**CERTIFICATE PROGRAM IN AUTOMOTIVE MANUFACTURING JOB ROLES**

**UNDER**

**RECRUIT-TRAIN- DEPLOY (RTD) MODEL SCHEME**

**OF**

**BIHAR SKILL DEVELOPMENT MISSION (2018-22)**

**FOR**

**QC Inspector Level 4**

It’s Objective, learning outcomes, Modules, assessments and material list

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| Submitted to **:-**  **BIHAR SKILL DEVELOPMENT MISSION (BSDM)** | Submitted By **:-**  **UDYAMI SAHYOG PARISHAD**  **(IN CONSORTIUM WITH VGR ENGINEERING SERVICES PVT. LTD AND EAKTA ENTERPRISES)** |
| Session: FY 2018-19 |

**CONTACT DETAILS OF THE BODY SUBMITTING THE QUALIFICATION FILE**

**Name and address of submitting body:**

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**SUMMARY**

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| **Qualification Title** | **Certificate in QC Inspector Level 4** |
| **Qualification Code** | **USP6303** |
| **Duration of the Course** | **3 Months** |
| **Nature and purpose of the qualification** | **Nature**  Technical Training  **Purpose**  To prepare Skilled Industrial workforce through Skill Development Program and Livelihood generation for youths |
| **Body/bodies which will award the qualification** | BSDM, Udyami Sahyog Parishad and Employer Jointly |
| **Occupation(s) to which the qualification gives access** | Automotive Manufacturing- Quality Control and Quality Inspection Department and Job roles of Quality Inspector for Incoming, In-process, Out going and Final Inspection of Raw Material, Product |
| **Entry requirements and / or recommendations** | Minimum Educational Qualification: ITI – Mechanical/Electrical/Electronics Engg.  Age 18 years to 35 years |

1. **OBJECTIVE OF THE COURSE: -**

This job requires the individual to be able to coordinate internally and externally within the organization. The individual should be result oriented and possess strong quality management skills. The individual should also be able to demonstrate skills for mathematical reasoning, problem solving, relationship building and leadership.

1. **LEARNING OUTCOMES :-**

* **Industrial System Mandatory Training Content-**

1. Industrial Working environment awareness and knowledge
2. Job role & responsibility
3. System, machine, mechanism knowledge
4. IMTE (Inspection, measuring and test equipment) knowledge
5. Health Safety Environment (HSE)- 5S, PPE, Fire & Safety and First- Aid Knowledge
6. Lean Manufacturing Technology (Poka-Yoke, Kaizen)
7. Engineering/Industrial documentation and standards (SPC, FMEA, APQP, PPAP,7QC)
8. Industrial/Engineering drawing study
9. Motivation, Behavioral and communication skills
10. Inter departmental activities
11. Practical exposer and real time On-Job-Training (OJT)
12. **Domain Training Content-**
13. Types of manufacturing processes used
14. Product portfolio of organization
15. The manufacturing processes of organization
16. Material classification criteria followed by organization
17. Policies and procedures for storage and preservation of materials
18. TS-16949/any other QMS system guidelines followed in the organization
19. New Process/Product development protocol and methodology
20. Inspection checkpoints NPD, Production, Dock Audit etc.
21. Problem solving &analysis tools like 8Ds,5 why analysis etc.
22. Calibrations Techniques, Gauges R-R
23. RCA analysis techniques
24. NC report format
25. Rejection / Inspection reports
26. Prepare the PFMEA, CP and all the required process documentation
27. Resource &information systems like SAP, ERP etc.
28. Usage of various business correspondence tools like email, MS office tools (word, excel, power point) etc.
29. **MODULE- THREE MONTHS (CERTIFICATE PROGRAM IN MANUFACTURING JOB ROLES)**

