



QUALIFICATION FILE

PROJECT COORDINATOR (CONSTRUCTION)

Short Term Training (STT) Long Term Training (LT) Apprenticeship

Upskilling Dual/Flexi Qualification For ToT For ToA

General Multi-skill (MS) Cross Sectoral (CS) Future Skills OEM

NCrF/NSQF Level: 5.5

Submitted By:

MSME TECHNOLOGY CENTRE

O/o DC MSME, Ministry of Micro, Small and Medium Enterprises

Govt. of India

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Section 1: Basic Details

| 1. | Qualification Name | PROJECT COORDINATOR (CONSTRUCTION) | | | | | | | | | | |
|--------|---|---|---|--------|---|--|---|--|-----|---|--|-----|
| 2. | Sector/s | Construction | | | | | | | | | | |
| 3. | Type of Qualification: <input checked="" type="checkbox"/> New <input type="checkbox"/> Revised <input type="checkbox"/> Has Electives/Options <input type="checkbox"/> OEM | NQR Code & version of existing/previous qualification: (<i>change to previous, once approved</i>) QG-5.5-CO-02392-2024-V1-MSME | Certificate Course in Structural Analysis and Project Management (CCSPM) | | | | | | | | | |
| 4. | a. OEM Name b. Qualification Name (<i>Wherever applicable</i>) | NA - | | | | | | | | | | |
| 5. | National Qualification Register (NQR) Code & Version (<i>Will be issued after NSQC approval</i>) | QG-5.5-CO-02392-2024-V1-MSME | 6. NCrF/NSQF Level: 5.5 | | | | | | | | | |
| 7. | Award (Certificate/Diploma/Advance Diploma/ Any Other (<i>Wherever applicable specify multiple entry/exits also & provide details in annexure</i>) | Certificate | | | | | | | | | | |
| 8. | Brief Description of the Qualification | Learners who attain this qualification are competent in Civil Construction work and can get a job in a captive or commercial construction work or become an entrepreneur and Qualifying learners shall be able to : <ul style="list-style-type: none"> • Work in Auto-CAD, STADD. Pro, 3Ds-Max & Sketch-Up, Estimation & Costing, Advance Survey, Soft Skill, Revit, Tekla, Arc-GIS, Primavera, Advance Road Design & Material Testing. • Carry out structural planning & designing, interior & exterior designing, estimation and costing related to constructional work. • Design civil constructional work by considering the strength of civil construction. • Coordinate the project management in different project works. | | | | | | | | | | |
| 9. | Eligibility Criteria for Entry for Student/Trainee/Learner/Employee | a) Entry Qualification & Relevant Experience: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; padding: 5px;">S. No.</th> <th style="text-align: center; padding: 5px;">Academic/Skill Qualification (with Specialization - if applicable)</th> <th style="text-align: center; padding: 5px;">Required Experience (with Specialization - if applicable)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center; padding: 5px;">1</td> <td style="text-align: center; padding: 5px;">3 year diploma in Civil Engineering or equivalent after 10th Grade</td> <td style="text-align: center; padding: 5px;">1.5</td> </tr> <tr> <td style="text-align: center; padding: 5px;">2</td> <td style="text-align: center; padding: 5px;">2nd year of B.E/ B. Tech (Civil Engineering)</td> <td style="text-align: center; padding: 5px;">Nil</td> </tr> </tbody> </table> b) Age: 18 Years | | S. No. | Academic/Skill Qualification (with Specialization - if applicable) | Required Experience (with Specialization - if applicable) | 1 | 3 year diploma in Civil Engineering or equivalent after 10th Grade | 1.5 | 2 | 2nd year of B.E/ B. Tech (Civil Engineering) | Nil |
| S. No. | Academic/Skill Qualification (with Specialization - if applicable) | Required Experience (with Specialization - if applicable) | | | | | | | | | | |
| 1 | 3 year diploma in Civil Engineering or equivalent after 10th Grade | 1.5 | | | | | | | | | | |
| 2 | 2nd year of B.E/ B. Tech (Civil Engineering) | Nil | | | | | | | | | | |

| 10. | Credits Assigned to this Qualification, Subject to Assessment (as per National Credit Framework (NCrF)) | 40 | 11. Common Cost Norm Category (I/II/III) (wherever applicable): I | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|---|---|--|-------------------------|---------------|--|-------------------------|----------------|-------------------|-----------------------|-------------------------|---------------|---------------------|-----|-----|-----|--|------|--------|-----|--|--|--|-----|--------------|------------|------------|------------|--|-------------|
| 12. | Any Licensing requirements for Undertaking Training on This Qualification (wherever applicable) | NA | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13. | Training Duration by Modes of Training Delivery (Specify Total Duration as per selected training delivery modes and as per requirement of the qualification) | <input type="checkbox"/> Offline <input type="checkbox"/> Online <input checked="" type="checkbox"/> Blended <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Training Delivery Modes</th> <th>Theory (Hours)</th> <th>Practical (Hours)</th> <th>OJT Mandatory (Hours)</th> <th>OJT Recommended (Hours)</th> <th>Total (Hours)</th> </tr> </thead> <tbody> <tr> <td>Classroom (Offline)</td> <td>288</td> <td>600</td> <td>120</td> <td></td> <td>1008</td> </tr> <tr> <td>Online</td> <td>192</td> <td></td> <td></td> <td></td> <td>192</td> </tr> <tr> <td>Total</td> <td>480</td> <td>600</td> <td>120</td> <td></td> <td>1200</td> </tr> </tbody> </table> <p>(Refer Blended Learning Annexure for details)</p> | | | | | Training Delivery Modes | Theory (Hours) | Practical (Hours) | OJT Mandatory (Hours) | OJT Recommended (Hours) | Total (Hours) | Classroom (Offline) | 288 | 600 | 120 | | 1008 | Online | 192 | | | | 192 | Total | 480 | 600 | 120 | | 1200 |
| Training Delivery Modes | Theory (Hours) | Practical (Hours) | OJT Mandatory (Hours) | OJT Recommended (Hours) | Total (Hours) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Classroom (Offline) | 288 | 600 | 120 | | 1008 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Online | 192 | | | | 192 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total | 480 | 600 | 120 | | 1200 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14. | Aligned to NCO/ISCO Code/s (if no code is available mention the same) | 2142.0300 (Civil Engineer, Structural) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15. | Progression path after attaining the qualification (Please show Professional and Academic progression) | Professional / Career Progress: Deputy Project Manager | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16. | Other Indian languages in which the Qualification & Model Curriculum are being submitted | Hindi | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17. | Is similar Qualification(s) available on NQR-if yes, justification for this qualification | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No URLs of similar Qualifications: | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18. | Is the Job Role Amenable to Persons with Disability | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If "Yes", specify applicable type of Disability: As per Govt. norms. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19. | How Participation of Women will be Encouraged | Seats are reserved as per Govt. Norms | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20. | Are Greening/ Environment Sustainability Aspects Covered (Specify the NOS/Module which covers it) | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No The said aspect is covered in the module name "Employability Skills" | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21. | Is Qualification Suitable to be Offered in Schools/Colleges | Schools <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Colleges <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | |
|-----|--|--|--|
| 22. | Name and Contact Details of Submitting / Awarding Body SPOC <i>(In case of CS or MS, provide details of both Lead AB & Supporting ABs)</i> | Name: Sh. Vijay Mahipatrao Bankar Contact No. +0755 3501078 Email-msmetcab@gmail.com | |
| 23. | Final Approval Date by NSQC: <i>30.04.2024</i> | 24. Validity Duration: 3 years | 25. Next Review Date : <i>30.04.2027</i> |

Section 2: Module Summary

NOS/s of Qualifications

(In exceptional cases these could be described as components)

Mandatory NOS/s:

Specify the training duration and assessment criteria at NOS/ Module level. For further details refer curriculum document.

