



# Model Curriculum

## 1. Supervisor Roads & Runways

**SECTOR: Construction**

**SUB-SECTOR: Real Estate and Infrastructure Construction**

**OCCUPATION: Roads & Runways Construction**

**REF ID: CON/Q1004, V1.0**

**NSQF LEVEL: 6**





## TABLE OF CONTENTS

<b>1. Curriculum</b>	<b>01</b>
<b>2. Trainer Prerequisites</b>	<b>08</b>
<b>3. Annexure: Assessment Criteria</b>	<b>09</b>



# Supervisor Roads & Runways

## CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a “Supervisor Roads & Runways”, in the “Construction” Sector/Industry and aims at building the following key competencies amongst the learner

<b>Program Name</b>	<b>Supervisor Roads &amp; Runways</b>		
<b>Qualification Pack Name &amp; Reference ID</b>	CON/Q1004, v1.0		
<b>Version No.</b>	1.0	<b>Version Update Date</b>	23-08-2017
<b>Pre-Requisite to training</b>	Preferably Graduate/ ITI (Construction related trade with 15 years site experience in Non-Trained worker in same occupation / 5 years site experience as a certified foreman road and runways for trained worker		
<b>Training Outcomes</b>	<b>After completing this programme, participants will be able to:</b> <ul style="list-style-type: none"><li>• <b>Maintain coordination among superior and subordinates</b>-providing inputs to superiors in activity planning and briefing subordinates about work related information's</li><li>• <b>Organize Equipments and complete preparatory works prior to pavement laying</b>-preparatory work before erection and deployment of vehicle and equipment as per requirement.</li><li>• <b>Supervise construction works in flexible and rigid pavements:- supervising</b> –supervise, check and ensure the executed work as per drawing.</li><li>• <b>Carry out checks to the completed works in flexible/ rigid pavement:-</b> Perform qualitative checks to completed works in flexible and rigid pavement</li><li>• <b>Manage workplace for safe and healthy work environment :-</b> implement Health and safe working environment policies and procedures and identify and respond to risks associated with workplace</li></ul>		

This course encompasses 5 out of 5 National Occupational Standards (NOS) of “Supervisor Roads & Runways” Qualification Pack issued by “Construction Skill Development Council of India”.

