• Overview of various Network protocols Viz. TCP/IP, FTP, Telnet etc.</li> <li>• Concept of Logical and Physical Addresses, Subnetting and Classes of Networks.</li> </ul>  |
| 18    | Install, setup/ configure, troubleshoot and secure computer network including Internet. | <p><b>Using Internet</b></p> <p>76. Browse the Internet for information (use at least 3 popular browsers). (3 Hrs)</p> <p>77. Create and use e-mail for communication with attachment, priority setting, address book. (3 Hrs)</p> <p>78. Communicate with text, video chatting and social networking sites. (6 Hrs)</p> <p>79. Use online dictionary, translation software, storage space, share files with e-mail links, download manager, download &amp; upload YouTube files, google map &amp; earth etc. Update windows &amp; other software. (6 Hrs)</p> <p>80. Configure Outlook, mail service in mobile phones. Use tools like Skype, Google+ etc. (6 Hrs)</p> <p>81. Browser setting for Bookmark, cookies, favourites and pop ups, default website, trusted site, restricted site, content, history and advanced setup. (6 Hrs )</p> | <p><b>Internet Concepts</b></p> <ul style="list-style-type: none"> <li>• Introduction to www, Concept of Internet, Web Browsers, internet servers and search engines.</li> <li>• Concepts of Domain naming Systems and E mail communication.</li> <li>• Introduction to video chatting tools and Social Networking concepts.</li> </ul> |
| 19-21 | Develop static web pages using  | <p><b>Designing Static Web Pages</b></p> <p>82. Practice with basic HTML</p>   | <p><b>Web Design Concepts</b></p> <ul style="list-style-type: none"> <li>• Concepts of Static and</li> </ul>  |



|       |  |   |   |
|-------|--|---|---|
|       | HTML.  | <p>elements (e.g. head, title, body), tag and attributes. (3 Hrs)</p> <p>83. Design simple web page with text, paragraph and line break using HTML tags. (5 Hrs)</p> <p>84. Format text, change background colour and insert pictures in web page. (6 Hrs)</p> <p>85. Design simple web page with tables and lists. (6 Hrs)</p> <p>86. Use marquees, hyperlinks and mailto link in designing web pages. (6 Hrs)</p> <p>87. Create frames, add style and design layout. (10 Hrs)</p> <p>88. Insert text box, check box and combo box in web page. (6 Hrs)</p> <p>89. Design web page using password field, submit button, reset button and radio button etc. (6 Hrs)</p> <p>90. Design a web page adding flash file, audio and video files. (10 Hrs)</p> <p>91. Design web page with forms and form controls using HTML tags. (8 Hrs)</p> <p>92. Create web page using Cascading Style Sheet (CSS). (12 Hrs)</p> <p>93. Use WYSIWYG (Kompozer) web design tools to design and edit web pages with various styles. (12 Hrs)</p> | <p>Dynamic Web pages.</p> <ul style="list-style-type: none"> <li>• Introduction to HTML and various tags in HTML.</li> <li>• Concepts of different controls used in Web Pages.</li> <li>• Concepts of CSS and applying CSS to HTML.</li> <li>• Introduction to open source CMS viz, Joomla, Word press etc. and Web authoring tools viz. Kompozer, Front Page etc.</li> <li>• Concept of good web page designing techniques.</li> </ul> |
| 22-23 | <p><b>Industrial Visit/Project work</b></p> <p><b>Broad Area:</b></p> <p>a) Create a simple web site of at least 5 web pages which will include Images, tables, charts, lists and hyperlink on any topic like Student Information System, Book Store, and Organisations etc.</p> <p>b) Setup and configure a LAN using at least 3 computers connected with wire and 3 computers connected with wireless and secure it.</p> |   |   |
| 24-26 | <b>Revision</b>  |   |   |
| 27-33 | Develop web pages using JavaScript.  | <p><b>JavaScript &amp; creating Web page</b></p> <p>94. Practice with basic elements of JavaScript. (12 Hrs)</p>  | <p><b>Introduction to JavaScript</b></p> <ul style="list-style-type: none"> <li>• Introduction to Programming and Scripting Languages.</li> </ul>   |