SEMI

Th.-Theory **Pr.**-Practical **OJT**-On the Job **Man.**-Mandatory **Training** **Rec.**-Recommended **Proj.**-Project

| S. No | NOS/Module Name | NOS/ Module Code & Version (if applicable) | Core/ Non- Core | NCrF/NS QF Level | Credits as per NCrF | Training Duration (Hours) | | | | | Assessment Marks | | | | | Weightage (%) (if applicable) |
|--|---|--|-----------------|------------------|---------------------|---------------------------|-----|-----------|-----------|-------|------------------|-----|-------|------|-------|--------------------------------|
| | | | | | | Th. | Pr. | OJT- Man. | OJT- Rec. | Total | Th. | Pr. | Proj. | Viva | Total | |
| 1 | Sketch Architectural drawings, section view, 3D View | MSME/ PDSPM/01 | Core | 5.5 | 3 | 30 | 60 | | | 90 | 100 | 100 | | | 200 | |
| 2 | Analysis of structure & foundation with IS Code. | MSME/PDSPM /02 | Core | 5.5 | 3 | 30 | 60 | | | 90 | 100 | 100 | | | 200 | |
| 3 | Design exterior and interior, render, animation with 3DS Max & sketch up, create Color & shadow in Photoshop. | MSME/PDSPM /03 | Core | 5.5 | 3 | 30 | 60 | | | 90 | 100 | 100 | | | 200 | |
| 4 | Estimation of building with rate analysis of civil works. | MSME/PDSPM /04 | Core | 5.5 | 2 | 60 | - | | | 60 | 100 | | | | 100 | |
| 5 | Intro to surveying, leveling, types, GPS/DGPS function & uses. | MSME/PDSPM /05 | Core | 5.5 | 3 | 30 | 60 | | | 90 | 100 | 100 | | | 200 | |
| 6 | Employability Skills | MSME/ ES/04 | Non- Core | - | 4 | 120 | | | | 120 | 100 | | | | 100 | |
| Duration (in Hours) / Total Credit / Marks | | | | | 18 | 300 | 240 | | | 540 | 600 | 400 | | | 1000 | |

SEM II

Th.-Theory Pr.-Practical OJT-On the Job Man.-Mandatory Training Rec.-Recommended Proj.-Project

| S. No | NOS/Module Name | NOS/ Module Code & Version (if applicable) | Core/ Non-Core | NCrF /NSQ F Level | Credits as per NCrF | Training Duration (Hours) | | | | | Assessment Marks | | | | | |
|--|--|--|----------------|-------------------|---------------------|---------------------------|-----|----------|----------|-------|------------------|-----|-------|------|-------|-------------------------------|
| | | | | | | Th. | Pr. | OJT-Man. | OJT-Rec. | Total | Th. | Pr. | Proj. | Viva | Total | Weightage (%) (if applicable) |
| 1 | Carry out Architectural modeling, exterior and interior, render, and animation with Revit detailing. | MSME/PDSPM/06 | Core | 5.5 | 3 | 30 | 60 | | | 90 | 100 | 100 | | | 200 | |
| 2 | Demonstrate Tekla for steel, /concrete structure & bridge design with load application. | MSME/PDSPM/07 | Core | 5.5 | 3 | 30 | 60 | | | 90 | 100 | 100 | | | 200 | |
| 3 | Create types of topographical map through Arc-GIS software. | MSME/PDSPM/08 | Core | 5.5 | 3 | 30 | 60 | | | 90 | 100 | 100 | | | 200 | |
| 4 | Demonstrate the project, planning, & scheduling by using primavera. | MSME/PDSPM/09 | Core | 5.5 | 3 | 30 | 60 | | | 90 | 100 | 100 | | | 200 | |
| 5 | 2D/3D drafting including road C-section/I-section design, estimation. | MSME/PDSPM/10 | Core | 5.5 | 3 | 30 | 60 | | | 90 | 100 | 100 | | | 200 | |
| 6 | Explain Material Testing equipment for soil, aggregate, bitumen and steel. | MSME/PDSPM/11 | Non-Core | 5.5 | 3 | 30 | 60 | | | 90 | 100 | | | | 100 | |
| 7 | OJT | | Core | 5.5 | 4 | | | 120 | | 120 | | | | | | |
| Duration (in Hours) / Total Credit / Marks | | | | | 22 | 180 | 360 | 120 | | 660 | 600 | 500 | | | 1100 | |

Elective NOS/s:

| S. No | NOS/Module Name | NOS/Module Code & Version (if applicable) | Core / Non-Core | NCrF/NSQ F Level | Credit s as per NCrF | Training Duration (Hours) | | | | | Assessment Marks | | | | | |
|-------|-----------------|---|-----------------|------------------|----------------------|---------------------------|-----|----------|----------|-------|------------------|-----|-------|------|-------|-------------------------------|
| | | | | | | Th. | Pr. | OJT-Man. | OJT-Rec. | Total | Th. | Pr. | Proj. | Viva | Total | Weightage (%) (if applicable) |
| 1. | | | | | | | | | | | | | | | | |

| S. No | NOS/Module Name | NOS/Module Code & Version (if applicable) | Core / Non-Core | NCrF/NSQ F Level | Credit s as per NCrF | Training Duration (Hours) | | | | | Assessment Marks | | | | | |
|--|-----------------|---|-----------------|------------------|----------------------|---------------------------|------|-----------|------------|-------|------------------|------|--------|------|-------|-------------------------------|
| | | | | | | Th . | Pr . | OJT-Man . | OJT - Rec. | Total | Th . | Pr . | Proj . | Viva | Total | Weightage (%) (if applicable) |
| 2. | | | | | | | | | | | | | | | | |
| Duration (in Hours) / Total Marks | | | | | | | | | | | | | | | | |

Optional NOS/s:

| S. No | NOS/Module Name | NOS/Module Code & Version (if applicable) | Core / Non-Core | NCrF/NSQ F Level | Credit s as per NCrF | Training Duration (Hours) | | | | | Assessment Marks | | | | | |
|--|-----------------|---|-----------------|------------------|----------------------|---------------------------|------|-----------|------------|-------|------------------|------|--------|------|-------|-------------------------------|
| | | | | | | Th . | Pr . | OJT-Man . | OJT - Rec. | Total | Th . | Pr . | Proj . | Viva | Total | Weightage (%) (if applicable) |
| 1. | | | | | | | | | | | | | | | | |
| 2. | | | | | | | | | | | | | | | | |
| Duration (in Hours) / Total Marks | | | | | | | | | | | | | | | | |

Assessment - Minimum Qualifying Percentage

Please specify **any one** of the following:

Minimum Pass Percentage - Aggregate at qualification level: (Every Trainee should score specified minimum aggregate passing percentage at qualification level to successfully clear the assessment.)

Minimum Marks to pass Theory Exam: 40%

Minimum Marks to pass Practical Exam: 60%

Minimum Pass Percentage - NOS/Module-wise: (Every Trainee should score specified minimum passing percentage in each mandatory and selected elective NOS/Module to successfully clear the assessment.)