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	<p><b>Introduction</b></p> <p><b>Theory Duration</b> (hh:mm) 8:00</p> <p><b>Practical Duration</b> (hh:mm) 00:00</p>	<ul style="list-style-type: none"> <li>Necessity to construct durable and quality pavement and function of the same in transportation/ infrastructure development</li> <li>pavement construction, job roles involved in the “Roads &amp; Runways Construction” occupation</li> <li>Job opportunities for a Pavement Layer in construction sector</li> <li>Training session and training delivery plan</li> <li>Basic knowledge of Unit of measurement and their conversion</li> <li>Basic knowledge of arithmetic calculation</li> <li>Different parts of rigid and flexible pavement.</li> </ul>	<p><u>Classroom Requirement</u></p> <ol style="list-style-type: none"> <li>Classroom of 30 students capacity</li> <li>Black/White board</li> <li>Projector/LED Monitor</li> <li>Computer</li> <li>Trade specific charts and other teaching aids</li> </ol>
2	<p><b>Maintain coordination among superior and subordinates</b></p> <p><b>Theory Duration</b> (hh:mm) 116:00</p> <p><b>Practical Duration</b> (hh:mm) 25:00</p> <p><b>OJT</b> (hh:mm) 91:00</p> <p><b>Corresponding NOS Code</b> CON/N1011</p>	<p><b>Theory: -</b></p> <ul style="list-style-type: none"> <li>Standard methods of rigid and flexible pavement construction.</li> <li>Pavement construction Drawings, their types and uses</li> <li>Method of estimation of Material and Manpower requirement for each activity of road construction work.</li> <li>Standard code of practice related to construction material used in pavement construction</li> <li>Method statement and milestone chart</li> <li>Checklist, permits, reports, material requisitions, indents</li> <li>Documentation related to material and manpower</li> </ul> <p><b>Demonstration/ Practical: -</b></p> <ul style="list-style-type: none"> <li>Read and interpret pavement construction drawings and list out details and technical specification</li> <li>Evaluate types and capacity of transportation and Equipments in each activity of pavement construction,</li> <li>Estimate manpower, material and time required for completion for each activity of pavement construction</li> <li>Demonstrate standard hand signaling procedures during material shifting and vehicular movement</li> <li>Prepare Status report of work in pavement construction</li> </ul>	<p><u>Hand tools</u></p> <ol style="list-style-type: none"> <li>Broom,</li> <li>basket,</li> <li>Shovel,</li> <li>Rake,</li> <li>Wheel Barrow,</li> <li>Tray,</li> <li>Hammer,</li> <li>Spade,</li> <li>Pick axe,</li> <li>trowel,</li> <li>crowbar</li> <li>Bitumen Spray gun</li> <li>Wheelbarrow</li> </ol> <p><u>Measuring Instruments</u></p> <ol style="list-style-type: none"> <li>Measurement Tape</li> <li>Chalk line/masons line</li> <li>Water level</li> <li>Straightedges</li> <li>Spirit level</li> </ol> <p><u>Equipments and machinery required</u></p> <ol style="list-style-type: none"> <li>Power saw,</li> <li>rooter,</li> <li>8-10ton (three wheel or tandem) Roller,</li> <li>water lorry,</li> <li>grit spreader,</li> <li>bitumen pressure distributor,</li> <li>paver finisher,</li> <li>hot mix plant,</li> <li>concrete batching plant,</li> <li>WMM mixing plant</li> <li>motor grader,</li> <li>tippers,</li> </ol>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> <li>• Demonstrate standard method of handling and stacking</li> <li>• Determine type and quantity of safety control Equipments, arrangements to be used for pavement construction work</li> <li>• Provide information about hazards and risks involved in working at proximity to vehicle/heavy construction Equipments, vehicular traffic, deep excavated work spots to subordinates</li> </ul>	trucks, 31.pavement marker, cranes, 32.Chain and pulley arrangement, 33.lifting appliances (belts, ropes)  <u>Safety Instruments</u> 34.Safety Helmet 35.Safety goggles 36.Safety shoes 37.Safety belt 38.Cotton gloves 39.Ear plugs 40.Reflective jackets 41.Dust mask 42.Fire Prevention kit 43.Barricade tape 44.Safety Tags