|              |   |  |   |
|--------------|---|--|---|
|              |   | <p>95. Embed JavaScript in HTML to display information in web pages, documentation and formatting of HTML source code. (18 Hrs)</p> <p>96. Use JavaScript Variables, Data types, Constants and Operators. (18 Hrs)</p> <p>97. Use Control statements and Loops in JavaScript. (18 Hrs)</p> <p>98. Practice with switch case, loop controls and Errors in JavaScript. (18 Hrs)</p> <p>99. Practice with Arrays in JavaScript page. (12 Hrs)</p> <p>100. Practice with functions in JavaScript web page. (18 Hrs)</p> <p>101. Practice with String, Math and Date functions in JavaScript. (24 Hrs)</p> <p>102. Use online tool or open source software to develop and edit web pages containing Titles, different font sizes and colours, frames, lists, tables, images, image map, controls, CSS, forms, hyperlinks etc., use web template to create a web page of various styles. (36 Hrs)</p> <p>103. Develop a simple web project using HTML, JavaScript and host it in IIS and a registered domain. (36 Hrs)</p> | <ul style="list-style-type: none"> <li>• Introduction to JavaScript and its application for the web.</li> <li>• Introduction to Web Servers and their features.</li> <li>• JavaScript Basics – Data types, Variables, Constants and Conversion between data types.</li> <li>• Arithmetic, Comparison, Logical Operators in JavaScript. Operator precedence.</li> <li>• Program Control Statements and loops in JavaScript.</li> <li>• Arrays in JavaScript – concepts, types and usage.</li> <li>• The String data type in JavaScript. Introduction to String, Math and Date.</li> <li>• Introduction to Functions in JavaScript.</li> <li>• Built in JavaScript functions overview.</li> <li>• Concepts of Pop Up boxes in JavaScript.</li> <li>• Introduction to the Document Object Model.</li> <li>• Concepts of using Animation and multimedia files in JavaScript.</li> </ul> |
| <p>34-41</p> | <p>Develop simple spread sheets by embedding VBA.</p> | <p><b>Programming with VBA</b></p> <p>104. Practice with basic functions of VBA Editor.(3 Hrs)</p> <p>105. Use form controls like buttons, Check boxes, Labels, Combo Box, Group Box, List Box, Option Button, Scroll Bar and Spin button. (12 Hrs)</p> <p>106. Modify object properties in VBA program. (6 Hrs)</p> <p>107. Write simple programs involving VBA Data types, Variables, Operators and</p>  | <p><b>Introduction to VBA, Features and Applications.</b></p> <ul style="list-style-type: none"> <li>• Introduction to VBA features and applications.</li> <li>• Properties, events and methods associated with the Button, Check Box, Label, Combo Box, Group Box, Option Button, List Box, Scroll Bar and Spin button controls.</li> <li>• VBA Data types, Variables and Constants.</li> </ul>  |