Minimum Marks to pass Theory Exam: 40%

Minimum Marks to pass Practical Exam: 60%

Section 3: Training Related

| | | |
|----|--|--|
| 1. | Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines) | Diploma/ Degree in Civil Engineering or Equivalent with Practical skills and knowledge required in the relevant job role at least one level higher i.e Level 6 and above in related field and minimum 2 years of experience in Tool Room/ Technology Centre of MSME or any reputed industry will become a trainer, Or in accordance with the TOT guideline of NCVET. |
| 2. | Master Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines) | Degree in Civil Engineering or equivalent with 3 to 5 years of experience in Production/ Training/ Design Department from Tool Room/ Technology Centre of MSME or any reputed industry will become as a Master Trainer, Or in accordance with the TOT guideline of NCVET. |
| 3. | Tools and Equipment Required for Training | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (<i>If "Yes", details to be provided in Annexure</i>) |
| 4. | In Case of Revised Qualification, Details of Any Upskilling Required for Trainer | Yes |

Section 4: Assessment Related

| | | |
|----|---|--|
| 1. | Assessor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines) | Diploma / Degree in Civil Engineering or equivalent with 3 years of experience in Production/ Training/ Design Department from Tool Room/ Technology Centre of MSME or any reputed industry. |
| 2. | Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines) | Only (TOA) certified assessors will be able to conduct the assessments. |
| 3. | Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years) (as per NCVET guidelines) | Degree in Civil Engineering or equivalent With 5 years of experience in Production/ Training/ Design Department from Tool Room/ Technology Centre of MSME or any reputed industry. |
| 4. | Assessment Mode (Specify the assessment mode) | Blended Type (Online + Offline) |
| 5. | Tools and Equipment Required for Assessment | <input checked="" type="checkbox"/> Same as for training <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (<i>details to be provided in Annexure-if it is different for Assessment</i>) |

Section 5: Evidence of the need for the Qualification

Provide Annexure/Supporting documents name.

| | |
|----|---|
| 1. | Latest Skill Gap Study (not older than 2 years) (Yes/No): Yes Skilled Employment in Construction Sector in India https://content.knightfrank.com/research/2729/documents/en/skilled-employment-in-construction-sector-in-india-2023-10450.pdf |
| 2. | Latest Market Research Reports or any other source (not older than 2 years) (Yes/No): Yes Market Research Report _ Infrastructure by IBEF, Dec-2023 |
| 3. | Government /Industry initiatives/ requirement (Yes/No): Yes |
| 4. | Number of Industry validation provided: 30 |
| 5. | Estimated nos. of persons to be trained and employed: 3000 approx. per year |
| 6. | Evidence of Concurrence/Consultation with Line Ministry/State Departments: YES, If "No", why: |

Section 6: Annexure & Supporting Documents Check List

Specify Annexure Name / Supporting document file name

| | | |
|----|---|---------------------|
| 1. | Annexure: NCrF/NSQF level justification based on NCrF level/NSQF descriptors (<i>Mandatory</i>) | <i>Annexure-I</i> |
| 2. | Annexure: List of tools and equipment relevant for qualification (<i>Mandatory, except in case of online course</i>) | <i>Annexure-II</i> |
| 3. | Annexure: Industry Validations Summary | <i>Annexure-III</i> |
| 4. | Annexure: Training & Employment Details | <i>Annexure-IV</i> |
| 5. | Annexure: Blended Learning (<i>Mandatory, in case selected Mode of delivery is "Blended Learning"</i>) | <i>Annexure-V</i> |
| 6. | Annexure: Detailed Assessment Criteria (<i>Mandatory</i>) | <i>Annexure-VI</i> |

| | | |
|-----|--|--|
| 7. | Annexure: Assessment Strategy (<i>Mandatory</i>) | <i>Annexure-VII</i> |
| 8. | Annexure: Acronym and Glossary (<i>Optional</i>) | <i>Annexure- VIII</i> |
| 9. | Annexure: Multiple Entry-Exit Details (<i>Mandatory, in case qualification has multiple Entry-Exit</i>) | <i>NA</i> |
| 10. | Supporting Document: Model Curriculum (<i>Mandatory – Public view</i>) | <i>Annexure- IX</i> |
| 11. | Supporting Document: Career Progression (<i>Mandatory - Public view</i>) | <i>This aspect mentioned in point no. 15</i> |
| 12. | Supporting Document: Occupational Map (<i>Mandatory</i>) | <i>Annexure-X</i> |
| 13. | Supporting Document: Assessment SOP (<i>Mandatory</i>) | <i>Annexure- XI</i> |
| 14. | Any other document you wish to submit: | <i>NA</i> |

NSQCAR

Annexure I: Evidence of Level

| NCrF/NSQF Level Descriptors | Key requirements of the job role/ outcome of the qualification | How the job role/ outcomes relate to the NCrF/NSQF level descriptor | NCrF/NSQF Level |
|---|---|--|-----------------|
| Professional Theoretical Knowledge/Process | <p>This qualification identifies and exhibits wide range of specialized knowledge and skill set which is variable basing on different locations of the earth during preparation of drawings of Civil Engineering structures along with the analyzing the strength of the structures which may be standard and non-standard practice.</p> | <ul style="list-style-type: none"> Job holder is expected to execute the design and analysis process required for various structural members like columns, beams, trusses, etc. Job holder's behavior in various type of load conditions which requires wide range of specialization in knowledge and skill in designing and analysis under different conditions. These processes may be standard and non-standard in nature. | 5 |
| Professional and Technical Skills/ Expertise/ Professional Knowledge | <p>The curriculum of the qualification covers wide range thorough understanding and knowledge of different type of structural members, their material strength, bending moment, shear force, various modulus, study of complete structural members behavior in different load condition etc. along with inclusion of detailed study of Engineering Drawing, Site survey, Estimation and Costing. It thorough knowledge of operations of various modern equipment like total station, leveling, surveying, GPS etc. to support the all these activities.</p> | <ul style="list-style-type: none"> Job holders needs to have in depth knowledge and understanding engineering drawing, properties and strength of building construction materials, site survey, Estimation and costing, Building rules and regulations etc. | 5 |
| Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill | <p>Learner will have the ability to apply practical knowledge and understanding in interpreting the building and architectural drawings. also have the ability to perform various operations required to designing analyzing and preparing the civil structures systematically within the</p> | <p>Job holder is engaged in tasks such as designing, drafting, analyzing and interpreting structural Drawing, making site survey using appropriate work stations within the quality framework and norms.</p> | 5 |

| | | | |
|---|---|--|---|
| | <p>boundary of Building Rules and regulations applicable in India. This qualification imparts detail in depth skill to use different types of instruments to maintain the desired quality and durability of the structures.</p> | <ul style="list-style-type: none"> These activities are variable in nature basing on the geographical conditions of the locality. The occupation is designed to prepare the trainees to generate solutions to specific problems encountered during work of study. | |
| Broad Learning Outcomes/Core Skill | <p>Curriculum is designed to have reasonable good numerical abilities, mathematical calculations required for analyzing the data, communication skills to receive, provide, and transmit information logically to the appropriate person or the group involved in the activities. Use of appropriate measuring techniques, units and number systems to express degree of accuracy units and number systems representing degree of accuracy. Analysis and Interpretation of mechanical strength of any structural members along with ratio and proportions of building materials. Should be able to communicate to the appropriate person in regards to health, safety, first aid etc.</p> | <ul style="list-style-type: none"> Jobholder needs to have Generic Skills of writing, Oral and Communication Skills. Jobholder needs Document post production requirements. Understand the project requirements/client requirement which requires reasonably good clarity in oral and the written skills and while working on the content he needs to be aware of the social, political and natural environment. Job holder is competent enough to prepare the estimation and costing sheet by gathering analytical and logical data for the successful project implementation. | 5 |