3	<p><b>Organize Equipments and complete preparatory works prior to pavement laying</b></p> <p><b>Theory Duration</b> (hh:mm) 120:00</p> <p><b>Practical Duration</b> (hh:mm) 00:00</p> <p><b>OJT</b> (hh:mm) 124:00</p> <p><b>Corresponding NOS Code</b> CON/N1012</p>	<p><b>Theory: -</b></p> <ul style="list-style-type: none"> <li>• Sequence of pavement construction activities.</li> <li>• Procedure of material handling and storing</li> <li>• Organizational service request procedures of tools, materials, Equipments</li> <li>• Types of hazards in pavement construction works and preventive method.</li> <li>• Specification and capacity of construction Equipments</li> <li>• Measures and arrangements to control vehicular traffic</li> <li>• Types of lighting arrangement in pavement construction</li> <li>• productivity of Equipments and effective method of job allocation to the same</li> </ul> <p><b>Demonstration/ Practical: -</b></p> <ul style="list-style-type: none"> <li>• Prepare indent for materials, tools and tackles</li> <li>• Carryout measurement to layouts and construction of pavement layers</li> <li>• Perform standard method of shifting materials</li> <li>• Demonstrate Communication and dealing with clients to show execution of work as per drawing and specification.</li> <li>• Carryout allocation of construction Equipments and vehicles as per work requirement</li> </ul>	<p><u>Hand tools</u></p> <ol style="list-style-type: none"> <li>1.Broom,</li> <li>2.basket,</li> <li>3.Shovel,</li> <li>4.Rake,</li> <li>5.Wheel Barrow,</li> <li>6.Tray,</li> <li>7.Hammer,</li> <li>8.Spade,</li> <li>9.Pick axe,</li> <li>10.trowel,</li> <li>11.crowbar</li> <li>12.Bitumen Spray gun</li> <li>13.Wheelbarrow</li> </ol> <p><u>Measuring Instruments</u></p> <ol style="list-style-type: none"> <li>14.Measurement Tape</li> <li>15.Chalk line/masons line</li> <li>16Water level</li> <li>17.Straightedges</li> <li>18.Spirit level</li> </ol> <p><b><u>Equipments and machinery required</u></b></p> <ol style="list-style-type: none"> <li>19.Power saw,</li> <li>20.rooter,</li> <li>21.8-10ton (three wheel or tandem) Roller,</li> <li>22.water lorry,</li> <li>23.grit spreader,</li> <li>24.bitumen pressure distributor,</li> <li>25.paver finisher,</li> <li>26.hot mix plant,</li> </ol>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> <li>• Coordinate and instruct equipment operators for each activity of construction of pavement</li> <li>• Demonstrate installation of traffic control signage ,barriers</li> <li>• Ensure installation of lighting arrangements and electrical outlets</li> <li>• Ensure borrow pits, trenches and other excavated spots are barricaded</li> </ul>	27.concrete batching plant, 28.WMM mixing plant 29.Motor grader, 30.tippers/trucks, 31.pavement marker, cranes, 32.Chain and pulley arrangement, 33.lifting appliances (belts, ropes <u><b>Safety Instruments</b></u> 34.Safety Helmet 35.Safety goggles 36.Safety shoes 37.Safety belt 38.Cotton gloves 39.Ear plugs 40.Reflective jackets 41.Dust mask 42.Fire Prevention kit 43.Barricade tape 44.Safety Tags
4	<p><b>Supervise construction works in flexible and rigid pavements</b></p> <p><b>Theory Duration</b> (hh:mm) 172:00</p> <p><b>Practical Duration</b> (hh:mm) 00:00</p> <p><b>OJT</b> (hh:mm) 172:00</p> <p><b>Corresponding NOS Code</b> CON/N1013</p>	<p><b>Theory: -</b></p> <ul style="list-style-type: none"> <li>• Specifications of construction materials used in each course of pavement construction</li> <li>• Types of base courses used and method of construction</li> <li>• Types of curves and slopes used in road and its specification</li> <li>• Specification and location of expansion joint</li> <li>• Different grades of concrete and bitumen used in rigid and flexible pavement.</li> <li>• Specifications of drainage pipes and accessories.</li> <li>• Standard construction methodology of drainage works</li> </ul> <p><b>Demonstration/ Practical: -</b></p> <ul style="list-style-type: none"> <li>• Supervise pacing of aggregates and fines for preparation of base course</li> <li>• Monitor laying of binding and wearing course by pavers as per drawing and specifications</li> <li>• Monitor and ensure degree of compaction in each course of pavement as per specifications</li> <li>• Fix expansion joints in rigid pavement</li> <li>• Monitor application of prime coat and tack coat</li> </ul>	<p><b>Hand tools</b></p> <ol style="list-style-type: none"> <li>1.Broom,</li> <li>2.basket,</li> <li>3.Shovel,</li> <li>4.Rake,</li> <li>5.Wheel Barrow,</li> <li>6.Tray,</li> <li>7.Hammer,</li> <li>8.Spade,</li> <li>9.Pick axe,</li> <li>10.trowel,</li> <li>11.crowbar</li> <li>12Bitumen Spray gun</li> <li>13.Wheelbarrow</li> </ol> <p><b>Measuring Instruments</b></p> <ol style="list-style-type: none"> <li>14.Measurement Tape</li> <li>15.Chalk line/masons line</li> <li>16Water level</li> <li>17.Straightedges</li> <li>18.Spirit level</li> </ol> <p><b>Equipments and machinery required</b></p> <ol style="list-style-type: none"> <li>19.Power saw,</li> <li>20.Rooter,</li> <li>21.8-10ton (three wheel or tandem) Roller,</li> <li>22.water browser with sprinkling system,</li> <li>23.grit spreader,</li> </ol>



Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> <li>• Check and ensure reinforcement work as per drawing and specification.</li> <li>• Check curves, slopes, edges of pavement as per drawing/specification</li> <li>• Carryout check on top level of each finished layer by measuring instruments</li> <li>• Perform check on physical conditions of construction material as per specifications</li> </ul>	24. bitumen pressure distributor, 25. paver finisher, 26. hot mix plant, 27. concrete batching plant, 28. WMM mixing plant 29. motor grader, 30. tippers, trucks, 31. pavement marker, cranes, 32. Chain and pulley arrangement, 33. lifting appliances (belts, ropes) <b>Safety Instruments</b> 34. Safety Helmet 35. Safety goggles 36. Safety shoes 37. Safety belt 38. Cotton gloves 39. Ear plugs 40. Reflective jackets 41. Dust mask 42. Fire Prevention kit 43. Barricade tape 44. Safety tags
5	<p><b>Carry out checks to the completed works in flexible/ rigid pavement</b></p> <p><b>Theory Duration</b> (hh:mm) 60:00</p> <p><b>Practical Duration</b> (hh:mm) 25:00</p> <p><b>OJT</b> (hh:mm) 60:00</p> <p><b>Corresponding NOS Code</b> CON/N1014</p>	<p><b>Theory</b></p> <ul style="list-style-type: none"> <li>• Method of linear measurement using measuring instruments</li> <li>• standard procedure of vibration to RCC concrete</li> <li>• Curing process of concrete and different method of curing such as ponding, using gunny bags, application of curing compounds</li> <li>• specification and guidelines of application of materials used for road construction work, such as bitumen, epoxy solutions, admixtures, curing compound, dowel bars etc</li> </ul> <p><b>Demonstration/ Practical: -</b></p> <ul style="list-style-type: none"> <li>• Conduct leakage test in water pipe lines</li> <li>• Perform Remedial measures/actions for faulty or damaged concreting work as per specifications in rigid pavement construction</li> <li>• Perform Check on surfacing of concreting and asphalt work in rigid and flexible pavement respectively</li> </ul>	<p><b>Hand Tools</b></p> <ol style="list-style-type: none"> <li>1. Shovel</li> <li>2. Pick axe</li> <li>3. wheel barrow</li> <li>4. trowel</li> <li>5. Hammers and chisels</li> <li>6. basket</li> <li>7. Hose pipe</li> <li>7. Needle vibrator</li> <li>8. screed vibrator</li> <li>9. water pump</li> </ol> <p><b>Measuring Instruments</b></p> <ol style="list-style-type: none"> <li>10. Measurement tape</li> <li>11. Water level</li> <li>12. Chalk line/mason line</li> <li>13. Plumb bob</li> <li>14. Camber board</li> <li>15. Straightedges</li> <li>16. Auto level</li> </ol> <p><b>Equipments and machinery required</b></p>



Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> <li>Ensure vibration of wearing coat concrete by appropriate vibrating equipment in rigid pavement construction</li> <li>Ensure drainage pipelines are laid, fixed and connected as per specification</li> </ul>	17.Chain and pulley arrangement 18.Lifting appliances(belts, ropes) 19.Cranes 20.Water browser with sprinkling system 21.Concrete mixer 22.Excavator 23.Tippers  <u>Safety instruments</u> 24.Safety Helmet 25.Safety goggles 26.Safety shoes 27.Safety belt 28.Cotton gloves 29.Ear plugs 30.Reflective jackets 31.Dust mask 32.Fire Prevention kit 33.Barricade Tape 34.Safety Tags
6	<b>Manage workplace for safe and healthy work environment</b>  <b>Theory Duration</b> (hh:mm) 24:00  <b>Practical Duration</b> (hh:mm) 00:00  <b>OJT</b> (hh:mm) 24:00  <b>Corresponding NOS Code</b> CON/N9002	<u>Theory: -</u> <ul style="list-style-type: none"> <li>Common types of hazards involved in construction sites in rigid and flexible pavement construction work</li> <li>Types of hazards involved in handling of hot asphalt mix works</li> <li>Safe working methods as per standard norms and actions to be taken under emergency situations</li> <li>Identification of unsafe act and unsafe condition and how to report the same</li> <li>Basic concept of: -               <ol style="list-style-type: none"> <li>1. First Aid process</li> <li>2. Use of fire extinguisher</li> <li>3. Classification of fires and fire extinguisher</li> <li>4. Safety drills and its purpose</li> <li>5. Types and use of PPEs required for pavement laying works</li> </ol> </li> <li>Standard procedure of handling, storing and stacking material used in pavement construction work</li> <li>safe disposal of waste depending upon type of waste</li> <li>Basic ergonomic principles to be followed while carrying out heavy material handling and correct working postures</li> </ul>	<u>PPEs</u> <ol style="list-style-type: none"> <li>1. Safety Helmet</li> <li>2. Safety goggles</li> <li>3. Safety shoes</li> <li>4. Safety belt</li> <li>5. Cotton gloves</li> <li>6. Ear plugs</li> <li>7. Reflective jackets</li> <li>8. Dust mask</li> <li>9. Fire Prevention kit</li> <li>10. Barricade tape</li> <li>11. Safety Tags</li> </ol>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<p><b>Demonstration/ Practical: -</b></p> <ul style="list-style-type: none"> <li>Select PPEs and use them appropriately as per working need of pavement construction activities</li> <li>Practice handling, storing, stacking and shifting of material, tools and equipment's</li> <li>Identifying locations, situations/ circumstances, malpractices which can be hazardous in pavement construction work.</li> <li>Demonstrate use of fire extinguisher and standard practice of storing &amp; stacking firefighting equipment's/ materials at work locations</li> <li>Demonstrate disposal of waste materials as per their nature.</li> </ul>	
	<p><b>Total Duration</b></p> <p><b>Theory Duration</b> <b>500:00</b></p> <p><b>Practical Duration:</b> <b>50:00</b></p>	<p><b>Unique Equipment Required:</b></p> <p><u>Classroom Requirement</u> Classroom of 30 students capacity, Black/White board, Projector/LED Monitor, Computer, Trade specific charts and other teaching aids</p> <p><u>Hand Tools</u> Broom, basket, Shovel, Rake, Wheel Barrow, Tray, Hammer, Spade, Pick axe, trowel, crowbar</p> <p><u>Power tools</u> Needle and screed vibrator, power saw, Mechanical broom, bitumen sprayer</p> <p><u>Measuring Instruments</u> Measurement Tape, Chalk line/masons line, Water level, Spirit level, Plumb bob, Straightedges</p> <p><u>Material and consumables</u> Bitumen, aggregates, murrum, Water, Bitumen drums, Rubber ring/Gasket, cement, chalk, powder, nails, pegs, flags, ropes, hosepipes, hessian cloths, flags, ladder</p> <p><u>Equipments required</u> Power saw, roter, 8-10ton (three wheel or tandem) Roller, water lorry, grit spreader, bitumen pressure distributor, paver finisher, hot mix plant, concrete batching plant, motor grader, tippers, trucks, paver marker, cranes, Chain and pulley arrangement, lifting appliances (belts, ropes)</p> <p><u>Safety instruments</u> Safety Helmet, Safety goggles, Safety shoes, Safety belt, Cotton gloves, Ear plugs, Reflective jackets, Dust mask, Fire Prevention kit, Barricade tape, Safety Tags</p>	