|              |   |  |  |
|--------------|---|--|--|
|              |   | <p>Constants. (18 Hrs)</p> <p>108. Create Message boxes and Input boxes in VBA. (6 Hrs)</p> <p>109. Work with conditional statements like if, Else-if, and Select. (12 Hrs)</p> <p>110. Practice with Loop, Loop Control and Case statements in VBA. (15 Hrs)</p> <p>111. Create and Manipulate Arrays in VBA. (12 Hrs)</p> <p>112. Practice with string variables in VBA programming. (12 Hrs)</p> <p>113. Write programs involving Mathematical, Conversion, Date and String Functions in VBA. (18 Hrs)</p> <p>114. Create Functions, Procedures, Passing Parameters and Using Returned Data. (12 Hrs)</p> <p>115. Practice with built in functions in VBA programs. (12 Hrs)</p> <p>116. Create and edit macros. (12 Hrs)</p> <p>117. Write code to work with Excel in VBA forms. (12 Hrs)</p> <p>118. Practice with methods and events in VBA Programming. (24 Hrs)</p> <p>119. Debug, Step through code, Breakpoints, find and fix errors while debugging. (18 Hrs)</p> <p>120. Develop a simple project involving MS excel and VBA. (36 Hrs)</p> | <ul style="list-style-type: none"> <li>• Operators in VBA and operator precedence.</li> <li>• Mathematical Expressions in VBA.</li> <li>• Introduction to Arrays in VBA.</li> <li>• Introduction to Strings in VBA.</li> <li>• Conditional processing in VBA, using the IF, Else-if, Select Case Statements.</li> <li>• Introduction to Loops in VBA.</li> <li>• VBA message boxes and input boxes.</li> <li>• Introduction to Creating functions and Procedures in VBA.</li> <li>• Using the built in functions.</li> <li>• Introduction to Object Oriented Programming Concepts. Concepts of Classes, Objects, Properties and Methods.</li> <li>• The user forms and control in Excel VBA.</li> <li>• Introduction to Debugging Techniques.</li> </ul> |
| <p>42-45</p> | <p>Maintain accounts using accounting software.</p> | <p><b>Using Accounting Software</b></p> <p>121. Practice Basic accounting with tally interface. (12 Hrs)</p> <p>122. Create Company, Account and Voucher entry in Tally. (12 Hrs)</p> <p>123. Generate reports for Invoice, Bill, Profit &amp; Loss account etc. (10 Hrs)</p> <p>124. Perform Cost Centre &amp; Cost Category management. (12 Hrs)</p>   | <p><b>Using Accounting Software</b></p> <ul style="list-style-type: none"> <li>• Basics of Accounting, Golden Rules of Accounting, Voucher Entry, Ledger Posting, Final Accounts Preparation.</li> <li>• Cash Book. Ratio Analysis, Depreciation, Stock Management.</li> <li>• Analysis of VAT, Cash Flow, Fund Flow Accounting.</li> <li>• Introduction to Tally,</li> </ul>  |



|    |   |  |   |
|----|---|--|---|
|    |   | <p>125. Create and manage budgeting systems. (12 Hrs)</p> <p>126. Create Scenario and Variance Analysis. (8 Hrs)</p> <p>127. Use Tally for Costing, Ratio Analysis, Cash flow and Funds flow statements. (12 Hrs)</p> <p>128. Analyze and Manage Inventory control. (10 Hrs)</p> <p>129. Perform Point of Sales and Taxation (VAT, Excise, Service Tax). (8 Hrs)</p> <p>130. Perform System Administration and use other Utilities. (8 Hrs)</p> <p>131. Create users, take Backup &amp; Restore of Company. (8 Hrs)</p> <p>132. Use Multilingual Functionality in Tally. (8 Hrs)</p> | <p>features and Advantages.</p> <ul style="list-style-type: none"> <li>• Implementing accounts in Tally.</li> <li>• Double entry system of book keeping.</li> <li>• Budgeting Systems, Scenario management and Variance Analysis.</li> <li>• Costing Systems, Concepts of Ratios, Analysis of financial statements.</li> <li>• Inventory Basics, POS Invoicing, TDS, TCS, FBT, VAT &amp; Service Tax.</li> <li>• Tally Interface in Different Languages.</li> </ul> |
| 46 | Browse, select and transact using E-commerce websites             | <p><b>E Commerce</b></p> <p>133. Browse E-commerce websites viz. ebay, Amazon, flipkart, OLX, quikr etc. and prepare comparative statement of the main features of these sites. (8 Hrs)</p> <p>134. Upload products for selling in E-Commerce Sites and make online purchase from E Commerce sites.(14 Hrs)</p> <p>135. Manage security issues in E-Commerce and payment operations. (8 Hrs)</p>   | <p><b>E Commerce Concepts</b></p> <ul style="list-style-type: none"> <li>• Introduction to E-Commerce and advantages.</li> <li>• Building business on the net.</li> <li>• Payment and Order Processing, Authorization, Chargeback and other payment methods.</li> <li>• Security issues and payment gateways.</li> </ul>  |
| 47 | Secure information from Internet by using cyber security concept. | <p><b>Cyber Security:</b></p> <p>136. Protect information, computers and networks from viruses, spyware and other malicious code. (3 Hrs)</p> <p>137. Provide firewall security for Internet connection and Network System. (6 Hrs)</p> <p>138. Protect the computer against various internet threats. (3 Hrs)</p> <p>139. Make backup copies of important file, data and</p>  | <p><b>Cyber Security:</b></p> <ul style="list-style-type: none"> <li>• Overview of Information Security, SSL, HTTPS, Security threats, information Security vulnerability and Risk management.</li> <li>• Introduction to Directory Services, Access Control, Security, Privacy protection, Audit and Security.</li> <li>• Introduction to IT Act and penalties for cyber crimes.</li> </ul>  |