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| **DURATION :- THREE MONTHS**  **CERTFICATE PROGRAM IN MANUFACTURING JOB ROLES** | | | | | | |
| **MODULE CODE & NAMES** | | **Code :- USP6303**  **Module :-** BSDM (QC Inspector Level 4) | | | | |
| **RATIONALE & OBJECTIVE OF THE MODULES** | | This job requires the individual to be able to coordinate internally and externally within the organization. The individual should be result oriented and possess strong quality management skills. The individual should also be able to demonstrate skills for mathematical reasoning, problem solving, relationship building and leadership. | | | | |
| **MODULE COMPETENCE** | | QC Inspector at this job need to be responsible for the quality inspection of the manufactured products in order to deliver high quality to customers. After completion of training our placement cell will provide job opportunity in Corporate/Manufacturing Company/Unit. | | | | |
| **MODE OF DELIVERY** | | Theory, Practical & OJT | | | | |
| **Sr. N.** | **ELEMENTS/TOPICS** | | | **PERIOD** | **DAYS** |
| **1** | **AWARENESS OF INDUSTRIAL CULTURE/ SYSTEMS, JOB ROLES AND RESPONSIBILITIES** | | | 10 DAYS | |
|  |  | | 1.1 Types of Industries |
|  |  | | 1.2 Types of industrial workings |  |  |
|  |  | | 1.3 Industrial working Hierarchy |  |  |
|  |  | | 1.4 Job Roles, Behavior and Motivation |  |  |
|  |  | | 1.5 Job Responsibilities |  |  |
|  |  | | 1.5 Career selection, Livelihood generation |  |  |
|  |  | | 1.6 Career Growth through Loyalty, Hard work |  |  |
|  |  | |  |  |  |
| **2** | **QUALITY PROCESS AND TECHNIQUES** | | |  |  |
|  |  | | 2.1 Understand the right quality methodology and process | 20 DAYS | |
|  |  | | 2.2 Understand the material required and the equipment availability |
|  |  | | 2.3 Clearly understanding the does and don’ts of the manufacturing process, root cause and analysis |  |  |
|  |  | | 2.4 SOPs/ Work Instructions |  |  |
|  |  | |  |  |  |
| **3** | **5-S, ENVIRONMENT, HEALTH AND SAFETY AWARENESS** | | |  |  |
|  |  | | 3.1 Understand 5 S and Safety related aspects related to the work station, quality line | 8 DAYS | |
|  |  | | 3.2 Hazards and safety aspects involved in quality activities and usage of relevant PPEs |
|  |  | |  |  |  |
| **4** | **MAN, MATERIAL, MACHINE, METHOD, STANDARDS AND DOCUMENTATIONS** | | |  |  |
|  |  | | 4.1 Team work and inter departmental co-ordinations | 20 DAYS | |
|  |  | | 4.2 Understand mechanical, machining, welding and drawing symbols used in the quality process |
|  |  | | 4.3 Plan and organize the design/ process/quality documents received from internal customers |  |  |
|  |  | | 4.4 Sort the tools/ equipment/ fasteners/ spare parts as per specifications/ utility into proper trays, cabinets, lockers as mentioned in the 5S guidelines/ work instructions |  |  |
|  |  | | 4.5 Understanding of machines, systems behavior and working principles with knowledge of parts |  |  |
|  |  | | 4.6 Quality check points |  |  |
|  |  | | 4.7 Equipment manuals and process documents to understand the equipment and processes better |  |  |
|  |  | | 4.8 Material knowledge and behavior |  |  |
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| **5** | **INSPECTION, MEASURING, TESTING EQUIPMENTS KNOWLEDGE AND USES** | | | 20 DAYS | |
|  |  | | 5.1 The method of reading and interpreting the various gauges |
|  |  | | 5.2 Concerned quality instruments use, observations on parts and recording of readings |  |  |
|  |  | | 5.3 Preparing inspection sheet |  |  |
|  |  | | 5.4 Defect observations |  |  |
|  |  | | 5.5 Poka-Yoke and Kaizens |  |  |
|  |  | | 5.6 Drawing study and readings |  |  |
|  |  | | 5.7 Limit samples |  |  |
|  |  | | 5.8 Finishing operations and final packing |  |  |
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| **6** | **ASSESSMENT/ TESTS, ASSIGNMENTS/ PROJECT** | | |  |  |
|  |  | | 6.1 Weekly test on theory contents | 12 DAYS | |
|  |  | | 6.2 Weekly Assignments/Projects |
|  |  | | 6.3 Workshop during each day Practical |  |  |
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1. **ASSESSMENT / EXAMINATION**

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| **1** | **BASIC/INTERNAL ASSESSMENT** | (During Training period stages) | **P/T** | **MARKS** |
|  |  | 1. Assignment to make an assembly as per spec. by various given child parts | P |  |
|  |  | 1. Internal assessment test as per theory contents learned | T |  |
| **2** | **FINAL PROJECT PRESENTATION** | (Final stage of completion of session) |  |  |
|  |  | 1. Display & Submission of Assignments | P |  |
|  |  | 1. Final test on complete Assembly techniques | T |  |

1. **Material List**

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| **TEACHING & TRAINING AIDES/ INSTRUMENTS/ MACHINES etc.** | Laptop, White Board, Marker, Projector, Stationary, Hand Tools , Drilling M/c, Pneumatic Tools, Torque Ranch, Gauges(Height gauge, Bore gauge, Depth gauge, Ring gauge,) CMM, Profile Projector, Weld Penetration Testing set(Cutting Machine, Polishing Machine, Penetration Instrument),Nugget Testing Profile, Vernier Caliper, Micrometer, PPE (Personal Protective Equipments), First Aid Kit, Fire Extinguishers, Operating Manuals, Work Instruction SOP's, Jigs & Fixtures, Grinding Machine, Bench Vice, V-Block, Clamps, Try Square, Combination Square, Dividers, Bevel Protector, Surface Plate, Hacksaw Frame Adjustable, Files Collets, Drills and Taps, End Mills, Ball Peen Hammer, Adjustable Wrench, Screw Driver Set, Pliers, Cutters, Allen Key, Spanner Set, Spindle Key, Drill Vice, Machinist Vice, Hand Vice, Vice Grip, Pliers, Leather Safety Gloves, Leather Aprons, Safety Glasses, safety helmets, Ear Plug, Safety Shoes, Cleaning Agents, Cleaning Cloth, Waste Container, Dust Pan, Brush Set, Liquid Soap, Hand Towel |