Grand Total Course Duration: **1000 Hours, 0 Minutes**  
{Including Mandatory **450 hours of OJT (project site experience)**}

(This syllabus/ curriculum has been approved by [Construction Skill Development Council of India](#))

## Trainer Prerequisites for Job role: “Supervisor Roads & Runways” mapped to Qualification Pack: “CON/Q1004, v1.0”

Sr. No.	Area	Details
1	<b>Description</b>	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack “CON/Q1004”.
2	<b>Personal Attributes</b>	Aptitude for conducting training, and pre/ post work to ensure competent, employable candidates at the end of the training. Strong communication skills, interpersonal skills, ability to work as part of a team; a passion for quality and for developing others; well-organised and focused, eager to learn and keep oneself updated with the latest in the mentioned field
3	<b>Minimum Educational Qualifications</b>	ITI/12 <sup>th</sup> standard pass
4a	<b>Domain Certification</b>	Trainer/Assessor- 70% in each NOS of Qualification Pack “CON/Q1004” & 80% overall , Lead trainer/Lead Assessors- 70% in each NOS of Qualification Pack “CON/Q1004” & 90% overall
4b	<b>Platform Certification</b>	Trainer/Assessor-80% in each NOS of Qualification Pack “MEP/Q0102” or “MEP/Q0104”, Lead trainer/ Lead Assessors- 90% in each NOS of Qualification Pack “MEP/Q0101” or “MEP/Q0103”and overall 90%
5	<b>Experience</b>	i. Technical Degree holder with minimum three years of Field experience and preferably two years of teaching experience or, ii. In case of a Diploma Holder five years of field experience and preferably two years of teaching experience or, iii. In case of ITI/12 <sup>th</sup> pass minimum eight years of field experience and preferably two years of teaching Experience.



## **CRITERIA FOR ASSESSMENT OF TRAINEES**

<b><u>Job Role</u></b>	Supervisor Roads & Runways
<b><u>Qualification Pack</u></b>	CON/Q1004
<b><u>Sector Skill Council</u></b>	Construction

### **Guidelines for Assessment**

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2. The assessment for the knowledge part will be based on knowledge bank of questions created by Assessment Bodies subject to approval by SSC
3. Individual assessment agencies will create unique question papers for knowledge/theory part for assessment of candidates as per assessment criteria given below
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training centre based on assessment criteria.
5. The passing percentage for each QP will be 70%. To pass the Qualification Pack, every trainee should score a minimum of 70% individually in each NOS.
6. The Assessor shall check the final outcome of the practices while evaluating the steps performed to achieve the final outcome.
7. The trainee shall be provided with a chance to repeat the test to correct his procedures in case of improper performance, with a deduction of marks for each iteration.
8. After the certain number of iteration as decided by SSC the trainee is marked as fail, scoring zero marks for the procedure for the practical activity.
9. In case of successfully passing only certain number of NOSs, the trainee is eligible to take subsequent assessment on the balance NOSs to pass the Qualification Pack within the specified timeframe set by SSC.
10. Minimum duration of Assessment of each QP shall be of 4hrs/trainee.