|       |  |  |  |
|-------|--|--|--|
|       |  | <p>information. (3 Hrs)</p> <p>140. Secure your Wi-Fi networks using password, WEP, WPA-PSK, WPA2-PSK, SSID, MAC address filtering. Create individual user accounts for each member. (9 Hrs)</p> <p>141. Limit member access to data and information, and restrict authority to install unnecessary downloads. (6 Hrs)</p> |  |
| 48-49 | <b>Industrial Visit/Project work</b><br><b>Broad Area:</b> <ol style="list-style-type: none"> <li>Create and host a web site of atleast 6 web pages using JavaScript containing interactive objects, functions etc.</li> <li>Create a project with Excel &amp; VBA on Payroll Systems.</li> <li>Create a company in Tally and post vouchers in it for a financial period. Vouchers should contain purchase, sales with VAT, contra, payment, receipts, cost centre cost category etc.</li> </ol> |  |  |
| 50-51 | <b>Revision</b>  |  |  |
| 52    | <b>Examination</b>   |  |  |

**Note: -**

- Some of the sample project works (indicative only) are given at the mid and end of each year.
- Instructor may design their own project and also inputs from local industry may be taken for designing such new project.
- The project should broadly cover maximum skills in the particular trade and must involve some problem solving skill. Emphasis should be on Teamwork: Knowing the power of synergy/ collaboration, work to be assigned in a group (Group of at least 4 trainees). The group should demonstrate Planning, Execution, Contribution and Application of Learning. They need to submit Project report.
- If the instructor feels that for execution of specific project more time is required then he may plan accordingly in appropriate time during the execution of normal trade practical.



**9. SYLLABUS - EMPLOYABILITY SKILL**

| <b>Duration: 110 Hrs.</b>               |  |
|---|--|
| <b>1. English Literacy</b>              |  |
| <b>Duration : 20 hrs<br/>Marks : 09</b> |  |
| Pronunciation                           | Accentuation (mode of pronunciation) on simple words, Diction (use of word and speech)   |
| Functional Grammar                      | Transformation of sentences, voice change, change of tense, spellings.   |
| Reading                                 | Reading and understanding simple sentences about self, work and environment  |
| Writing                                 | Construction of simple sentences Writing simple English  |
| Speaking/ Spoken English                | Speaking with preparation on self, on family, on friends/ classmates, on known people, picture reading, gain confidence through role-playing and discussions on current happening job description, asking about someone's job, habitual actions. Cardinal (fundamental) numbers ordinal numbers. Taking messages, passing on messages and filling in message forms, greeting and introductions, office hospitality, resumes or curriculum vitae essential parts, letters of application reference to previous communication. |
| <b>2. IT Literacy</b>                   |  |
| <b>Duration : 20 hrs<br/>Marks : 09</b> |  |
| Basics of Computer                      | Introduction, computer and its applications, Hardware and peripherals, Switching on-Starting and shutting down computer.   |
| Computer Operating System               | Basics of Operating System, WINDOWS, User interface of Windows OS, Create, Copy, Move and delete Files and Folders, Use of External memory like pen drive, CD, DVD etc., Use of common applications.   |
| Word Processing and Worksheet           | Basic operating of Word Processing, Creating, opening and closing documents, Use of shortcuts, Creating and Editing Text, Formatting the text, Insertion & creation of tables. Printing document.<br>Basics of Excel worksheet, understanding basic commands, creating simple worksheets, understanding sample worksheets, use of simple formulas and functions, Printing of simple excel sheets.  |
| Computer Networking and Internet        | Basic of computer Networks (using real life examples), Definitions of Local Area Network (LAN), Wide Area Network (WAN), Internet, Concept of Internet (Network of Networks), Meaning of World Wide Web (WWW), Web browser, Website, Web page and Search Engines. Accessing the Internet using web browser, Downloading and printing web pages, Opening an email account and   |