| | | | |
|-----------------------|---|--|---|
| Responsibility | <p>Check-up procedures to ensure that project objectives are finished within specified time frames are developed. Checkup procedures to ensure that agreed ethical and legal requirements are met are drawn. PDSPM is responsible for the work and learning of each members in the team with full responsibility for other works and learning. The Job holder is expected to have openness to mentoring, ability to plan and organize the work and identify and solve problems in the course of working with in the team. Understanding the need to take initiative and manage him/herself and others and work to improve efficiency and effectiveness.</p> | <ul style="list-style-type: none"> Post Diploma in Structural Analysis and Project Management(PDSPM) Job holder is required to carry out functions such as engineering drawing reading, operating civil construction equipment, analyse the strength, look and durability of the structural members within specified requirement. In these activities job holder is doing the tasks with a group and guides others as and when required. He/she is solely responsible for work output/ performance of the group involved in assigned project and also develop his/her team members as good mentor. | 5 |
|-----------------------|---|--|---|

MSQC API

Annexure II: Tools and Equipment (Lab Set-Up)

List of Tools and Equipment

Batch Size: 20

| S. No. | Tool / Equipment Name | Specification | Quantity for specified Batch size |
|--------|--|--|-----------------------------------|
| 1 | Computers | Industry Standard | 20 nos. |
| 2 | Software Licences - Auto-CAD, STAAD.Pro, 3ds Max, Photoshop, Sketch-Up, MS-Office, Revit, Tekla, Arc-GIS, Primavera, Auto Plotter & Road Estimator, Open Roads Designer | | 20 nos. each |
| 3 | Surveying Instruments - Auto Level, Total Station , GPS & DGPS | | 2 nos. each |
| 4 | General Equipment for Classroom : White Board, Smart Board, Duster, Marker, Multimedia /LCD Projector, Audio Video Aids, Pen drive and Practice exercise etc, | | 1 Set |
| | Material Testing Tools, Machines & Equipment | | |
| | Geotechnical Engineering | | |
| 5 | Permeability Apparatus | Ref.Standard IS:2720(Part 17),IS:11209(HS 12.05) | 1 no. |
| 6 | Relative Density Apparatus | Ref Standard IS:2720(Pt .XIV)(HS 14.35) | 1 no. |
| 7 | Sand Pouring Cylinder Apparatus | Ref.Standard IS:2020(Pt.28),100mm dia | 1 no. |
| 8 | Pycnometer Has aluminium locking ring With brass Cone and rubber seal, capacity about 1 lbs (HS 14.20) | As per IS:2386 Part-iii,Method-iii Supply | 1 no. |
| 9 | Vicat Apparatus | Ref.Standard IS:5513-1976 (HC 37.10) | 1 no. |
| 10 | Infrared Moisture Meter | Ref.Standard IS:2720(Part-2) (AIM-038) | 1 no. |
| 11 | Tri Axial Test Apparatus | Ref.Standard:IS:2720 (PART-XII) | 1 no. |
| 12 | California Bearing Ratio Test Apparatus(CBR) | Ref.Standard:IS:2720 (PART-XVI) | 1 no. |
| 13 | Casagrande Test Apparatus | Ref.Standard:IS:2720(PART-V) | 1 no. |
| 14 | Core Cutter Apparatus | Ref.Standard:IS:2720(PART-XXIX) | 1 no. |
| 15 | Sieve Gradation of Soil/Sand | Ref.Standard:IS:2386 | 11nos |
| | Concrete Technology | | |
| 16 | Aggregate Impact Test Apparatus | Ref.Standard IS:2386(PART-IV) | 1 no. |
| 17 | Thickness/Flackiness Gauge with ISI Certification Mark | IS:2386(PART-1) (HA 50.20) | 1 no. |
| 18 | Length Gauge with ISI Certification Mark | IS:2386(PART-1) (HA 50.25) | 1 no. |
| 19 | Mould Cast Iron, For 150mm cube with ISI Certification Mark | IS:10086-1982, IS:516(HC 42.55) | 3nos |
| 20 | Digital Compression Testing Machine , Capacity 2000 KN (HSN CODE 90248099) | Ref. Standard IS:14858(2000) & IS:516 (HE SPL) | 1 no. |

| | | | |
|-----------------------------------|---|---|--------|
| 21 | Compressive Testing Machine Apparatus Capacity 1000 KN(CTM) For Concrete. | Ref. Standard IS:14858(2000) & IS:516 (HE SPL) | 1 no. |
| 22 | Rebound Hammer (AIM-388) | Ref. Standard IS:13311(PART-2) | 1 no. |
| 23 | Slump Test Apparatus | Ref. Standard:7320-1947 | 2nos |
| 24 | Tile Abrasion Testing Machine,, | Ref. Standard IS:1237-1980, IS:1706-1972 | 1 no. |
| 25 | thickness measuring device with Dial Gauge having 25mm travel and 0.01 mm least count | Industry Standard | 1 no. |
| 26 | Flow Table Motorised | Ref. Standard IS:1199, AASHTO T126 | 1 no. |
| 27 | Universal Testing Machine Apparatus(UTM) For Tensile Strength of Reinforcement. | | 1 no. |
| 28 | Colloquially/Concrete Mixture Machine | Industry Standard | 1 no. |
| Transportation Engineering | | | |
| 29 | Universal Penetrometer | Ref. Standar IS:2720(PART-5) BS 1377 | 1 no. |
| 30 | Relative Density Apparatus | Ref. Standard IS:2720(Pt-XIV) (HS14.35) | 1 no. |
| 31 | Ring and Ball Apparatus (Digital) with Thermometer | Ref. Standards:IS;1205 ASTM D 36 | 1 no. |
| 32 | Centrifuge Bitumen Extractor , Capacity 1500g | Ref. Standard:ASTM D 2172,AASHTO T 58,T 164,EN 1269 | 1 no. |
| 33 | Hot Plate,Rectangular with Energy Regulator | 300x450x180mm,2.0K W | 1 no. |
| 34 | Marshall Stability Test Apparatus | Ref. Standard:ASTM D1559,BS598 -107,EN 12697-34 | 1 no. |
| 35 | Sieve Gradation of Aggregate. | Ref. Standard: IS:2386 | 8 nos. |
| 36 | Digital Swelling Test Apparatus | Industry Standard | 1 no. |

Annexure III: Industry Validations Summary

Provide the summary information of all the industry validations in table. This is not required for OEM qualifications.