Assessment outcomes	Assessment Criteria for outcomes	Total Mark	Marks Allocation		
			Out Of	Theory	Skills Practical
CON/N1011: Maintain coordination among superior and subordinates	PC1. identify work activities as per GFC drawing requirements and report to concerned superior	100	6	3	3
	PC2. provide inputs to concerned engineer regarding time required for completion of identified key activities		6	3	3
	PC3. provide status report/ update to concerned engineer regarding assigned/ completed works		5	2.5	2.5
	PC4. determine requirement of manpower to complete works in accordance with pavement construction work schedule		6	3	3
	PC5. ascertain type and capacity of transportation and construction equipments to be used and report to the concerned engineer		6	3	3
	PC6. provide inputs to concerned engineer regarding requirements for manpower, tools, and materials as per work requirements		6	3	3
	PC7. determine method of excavation/ grading, route and mode of transportation of excavated or construction material and take necessary approval from concerned engineer		6	3	3
	PC8. report concerned engineer or departments to obtain electrical power outlets and lighting arrangements		6	3	3
	PC9. determine type and quantity of safety control equipments, arrangements to be used for pavement construction work		6	3	3
	PC10. provide inputs to concerned engineer to plan protective arrangements to be provided to stacked construction materials against rain, storm or unauthorized access		6	3	3
	PC11. brief subordinate workers about scopes and timelines to be adhered for respective activities		6	3	3
	PC12. describe about tools/ equipments to be used in material shifting, excavation and paving operations and safe working procedure for working near the same		6	3	3
	PC13. describe standard procedure of material handling and stacking		6	3	3
	PC14. provide information about hazards and risks involved in working at proximity to vehicle/ heavy construction equipments, vehicular traffic, deep excavated work spots etc		6	3	3
	PC15. provide direction regarding PPEs to be used during lifting and erection operations by respective gangs		6	3	3
	PC16. brief about standard hand signaling procedure to be adhered and use of communication devices during material handling, monitoring vehicular movement		5	2.5	2.5
	PC17. provide direction for reporting procedure to be maintained during activity and under emergency situations		6	3	3
	<b>Total</b>	<b>100</b>	<b>50</b>	<b>50</b>	

CON/N1012: Organise equipments and complete preparatory works prior to pavement laying	PC1. prepare indent for required material, tools and tackles as per requirement and instruction	<b>100</b>	6	3	3
	PC2. ensure proper survey points are available at respective locations for pavement construction		6	3	3
	PC3. check and carry out required measurements to proposed land/ layouts, pavement layers as and when necessary		6	3	3
	PC4. ensure shifting of construction materials from yard to lifting points in accordance with lifting plan		6	3	3
	PC5. ensure installation of lighting arrangements and electrical outlets as per work requirement		6	3	3
	PC6. ensure erection of relevant safety arrangement such as signage, barricading at specified work locations as per work safety plan		6	3	3
	PC7. deal with clients in order to confirm whether the executed work is as per drawing, specification		7	3.5	3.5
	PC8. coordinate with vehicle/ equipment operators to achieve correct sequencing of activities within planned time line		7	3.5	3.5
	PC9. ensure vehicle movement paths/ ramps are clearly defined, properly levelled/ sloped, compacted, illuminated, provided with adequate signage and free from any potential hazards		6	3	3
	PC10. deploy transportation vehicles and construction Equipments at specified work location as per work requirement		6	3	3
	PC11. instruct equipment operators for excavation, excavated soil disposal, earth filling, grading and compaction work		7	3.5	3.5
	PC12. ensure borrow pits, trenches and other excavated spots are barricaded and illuminated properly		6	3	3
	PC13. ensure vehicles and Equipments deployed at site comply with statutory requirements		6	3	3
	PC14. ensure efficient use of vehicle/ equipment by achieving targets and free rotational		6	3	3
	PC15. report break down and unsafe condition observed in vehicle to concerned authority		7	3.5	3.5
	PC16. ensure installation of traffic control signage, barriers and their periodical checks		6	3	3
	<b>Total</b>	<b>100</b>	<b>50</b>	<b>50</b>	
CON/N1013: Supervise construction works in flexible and rigid pavements	PC1. supervise placing of aggregates and fines for preparation of base course layers	<b>100</b>	10	5	5
	PC2. ensure correct sequence of material placing and degree of compaction is done as per specification		10	5	5
	PC3. check top level of each finished layers of pavements using appropriate measuring instruments		10	5	5
	PC4. check curves, slopes, edges of pavements as per drawing/ specification		10	5	5
	PC5. check physical condition of construction materials such as bitumen, asphalt, soil, aggregate, fillers as per specification		10	5	5
	PC6. inspect road layers visually for compaction, application of water and co-ordinate with concerned departments for conducting quality checks		10	5	5