|  |  |
|--|--|
|  | use of email. Social media sites and its implication.<br>Information Security and antivirus tools, Do's and Don'ts in Information Security, Awareness of IT - ACT, types of cyber crimes.  |
| <b>3. Communication Skills</b>           |  |
|  | <b>Duration : 15 hrs</b><br><b>Marks : 07</b>  |
| Introduction to Communication Skills     | Communication and its importance<br>Principles of Effective communication<br>Types of communication - verbal, non verbal, written, email, talking on phone.<br>Non-verbal communication-characteristics, components-Para-language<br>Body language<br>Barriers to communication and dealing with barriers.<br>Handling nervousness/ discomfort.      |
| Listening Skills                         | Listening-hearing and listening, effective listening, barriers to effective listening, guidelines for effective listening.<br>Triple- A Listening - Attitude, Attention & Adjustment.<br>Active Listening Skills.  |
| Motivational Training                    | Characteristics essential to achieving success.<br>The power of positive attitude.<br>Self awareness<br>Importance of commitment<br>Ethics and values<br>Ways to motivate oneself.<br>Personal goal setting and employability planning.  |
| Facing Interviews                        | Manners, etiquettes, dress code for an interview.<br>Do's & Don'ts for an interview.   |
| Behavioral Skills                        | Problem solving, confidence building, attitude.  |
| <b>4. Entrepreneurship Skills</b>        |  |
|  | <b>Duration : 15 hrs</b><br><b>Marks : 06</b>  |
| Concept of Entrepreneurship              | Entrepreneur - Entrepreneurship - Enterprises:Conceptual issue<br>Entrepreneurship vs. management, Entrepreneurial motivation.<br>Performance & Record, Role & Function of entrepreneurs in relation to the enterprise & relation to the economy, Source of business ideas, Entrepreneurial opportunities, and the process of setting up a business. |
| Project Preparation & Marketing Analysis | Qualities of a good Entrepreneur, SWOT and Risk Analysis. Concept & application of PLC, Sales & distribution management.<br>Difference between small scale & large scale business, Market  |



|   |   |
|---|---|
|   | survey, Method of marketing, Publicity and advertisement, Marketing mix.  |
| Institution's Support   | Preparation of project. Role of various schemes and Institutes for self-employment i.e. DIC, SIDA, SISI, NSIC, SIDO, Idea for financing/ non-financing support agencies to familiarize with the Policies/Programmes & procedure & the available scheme. |
| Investment Procurement  | Project formation, feasibility, Legal formalities i.e., Shop Act, Estimation & costing, Investment procedure - Loan procurement - Banking processes.  |
| <b>5. Productivity</b>  |   |
| <b>Duration : 10 Hrs.<br/>Marks : 05</b>                        |   |
| Benefits  | Personal/ Workman - Incentive, Production linked Bonus, Improvement in living standard.   |
| Affecting Factors   | Skills, Working Aids, Automation, Environment, Motivation- How it improves or slows down productivity.  |
| Comparison with Developed Countries                             | Comparative productivity in developed countries (viz. Germany, Japan and Australia) in selected industries e.g. Manufacturing, Steel, Mining, Construction etc. Living standards of those countries, wages.   |
| Personal Finance Management                                     | Banking processes, Handling ATM, KYC registration, Safe cash handling, Personal risk and insurance.   |
| <b>6. Occupational Safety, Health and Environment Education</b> |   |
| <b>Duration : 15 hrs<br/>Marks : 06</b>                         |   |
| Safety & Health   | Introduction to occupational safety and health importance of safety and health at workplace.  |
| Occupational Hazards  | Basic Hazards, Chemical Hazards, Vibroacoustic Hazards, Mechanical Hazards, Electrical Hazards, Thermal Hazards. Occupational health, Occupational hygiene, Occupational Diseases/ Disorders & its prevention.  |
| Accident & Safety   | Basic principles for protective equipment.<br>Accident prevention techniques - control of accidents and safety measures.  |
| First-Aid   | Care of injured & sick at the workplaces, First-Aid & Transportation of sick person.  |
| Basic Provisions  | Idea of basic provision legislation of India.<br>Safety, health, welfare under legislative of India.  |
| Ecosystem   | Introduction to Environment. Relationship between society and   |