| S. No | Organization Name | Representative Name | Designation | Contact Address | Contact Phone No | E-Mail Id | LinkedIn Profile (If Available) |
|-------|--|---------------------|---------------------|--|------------------|-----------------------------------|---------------------------------|
| 1 | Unique Enterprises | Partha Roy | Proprieter | .S.- Dasnagar, Howrah-711 13 | 98741 27130 | Partha@Enterprisesindia.Com | |
| 2 | Shiv Engineers | S.Maity | Proprieter | Balitikuri, Howrah - 711 113 | 798087233 5 | Shivengineer1980@Gmail.Com | |
| 3 | Sk Synthetics | Manish Jain | Ceo | 40 Strand Rd,3rd Floor Kolkatta-700001 | 933102204 4 | Sksynthetics@Hotmail.Com | |
| 4 | A. C. Steel Traiding Corporation | A. C. Jaswal | Proprieter | Belilious Rd,Loan Bazer,Room-141,142, Howrah-711101 | 983007361 2 | Acsteel_2004@Yahoo.Co.In | |
| 5 | Calcutta Techno Heaters (India) Pvt. Ltd | M. K. Saha | Director | 22a, Dum Dum Road, Kolkata - 700 002 | 983108624 1 | Mksoct55@Gmail.Com | |
| 6 | Arrow Aviation | Sanjib De | Quality Manager | 53/1/3, Hazra Road, Kolkata - 700019 | 983109240 7 | Qualitymanager@Arrowaviation.Com | |
| 7 | Max Mill Technologies | Pradeep Sharma | Manager | 172/1,Ashokgarh,Dunlop, Baranagar, Kolkata-700108 | 700346271 4 | Maxmilltechnologies@Gmail.Com | |
| 8 | Special Engineering Services Ltd. | Ashim Ganguly | Jr. Factory Manager | 16, Cossipore Road, Kolkata-700 002 | 913325578 434 | Sescatcn@Cal2.Vsl.Net.In | |
| 9 | Abhaya Precision Industries Pvt Ltd | Abheseck Ghosh | Managing Director | 70/2,Youribani Lane,Kolkatta-04 | 983161799 7 | Mail@Abhayamd.Com | |
| 10 | Satyanarayanengineeringworks | Nilangshu Gharui | Manager | Shanpur, Daonagar, Hw-711105 | 798027898 4 | Datyanarayanegg@Gmail.Com | |
| 11 | Shree Radha Krishna Industries | Mani Bhushan Singh | Proprieter | 1/1d, Joy Krishna Ghosal Road, Aríadaha, Rathtala, Kolkata-700 057 | 988336859 7 | Shreeradhakrishna21@Gmail.Com | |
| 12 | Nscb Aviation (P) Limited | Subhasish Halder | Director | 34, Scout Para, Ganga Nagar, Kolkata 700132 | 891062709 6 | Subhasish.Haldar@Nscbaviation.Com | |
| 13 | Ssk Precision Components Mfg. Put. Ltd. | Souvik Sinha | Director | P31, Kb.. Roy Garden, Garia Station Road, Kolkata-84 | 983106585 1 | Sskcnc@Rediffmail.Com | |
| 14 | Green Dimension Architects | Monika Pritam Dash | Principal Architect | Flat No 005, Paras Plaza, Tinikonia Bagicha, Cuattck - 753001 | 943703616 0 | Greendiarch@Gmail.Com | |
| 15 | Unique Enterprises | Partha Roy | Proprieter | .S.- Dasnagar, Howrah-711 13 | 98741 27130 | Partha@Enterprisesindia.Com | |

Annexure IV: Training & Employment Details

Training and Employment Projections:

| Year | Total Candidates | | Women | | People with Disability | |
|-------|----------------------|------------------------------------|----------------------|------------------------------------|------------------------|------------------------------------|
| | Estimated Training # | Estimated Employment Opportunities | Estimated Training # | Estimated Employment Opportunities | Estimated Training # | Estimated Employment Opportunities |
| 24-25 | 60 | 60 | 30 | 28 | - | - |
| 25-26 | 90 | 90 | 45 | 40 | - | - |
| 26-27 | 120 | 120 | 60 | 50 | - | - |

Data to be provided year-wise for next 3 years

Training, Assessment, Certification, and Placement Data for previous versions of qualifications:

| Qualification Version | Year | Total Candidates | | | | Women | | | | People with Disability | | | |
|-----------------------|-------|------------------|--------------|---------------|--------|-------------|-------------|---------------|------------|------------------------|-------------|---------------|--------|
| | | Trai ned | Asse ssed | Certifi ed | Placed | Trai ned | Asesse d | Certifi ed | Place d | Train ed | Asesse d | Certifi ed | Placed |
| 1.0 | 20-21 | 42 | 42 | 42 | 42 | 15 | 10 | 10 | 10 | - | - | - | - |
| 1.0 | 21-22 | 49 | 49 | 49 | 49 | 24 | 24 | 14 | 14 | - | - | - | - |
| 1.0 | 22-23 | 78 | 78 | 78 | 78 | 43 | 43 | 43 | 43 | - | - | - | - |

Applicable for revised qualifications only, data to be provided year-wise for past 3 years.

List Schemes in which the previous version of Qualification was implemented:

- Fee based Training Program under the Ministry of MSME.

Content availability for previous versions of qualifications:

Participant Handbook Facilitator Guide Digital Content Qualification Handbook Any Other:

Languages in which Content is available:

English

Annexure V: Blended Learning

Blended Learning Estimated Ratio & Recommended Tools:

Refer NCVET "Guidelines for Blended Learning for Vocational Education, Training & Skilling" available on:

<https://ncvet.gov.in/sites/default/files/Guidelines%20for%20Blended%20Learning%20for%20Vocational%20Education,%20Training%20&%20Skilling.pdf>

| S. No. | Select the Components of the Qualification | List Recommended Tools – for all Selected Components | Offline : Online Ratio |
|--------|---|---|------------------------|
| 1 | <input type="checkbox"/> Theory/ Lectures - Imparting theoretical and conceptual knowledge | Books/ e-books, Presentations, Reference Material , Audio / Video Modules with 2D and 3D animation Self-Learning Videos /Broadcasts /Mobile Learning /Curated Digital content | 40:60 |
| 2 | <input type="checkbox"/> Imparting Soft Skills, Life Skills, and Employability Skills /Mentorship to Learners | Self-Learning Videos , Broadcasts, Mobile Learning , Curated Digital content | 40:60 |
| 3 | <input type="checkbox"/> Showing Practical Demonstrations to the learners | Auto-CAD, STAAD.Pro, 3ds Max, Photoshop, Sketch-Up, MS-Office, Revit, Tekla, Arc-GIS, Primavera, Auto Plotter & Road Estimator, Open Roads Designer Softwares | 100:0 |
| 4 | <input type="checkbox"/> Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training | Auto-CAD, STAAD.Pro, 3ds Max, Photoshop, Sketch-Up, MS-Office, Revit, Tekla, Arc-GIS, Primavera, Auto Plotter & Road Estimator, Open Roads Designer Softwares, Surveying Instruments like Auto Level, Total Station, GPS & DGPS | 100:0 |
| 5 | <input type="checkbox"/> Tutorials/ Assignments/ Drill/ Practice | Online Question Bank, Mobile Quick test app, MCQ based tests, Practical Test Softwares & Surveying Instruments | 40:60 |
| 6 | <input type="checkbox"/> Proctored Monitoring/ Assessment/ Evaluation/ Examinations | Assessment engine for Essays, Up-loadable file examinations, Mock test sessions | 50:50 |
| 7 | <input type="checkbox"/> On the Job Training (OJT)/ Project Work Internship/ Apprenticeship Training | NA | 100:0 |