|                                      |  |
|--------------------------------------|--|
|                                      | environment, Ecosystem and factors causing imbalance.  |
| Pollution                            | Pollution and pollutants including liquid, gaseous, solid and hazardous waste.   |
| Energy Conservation                  | Conservation of energy, re-use and recycle.  |
| Global Warming                       | Global warming, climate change and Ozone layer depletion.  |
| Ground Water                         | Hydrological cycle, Ground and surface water, Conservation and Harvesting of water.  |
| Environment                          | Right attitude towards environment, Maintenance of in-house environment.   |
| <b>7. Labour Welfare Legislation</b> |  |
| <b>Duration : 05 hrs</b>             |  |
| <b>Marks : 03</b>                    |  |
| Welfare Acts                         | Benefits guaranteed under various acts- Factories Act, Apprenticeship Act, Employees State Insurance Act (ESI), Payment Wages Act, Employees Provident Fund Act, The Workmen's Compensation Act.   |
| <b>8. Quality Tools</b>              |  |
| <b>Duration : 10 hrs.</b>            |  |
| <b>Marks : 05</b>                    |  |
| Quality Consciousness                | Meaning of quality, Quality characteristic.  |
| Quality Circles                      | Definition, Advantage of small group activity, Objectives of quality circle, Roles and function of quality circles in organization, Operation of quality circle. Approaches to starting quality circles, Steps for continuation quality circles. |
| Quality Management System            | Idea of ISO 9000 and BIS systems and its importance in maintaining qualities.  |
| House Keeping                        | Purpose of House-keeping, Practice of good housekeeping.   |
| Quality Tools                        | Basic quality tools with a few examples.   |

**ANNEXURE-I**

| <b>LIST OF TOOLS &amp; EQUIPMENT</b>  |  |  |                 |
|---|--|--|-----------------|
| <b>COMPUTER OPERATOR AND PROGRAMMING ASSISTANT</b><br><b>(for Batch of 24 Candidates)</b> |  |  |                 |
| <b>S No.</b>  | <b>Name of the Tools and Equipment</b> | <b>Specification</b>   | <b>Quantity</b> |
| <b>A. Trainees Tools/ Equipment</b>   |  |  |                 |
| 1.  | Desktop Computer                       | CPU: 32/64 Bit i3/i5/i7 or latest processor, Speed: 3 GHz or Higher. Cache Memory: - Minimum 3 MB or better. RAM:-8 GB DDR-III or Higher. Hard Disk Drive: 500GB or Higher, 7200 rpm(minimum) or Higher, Wi-Fi Enabled. Network Card: Integrated Gigabit Ethernet(10/100/1000) - Wi-Fi, USB Mouse, USB Keyboard and Monitor (Min. 17 Inch), Standard Ports and connectors. DVD Writer, Speakers And Mic. Licensed Windows Operating System / OEM Pack(Preloaded), Antivirus / Total Security | *12 Nos.        |
| 2.  | Laptop                                 | 4 <sup>th</sup> Gen Ci5 or higher Processor, 4GB RAM, 1TB Hard Disk, Win8/latest Preloaded Licensed OS, 2GB Graphics Card, DVD Writer, Standard Ports And Connectors.  | 01 No.          |
| 3.  | Wi-Fi Router                           | With Wireless Connectivity   | 01 No.          |
| 4.  | Switch                                 | 24 Port  | 01 No.          |
| 5.  | Structured cabling in Lab              | to enable working with Wired Networks for Practical  | As required     |
| 6.  | Internet Connectivity                  | Broadband connection with min. 2 mbps speed  | As required     |
| 7.  | Registered Domain                      | at least 100 MB Web Space  | As required     |
| 8.  | Laser Printer                          | Colour A4 Size   | 01 No.          |
| 9.  | Network Laser Printer                  | Monochrome A4 Size   | 01 No.          |
| 10.   | Optical Scanner                        | Flatbed A4   | 01 No.          |
| 11.   | Digital Web Cam                        | High Resolution(3.1 mp or higher)  | 04 Nos.         |
| 12.   | DVD or Blu-Ray Writer                  | 24X or higher external (usb)   | 02 Nos.         |



|     |  |  |         |
|-----|--|--|---------|
| 13. | LCD Projector                                | 3000 lumens or higher                      | 01 No.  |
| 14. | Projector Screen                             | matte(antiglare) screen                    | 01 No.  |
| 15. | Online UPS                                   | 3KVA                                       | 02 Nos. |
| 16. | Crimping Tool                                | RJ-45                                      | 05 Nos. |
| 17. | Network Rack                                 | 4U for 24 port                             | 01 No.  |
| 18. | Digital Multimeters                          | 3.5 digit handheld type.                   | 04 Nos. |
| 19. | Screw Driver Set                             | Standard                                   | 04 Sets |
| 20. | Mini Dongle for Bluetooth devices Connection | USB  | 04 Nos. |
| 21. | Headphone & mic. set                         | Wired                                      | 05 Nos. |
| 22. | Sound System                                 | 2:1  | 01 No.  |
| 23. | External Hard Disk                           | 1 TB                                       | 02 Nos. |
| 24. | Patch Panel                                  | 24 Port                                    | 02 Nos. |
| 25. | LAN Tester                                   | UTP cat5 cable tester (RJ 45)              | 05 Nos. |
| 26. | Punching Tool                                | for punching RJ 45 socket with cat 5 cable | 05 Nos. |

**B. Software**

|     |   |  |                                   |
|-----|---|--|-----------------------------------|
| 27. | MS Office   | 2010 (professional) or the latest version available at the time of procurement   | *13 Licenses                      |
| 28. | Antivirus for – clients / workstations in profile | validity of an year or more which should be renewed upon expiry  | *13 Licenses                      |
| 29. | Open Office or equivalent                         | Latest version   | Open source software              |
| 30. | GIMP / IrfanView Image editor or equivalent       | Latest version   | Open source software              |
| 31. | LINUX OS  | Latest version   | Open source software              |
| 32. | Web Authoring tool                                | WYSIWYG Web Authoring tool- Dreamweaver or Open Source tools like Kompozer, FrontPage or similar tools along with FTP tools for ex. Filezilla etc. | Proprietary /Open source software |
| 33. | Tally   | ERP 9 or Latest  | *13 Licenses                      |
| 34. | E Commerce Simulation Software                    | Latest version   | Open source software              |
| 35. | Web Server  | HTTP Web server / XAMPP or any other   | Open source                       |



|   |  |   |                                      |
|---|--|---|--------------------------------------|
|   |  | similar server  | software                             |
| <b>C. List Of Other Items/Furniture</b> |  |   |                                      |
| 36.                                     | Vacuum cleaner                             | Hand Held   | 01 No.                               |
| 37.                                     | Pigeon hole cabinet                        | 20 compartments   | 01 No.                               |
| 38.                                     | Chair and table for the instructor         | with armrest mounted on castor wheels, adjustable height/Standard                     | 01 each(for class room & laboratory) |
| 39.                                     | Dual Desk or Chair and Tables for Trainees | Standard  | *12 / 24 Nos.                        |
| 40.                                     | Computer table                             | laminated top 150X650X750 mm with sliding tray for key board and one shelf of storage | *12 Nos.                             |
| 41.                                     | Operators chair                            | without arms mounted on castor wheels, adjustable height                              | *24 Nos.                             |
| 42.                                     | Printer table                              | 650X500X750 mm can be varied as per local specifications                              | 03 Nos.                              |
| 43.                                     | Air conditioner                            | Split type 1.5 tons   | 03 Nos.                              |
| 44.                                     | Storage cabinet                            | 60X700X450mm  | 01Nos.                               |
| 45.                                     | White Board                                | minimum 4X6 feet  | 01 No.                               |
| 46.                                     | Steel Almirah                              | 2.5 m x 1.20 m x 0.5 m  | 01 No.                               |
| 47.                                     | Fire Extinguisher CO2                      | 2 KG  | 02 Nos.                              |
| 48.                                     | Fire Buckets                               | Standard size   | 02 Nos.                              |
| <b>D. Raw Materials</b>                 |  |   |                                      |
| 49.                                     | White Board Marker                         | Assorted colour   | As required                          |
| 50.                                     | Duster Cloth                               | 2'/2'   | As required                          |
| 51.                                     | Cleaning Liquid                            | 500 ml  | As required                          |
| 52.                                     | Photo Copy Paper                           | A4  | As required                          |
| 53.                                     | Full Scape Paper                           | White   | 02 reams                             |
| 54.                                     | Cartridges for printer                     | Colour/monochrome as per model of the printer   | As required                          |
| 55.                                     | I/O Box with socket                        | RJ 45   | As required                          |
| 56.                                     | RJ 45 connector                            | For connecting utp cat 5 cable  | 200 Pcs.                             |
| 57.                                     | Optical Mouse                              | USB/PS2   | As required                          |
| 58.                                     | Key Board                                  | USB/PS2   | As required                          |
| 59.                                     | SMPS                                       | 12V DC  | As required                          |
| 60.                                     | CMOS Batteries                             | 3.0 V   | As required                          |
| 61.                                     | Power Chord                                | 3 Pin   | As required                          |
| 62.                                     | Cable                                      | Cat 5/5e  | 100 meter                            |