Annexure VI: Detailed Assessment Criteria

Detailed assessment criteria for each NOS/Module are as follows:

| NOS/Module Name | Assessment Criteria for Performance Criteria/Learning Outcomes | Theory Marks | Practical Marks | Project Marks | Viva Marks |
|---|---|--------------|-----------------|---------------|------------|
| NOS / Module: MSME/PDSPM/01 Sketch Architectural drawings, section view, 3D View | <p>PC.1 Do exercises to develop drawing manually on drawing sheet.</p> <p>PC.2 Do unit conversation& make the plain scale, diagonal scale, Vernier scale, comparative scale, and scale of chord.</p> <p>PC.3 Differentiate between 1st angle & 3rd angle projection. Draw orthographic views in 1st and 3rd angle projection method.</p> <p>PC.4 Identify different types of Stairs, Parts of stairs,Different sizes of doors and windows by using technical terms of door and window.</p> <p>PC.5 Identify the culverts, syphons, and bridges. Design PEB structure.</p> <p>PC.6 Calculate the coordinate system in manually & using by AutoCAD software.</p> <p>PC.7 Draw all the drawing & diagram by using software.</p> <p>PC.8 Make practice some command option, arc& TEXT option by using In all the drawing & diagram.</p> <p>PC.9 Identify function &use of Hatching, gradient, Layer in drawing or building plan.</p> <p>PC.10 Set the dimension, scale & modify, increase /decrease the object by using scale factor and create the interior design in the building drawing.</p> <p>PC.11 Identify to make the steel structure manual in paper sheet & also system. Calculating the steel property(volume, weight, density)</p> <p>PC.12 Set the 3D toolbar & 3D views. Create 3D Drawing &modeling in building plan by using modeling toolbar (extrude, subtract, union, press pull, sweep, loft, revolve, box or other option) & modifying the 3D building model by using solid</p> | 100 | 100 | | |

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|--|---|-----|-----|--|--|
| | <p>editing toolbar (Extrude face, move face, shell, color face, chamfer edge, fillet edge or other option).</p> <p>PC.13 Make spiral stair case & details, Put material texture on spiral stair case & building drawing. Insert block, W block, block & create template with proper dimension and using scale in the drawing.</p> <p>PC.14 Create 2D plan or 3D diagram for steel structure, Syphon, culvert & septic tank by using 3D option cad software. Set the lay out plan for plotting or printing & transfer .jpg format & work with raster image.</p> | | | | |
| <p>NOS / Module: MSME/PDSPM/02 Analysis of structure & foundation with IS Code.</p> | <p>PC.1 Identify the materials as per their properties.</p> <p>PC.2 Analyze problem related to elastic constant.</p> <p>PC.3 Solve problem related to cantilever beam subjected by point load, UDL & by both, solving problem related to simply supported beam subjected by point load, UDL & by both point load & UDL. Solving problem related to overhanging beam subjected by point load & UDL. Finding out S.F. D & B.M.D in continuous beam.</p> <p>PC.4 Review and analyze the civil core problems.</p> <p>PC.5 Calculate the coordinate system manually in paper & using that coordinate points create frame structure & steel structure in STAAD pro software.</p> <p>PC.6 Operate feeding of the co-ordinates in STAAD pro & using tools like copy, paste, insert nodes, views, check dimension, rotate, text, change colors, and choose units with practice. Use AutoCAD software to transfer the file from auto cad to STAAD pro (using ID point system).</p> <p>PC.7 Prepare water tank by using translational repeat & circular repeat & filling the water tank with plates (concrete slab) Triangular, Quad and by using auto cad software (ID points system), manually calculate amount of water required, find out specification of water tank & use grid system to form the transmission tower & use different types of planes and circular repeat, Generate truss in STAAD pro by using translational repeat & circular repeat make surface to cover the roof.</p> | 100 | 100 | | |

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| | <p>PC.8 Use property option to define material over the structure, Define different shapes Ex: - Circle, Rectangle, Tee, Trapezoidal. Use group option, Assign material over the structure, and define Angie, s-shape, channel, pipe section for steel structure. Manually find out structure, Dead & Live loads Ex: - slab weight, wall weight, column weight, beam weight, live loads& using I.S codes to calculate basic wind speed & pressure, according to the different region by manually. Apply the calculated pressure in STAAD pro & get wind directions, definition X+, X-, Z+, Z- load case detail Using IS code calculate basic shear during earthquake & generate time period by manual calculation.</p> <p>PC.9 Generate concrete parameters to design column, beam & slab by using IS 456 code. Use STAAD pro to get elaborated details of beam, column & get working drawings from auto cad. Use STAAD pro to define various types of beams such as, simple supported beam, fixed beam, cantilever beam, overhanging beam, continuous beam & different types of supports.</p> <p>PC.10 Use STAAD pro to design steel structures Ex. tower, truss & find out the eligible members. Use the surface panel models to design shear walls(RC wall)using lift room Including practice & STAAD foundation to design, pile, mat, isolated, combined footings.</p> | | | | |
| NOS / Module: MSME/PDSPM/03 Design exterior and interior, render, animation with 3DS Max & | <p>PC.1 Work with object & modifier, reactors with 3Ds max. Work with grids, Use snap tool, Move an object, Rotate an object, Mirror an object, Clone an object.</p> <p>PC.2 Create floor plan, elevation, Work with editable poly objects, Modify editable poly object. Make shapes by using spline & Modify spline object using sub object.</p> <p>PC.3 Draw the drawing adding materials to object and refer libraries, Understand the multi/sub-object for the window & doors, UVW map & make the rendering.</p> <p>PC.4 Operate lighting& different type of camera. Make scaling renderer& mental ray/ renderer Use texture in3d building by using 3ds max software.</p> | 100 | 100 | | |

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| sketch up, create Color & shadow in Photoshop. | <p>PC.5 Work with v-ray, Set v-ray, V-ray rendering& animation in building. Work with free camera& biped in drawing.</p> <p>PC.6 Make the beyond building models by using google sketch up components, keep your model organized & modeling with photographs.</p> <p>PC.7 Do the Work with styles and shadows, presenting the model inside sketch up.</p> <p>PC.8 Do the work with Google earth and 3d warehouse, printing your model, exporting images and animations.Create presentation documents with layout & deeper into lay outs Trips the ten sketch up, ten plug-ins, extensions, resources worth & discover the works in ten ways.</p> <p>PC.9 Provide texture on existing modern building by using Photoshop tools. Menus and panel, Open new files. Open existing files.</p> <p>PC.10 Create and view a new document Customizing the interface Setting preferences.</p> <p>PC.11 Sketch multiple images use by rulers' guides, & grids, Adjust colors with the new adjustment panel.</p> <p>PC.12 Resize the images by pixels & resolution using commands. Cut the images. Use tools for Color correction& Effects (blur, noise etc).</p> | | |
| NOS / Module: MSME/PDSPM/04 Estimation of building with rate analysis of civil works. | <p>PC.1 Estimate, requirements for building design.</p> <p>PC.2 Calculate number of bricks required for area, weight of brick, different brick densities required cost percentage of labor & different cost percentage of material.</p> <p>PC.3 Calculate plinth rate & cube rate.</p> <p>PC.4 Calculate Lime concrete, footings, plinth height, plinth wall and super structure wall.</p> <p>PC.5 Solve problem with long and short wall and centerline method.</p> <p>PC.6 Solve problem with ratio of cement, fine aggregate & coarse aggregate. Fresh technical siltation rate of different material with volume calculation.</p> <p>PC.7 Prepares word documents, excel sheets, power point presentations.</p> | 100 | |

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| | <p>PC.8 Prepare project related work (writing letter, resume) etc. by the help of MS-Word.</p> <p>PC.9 Prepare project related work in excel sheet like inputting building estimation data & calculating data in MS excel data.</p> <p>PC.10 Create presentation with the help of MS office power point.</p> | | | | |
| <p>NOS / Module: MSME/PDSPM/05 Intro to surveying, leveling, types, GPS/DGPS function & uses.</p> | <p>PC.1 Do operational panel & other plants of the instruments with the help of machine in field.</p> <p>PC.2 Do centering with the optical plummet eye piece as per procedure with the leaser plummet, do leveling of the circle level with the help of machine.</p> <p>PC.3 Do Job selection, Job Details, Job detection, Station orientation of points by help of machine</p> <p>PC.4 Shift the instrument from one station to another station & Download Data. Process data in computer, transfer format to CSV, DWG & DXF with Specter link software.</p> <p>PC.5 Do leveling & surveying</p> <p>PC.6 Perform different operations using auto level and calculate various parameters.</p> <p>PC.7 Perform rise and fall method, error correction & do Fly leveling, profile leveling, simple leveling.</p> <p>PC.8 Identify main segments used for navigation & Differentiate between the mobile GPS & GPS instrument.</p> <p>PC.9 Measure the point-to-point distance using GPS device through satellite.</p> <p>PC.10 Do the GPS work in survey. Solve the common errors of GPS survey & Principles of GPS device.</p> <p>PC.11 Do the work in static mode and Kinematic Mode. Do the TRCM correction, ATOM correction, RTK correction & Correlating Base, Rover data formation of base line, & Report preparation</p> | 100 | 100 | | |
| NOS / Module: | PC.1 Explain occupational health and Safety. | 100 | | | |

| | | | | |
|---|---|--|--|--|
| MSME/ ES/04 Employability Skills | <p>PC.2 Explain about safety rules.</p> <p>PC.3 State the name and location of people responsible for health and safety in the workplace</p> <p>PC.4 Identify employability skills required for jobs in various industries. & Identify and explore learning and employability portals</p> <p>PC.5 Recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.</p> <p>PC.6 Follow environmentally sustainable practices. & Recognize the significance of 21st Century Skills for employment</p> <p>PC.7 Practice the 21st Century Skills such as Self-Awareness, Behavior Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life</p> <p>PC.8 Use basic English for everyday conversation in different contexts, in person and over the telephone.</p> <p>PC.9 How to Minimize the team conflicts & Explain Ethics & values</p> <p>PC.10 Read and understand routine information, notes, instructions, mails, letters etc. written in English</p> <p>PC.11 Write short messages, notes, letters, e-mails etc. in English & Understand the difference between job and career</p> <p>PC.12 Prepare a career development plan with short- and long-term goals, based on aptitude & Discuss the main types of electronic funds transfers</p> <p>PC.13 Follow verbal and non-verbal communication etiquette and active listening techniques in various settings & work collaboratively with others in a team</p> | | | |
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|---|--|--|--|--|
| <p>PC.14 Communicate and behave appropriately with all genders and PwD & escalate any issues related to sexual harassment at workplace according to POSH Act.</p> <p>PC.15 Select financial institutions, products, and services as per requirement & carry out offline and online financial transactions, safely and securely.</p> <p>PC.16 Identify common components of salary and compute income, expenses, taxes, investments etc & identify relevant rights and laws and use legal aids to fight against legal exploitation</p> <p>PC.17 Operate digital devices and carry out basic internet operations securely and safely & use e- mail and social media platforms and virtual collaboration tools to work effectively</p> <p>PC.18 Use basic features of word processor, spreadsheets, and presentations.</p> <p>PC.19 Identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research & develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion.</p> <p>PC.20 Identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity</p> <p>PC.21 Identify different types of customers & identify and respond to customer requests and needs in a professional manner.</p> <p>PC.22 Follow appropriate hygiene and grooming standards</p> <p>PC.23 Create a professional Curriculum vitae (Résumé) & search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively</p> <p>PC.24 Apply to identified job openings using offline /online methods as per requirement & answer questions politely, with clarity and confidence, during recruitment and selection</p> | | | | |
|---|--|--|--|--|

| | | | | | |
|---|---|------------|------------|--|--|
| | PC.25 identify apprenticeship opportunities and register for it as per guidelines and requirements | | | | |
| | Total Marks | 600 | 400 | | |
| NOS / Module: MSME/PDSPM/06 Carry out Architectural modeling, exterior and interior, render, animation with Revit detailing. | PC.1 Create a new project, Sketch element, Modify an element, Move an element, Rotate an element, Mirror an element, Delete an element, Work with project view. PC.2 Create levels, Work with level, elevation & Floor plan. Work with wall, Add doors to a wall, Add window to a wall& component. PC.3 Use align tools, Split tools Trim tools, Offset tools, Match type tools, Set color for wall. Understand section libraries, Create a floor, Modify floor, Create roof, Modify roof, Create ceiling, Modify ceiling, Cut open in. PC.4 Identify Temporary dimension, Permanent dimension, modify dimension, Room & area Analyze Area, Color fill skim, Camera views Work through. Revit Structure & MEP. PC.5 Do the rendering work flow, Use light, Add plants & entourage, Render & image. Understand the sectioning, floor plan, elevation, Work with sheets. Use title block, Print the drawing | 100 | 100 | | |
| NOS / Module: MSME/PDSPM/07 Demonstrate Tekla for steel, /concrete structure & bridge design with load application. | PC.1 Analyses the different design methods like Working Stress Design (WSD), Ultimate load designed method, & Limit State Method. PC.2 Make a diagram Design of loads, safety factor for loads PC.3 Designed strength, & Assumption made in limit state method. Make a beam design & detailing using in limit state design methods PC.4 Do the slab design, slab detailing, column design & detailing, footing design & detailing in different ways and methods. PC.5 Calculate the coordinate system manually in paper & using that coordinate points create frame structure & steel structure in Tekla software. PC.6 Operate feeding of the co-ordinates in Tekla & using Auto-CAD software to transfer the file from Auto-CAD to Tekla (using ID point system). | 100 | 100 | | |

| | | | | | |
|--|--|-----|-----|--|--|
| | <p>PC.7 Prepare water tank ,form the transmission tower, Generate truss in Tekla</p> <p>PC.8 Use property option to define material over the structure, Define different shapes Ex: - Circle, Rectangle, Tee, Trapezoidal. Use group option, Assign material over the structure, and define Angie, s-shape, channel, pipe section for steel structure.</p> <p>Manually find out structure, Dead & Live loads Ex: - slab weight, wall weight, column weight, beam weight, live loads& using I.S codes to calculate basic wind speed & pressure, according to the different region by manually. Apply the calculated pressure in Tekla & get wind directions, definition X+, X-, Z+, Z- load case detail Using IS code calculate basic shear during earthquake & generate time period by manual calculation.</p> <p>PC.9 Generate concrete parameters to design column, beam & slab by using IS 456 code. Use Tekla to get elaborated details of beam, column & get working drawings from Auto-CAD. Use Tekla to define various types of beams such as, simple supported beam, fixed beam, cantilever beam, overhanging beam, continuous beam & different types of supports.</p> <p>PC.10 Use Tekla to design steel structures Ex. tower, truss & find out the eligible members. Use the surface panel models to design shear walls(RC wall)using lift room Including practice & foundation to design, pile, mat, isolated, combined footings.</p> | | | | |
| NOS / Module: MSME/PDSPM/08 Create types of topographical map through Arc-GIS software. | <p>PC.1 Analyze the Type of remote sensing, Historical prospective in Remote sensing Advantages and dis-advantages.Do multi station images, multi band images, date images , stage images, Multi Polarization images Multi Enhancement images, Multi-Disciplinary Analysis.</p> <p>PC.2 Do the Electromagnetic Radiation with the help of remote sensing machine. Mode to Transfer of Energy in EMR.</p> <p>PC.3 Analyze the GIS and its definition, & understand Why GIS.Component and hardware requirement.</p> | 100 | 100 | | |