### Computer Operator and Programming Assistant

|     |                        |                         |             |
|-----|------------------------|-------------------------|-------------|
| 63. | Stapler                | Small                   | 02 pcs.     |
| 64. | Stapler                | Big                     | 01 pcs.     |
| 65. | Battery for remote     | AAA                     | As required |
| 66. | Battery for clock      | AA                      | As required |
| 67. | Pen drive              | 8 GB                    | 02 Nos.     |
| 68. | CDs                    | 52x or higher           | 50 Nos      |
| 69. | DVDs                   | 4.7GB or higher         | 50 Nos.     |
| 70. | Wall Clock             | Analog                  | 01 pcs.     |
| 71. | Battery for LAN tester | 9 V                     | As required |
| 72. | Power Adapter          | For Hub, Switch, Router | As required |

**Note: -**

1. All the tools and equipment are to be procured as per BIS specification.
2. Quantity marked with \* has been increased as per the batch size.
3. Internet facility is desired to be provided in the class room.



# Skill India

कौशल भारत - कुशल भारत



FORMAT FOR INTERNAL ASSESSMENT

|                                     |                                 |                        |                                     |   |                         |   |                          |   |                             |                  |                                     |      |                                 |              |
|-------------------------------------|---------------------------------|------------------------|-------------------------------------|---|-------------------------|---|--------------------------|---|-----------------------------|------------------|-------------------------------------|------|---------------------------------|--------------|
| Name & Address of the Assessor:     |                                 |                        | Year of Enrollment:                 |   |                         |   |                          |   |                             |                  |                                     |      |                                 |              |
| Name & Address of ITI (Govt./Pvt.): |                                 |                        | Date of Assessment:                 |   |                         |   |                          |   |                             |                  |                                     |      |                                 |              |
| Name & Address of the Industry:     |                                 |                        | Assessment location: Industry / ITI |   |                         |   |                          |   |                             |                  |                                     |      |                                 |              |
| Trade Name:                         |                                 | Examination:           |                                     | Duration of the Trade/course:                   |                         |   |                          |   |                             |                  |                                     |      |                                 |              |
| Learning Outcome:                   |                                 |                        |                                     |   |                         |   |                          |   |                             |                  |                                     |      |                                 |              |
| S No.                               | Maximum Marks (Total 100 Marks) |                        | 15                                  | 5   | 10                      | 5   | 10                       | 10  | 5                           | 10               | 15                                  | 15   | Total Internal Assessment Marks | Result (Y/N) |
|                                     | Candidate Name                  | Father's/Mother's Name | Safety Consciousness                | Workplace Hygiene & Economical use of materials | Attendance/ Punctuality | Ability to follow Manuals/ Written instructions | Application of Knowledge | Skills to Handle Tools/ Equipment/ Instruments/ Devices | Economical use of Materials | Working Strategy | Quality in Workmanship/ Performance | VIVA |                                 |              |
| 1                                   |                                 |                        |                                     |   |                         |   |                          |   |                             |                  |                                     |      |                                 |              |
| 2                                   |                                 |                        |                                     |   |                         |   |                          |   |                             |                  |                                     |      |                                 |              |