| | | | | | |
|--|---|-----|-----|--|--|
| | <p>PC.4 Work with different satellite & Import different satellite imagery data, Digitization of import data & Analysis, preparation of final reports.</p> | | | | |
| <p>NOS / Module: MSME/PDSPM/09 Demonstrate the project, planning, & scheduling by using primavera</p> | <p>PC.1 Analyze basic of primavera & basic navigation and operation. Do Project planning, Scheduling, activity, resource codes, calendar, step templates, resource (labor/non labor/ material), & cost account structure.</p> <p>PC.2 Create schedule updates & developing and formatting schedules. Do the work brake down structure, deferent activities, critical path analysis, resource management & cost management.</p> <p>PC.3 Understand reviewing baseline schedules, update schedules, Time impact analysis & the scope of work, contractual start and finish date of the project. Do the major milestones of project & deliverables of various disciplines. Establishing the progress measurement weightages for phase/disciplines and activates.</p> <p>PC.4 Get the schedules from disciplines, planning recourse required for the project.</p> <p>Getting the baseline schedule sign off from the customer & preparation of S-curve for engineering, procurement, construction and commissioning and overall.</p> <p>Prepare weekly & monthly progress reports & submit progress reports to top managements. Prepare delay analysis and present to all concerned discipline manager & managements or coordinate among construction and commissioning team.</p> | 100 | 100 | | |
| <p>NOS / Module: MSME/PDSPM/10 2D/3D drafting including road C-</p> | <p>PC.1 Analyses the user interface and history of auto plotter software, Introduction of Infycons soft. Pvt. Ltd, & How to open the software.</p> <p>PC.2 Work with File Menu Bar, Config. menu bar, Edit menu bar, View menu bar, Draw menu bar, Tool menu bar, Data Menu Bar, DTM Menu Bar, Section Menu Bar, Design Menu Bar, Cogo Menu Bar Do the file Import from surveying instrument to excel file format. Generate the data setting & create symbols.</p> | 100 | 100 | | |

| | | | | | |
|--|--|-------------|------------|--|--|
| section/I-section design, estimation. | PC.3 Make the 2D and 3D contours & create L-section & C- section. Finding volume between a dtm surface and datum by terrain volume by section.Finding volume between a dtm surface and datum by terrain volume by dtm. PC.4 Analyses Road section, Road alignment, About change in road, Work with main menu bars, Data menu bar, Standard menu bar, Draw menu bar, Snap menu bar, Dimension menu bar, Edit menu bar & Report menu bar. PC.5 Make Road section C, L-section, & Report of detailed estimation With hard copy. | | | | |
| NOS / Module: MSME/PDSPM/11 | PC.1 Different types of Instruments used for Testing Building Materials. PC.2 Moisture content test, Atterberg limits tests, Specific gravity of soil, Dry density of soil, Compaction test (Proctor's test) PC.3 Crushing test, Abrasion test, Impact test, Soundness test, Shape test, Specific gravity, and water absorption test. PC.4 Penetration test, Ductility test, Softening point test, Specific gravity test, Viscosity test, Flash and Fire point test, Float test, Water content test, Loss on heating test PC.5 Tensile test, Compression test | 100 | | | |
| | Total Marks | 600 | 500 | | |
| | Grand Total | 1200 | 900 | | |

Annexure VII: Assessment Strategy

This section includes the processes involved in identifying, gathering, and interpreting information to evaluate the Candidate on the required competencies of the program.

Mention the detailed assessment strategy in the provided template.

1. Assessment System Overview:

- Batches are assigned to the MSME NSQF Assessment Agency via email for the assessment.

- MSME NSQF Assessment Agency sends the assessment confirmation to respective TC.
- MSME NSQF Assessment Agency deploys the certified Assessor for executing the assessment at respective TC via online / offline mode.
- MSME NSQF Assessment Agency & respective TC Internal Assessment cell monitors the assessment process & records.

2. Testing Environment:

- MSME NSQF Assessment Agency confirms the Assessment location, date and time
- For number of candidates more than 30 separate assessors are assigned for the assessment.
- MSME NSQF Assessment Agency & respective assessor confirms that the allotted time to the candidates to complete Theory & Practical Assessment is correct.

3. Assessment Quality Assurance levels/Framework:

- Each TC Submits the Question Bank for the individual subject Theory & Practice separately, submits to MSME NSQF Assessment Agency and it is verified by the MSME NSQF Assessment Agency Committee members.
- Questions are mapped to the specified assessment criteria
- All the assessors & Trainers are well qualified & trained to carry out the specified task.

4. Types of evidence or evidence-gathering protocol:

- Online Link is send by MSME NSQF Assessment Agency to respective TC & Assessor. Reporting of the assessor from assessment location is verified by the MSME NSQF Assessment Agency through the online Meeting Link. Students are also required to join for the online link for verification by the MSME NSQF Assessment Agency.
- Assessment Photographs are shared with the MSME NSQF Assessment Agency & are also with the respective TC.

5. Method of verification or validation:

- Online Link is send by MSME NSQF Assessment Agency to respective TC & Assessor. Reporting of the assessor from assessment location is verified by the MSME NSQF Assessment Agency through the online Meeting Link. Students are also required to join for the online link for verification by the MSME NSQF Assessment Agency.

6. Method for assessment documentation, archiving, and access:

- The Assessment records are shared with MSME NSQF Assessment Agency & also stored at respective TC.
- Assessor fills the assessment report and shares with the MSME NSQF Assessment Agency.

On the Job Training:

- Each module will be assessed separately.
- The candidate must score 60% marks to successfully complete the OJT.
- Learner will be assessed on the basis of OJT report followed by Viva
- Assessment will ensure that the Learner is able to:
 - ✓ Effective engagement with the customers / Subordinates and team
 - ✓ Understand the working of various tools and equipment

Understand the working environment of the industry

Annexure VIII: Acronym and Glossary

Acronym

| Acronym | Description |
|---------|-------------|
|---------|-------------|

| | |
|-------------|--|
| AA | Assessment Agency |
| AB | Awarding Body |
| ISCO | International Standard Classification of Occupations |
| NCO | National Classification of Occupations |
| NCrF | National Credit Framework |
| NOS | National Occupational Standard(s) |
| NQR | National Qualification Register |
| NSQF | National Skills Qualifications Framework |
| OJT | On the Job Training |

Glossary

| Term | Description |
|--|--|
| National Occupational Standards (NOS) | NOS define the measurable performance outcomes required from an individual engaged in a particular task. They list down what an individual performing that task should know and also do. |
| Qualification | A formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards |
| Qualification File | A Qualification File is a template designed to capture necessary information of a Qualification from the perspective of NSQF compliance. The Qualification File will be normally submitted by the awarding body for the qualification. |
| Sector | A grouping of professional activities on the basis of their main economic function, product, service or technology. |
| Long Term Training | Long-term skilling means any vocational training program undertaken for a year and above. https://ncvet.gov.in/sites/default/files/NCVET.pdf |