	PC7. monitor application of bituminous coatings (prime coat/ tack coat etc.) for flexible pavement		10	5	5
	PC8. monitor laying of binding/ wiring course by pavers ensuring achieved surface is as per drawing/ specification		10	5	5
	PC9. ensure expansion joints are provided at specified locations as per specification in rigid pavement		10	5	5
	PC10. check and ensure that the reinforcement works are as per drawing/ specification <ul style="list-style-type: none"> <li>diameter of reinforcement bars are as per drawing</li> <li>spacing of the reinforcement bars are within tolerance limit</li> <li>number of reinforcement bar is per drawing</li> <li>length of reinforcement bars are according to drawing and staggered as per specification</li> <li>reinforcement bars are appropriately bent and bents are free from cracks, shrinks</li> <li>clear cover provided is as per drawing (use of cover blocks at appropriate intervals)</li> <li>proper tying is provided to the reinforcement meshes and binding wires are of specific gauges</li> <li>bars are clean from dirt, mud, grease or any other unwanted materials according to specification</li> </ul>		10	5	5
		<b>Total</b>	<b>100</b>	<b>50</b>	<b>50</b>
CON/N1014: Carry out checks to the completed works in flexible/ rigid pavement	PC1. ensure adequate vibration is done to the wearing coat concrete selecting appropriate vibrating equipment	<b>100</b>	14	7	7
	PC2. ensure desired surfacing is done post concreting/ asphalt paving work		14	7	7
	PC3. monitor curing of RCC works and conduct necessary arrangements for curing		15	7.5	7.5
	PC4. ensure drainage pipelines are laid, fixed and connected as per specification		14	7	7
	PC5. conduct water leakage tests through the pipeline and suggest remedial measures if leakage observed		14	7	7
	PC6. suggest remedial measures for faulty or damaged paving/ concreting works and ensure its completion as per specification		15	7.5	7.5
	PC7. seek instruction/ suggestion from superior for corrective actions to be taken for unsolved issues and ensure its implementation		14	7	7
		<b>Total</b>	<b>100</b>	<b>50</b>	<b>50</b>
CON/N9002: Manage workplace for safe and healthy work environment	PC1. ensure proper housekeeping at workplace	<b>100</b>	5	2.5	2.5
	PC2. implement safe handling , stacking methods at workplace / store		5	2.5	2.5
	PC3. insure that health and safety plan is followed by all subordinates		5	2.5	2.5
	PC4. identify any hazard in workplace and notify them to appropriate authority		5	2.5	2.5
	PC5. ensure that all safety and protection installation are correctly placed & adequate		5	2.5	2.5
	PC6. ensure safe access is available at work place for movement of workers & materials		5	2.5	2.5
	PC7. ensure safe use of tools and tackles by the workmen as per applicability		5	2.5	2.5
		<b>100</b>	<b>5</b>	<b>2.5</b>	<b>2.5</b>



PC8. ensure appropriate use of following Personal Protective Equipment (PPE) as per applicability:			
<ul style="list-style-type: none"> <li>• Head Protection (Helmets)</li> </ul>			
<ul style="list-style-type: none"> <li>• Ear Protection</li> </ul>			
<ul style="list-style-type: none"> <li>• Fall Protection</li> </ul>			
<ul style="list-style-type: none"> <li>• Foot Protection</li> <li>• Face and Eye Protection,</li> <li>• Hand &amp; Body Protection</li> <li>• Respiratory Protection</li> </ul>	10	5	5
PC9. Maintain entrances & exit from confined spaces, excavated pits and other location in concurrence with safety parameters or instruction from safety personals.	5	2.5	2.5
PC10. ensure organizational policies and procedures are followed for health , safety and welfare, in relation to: <ul style="list-style-type: none"> <li>• methods of receiving or sourcing information</li> <li>• dealing with accidents and emergencies associated with the work and environment</li> <li>• reporting</li> <li>• stooping work</li> <li>• evacuation</li> <li>• fire risks and safe exit procedures</li> </ul>	10	5	5
PC11. follow procedures for accident recording and reporting as per organizational and statutory requirements	5	2.5	2.5
PC12. ensure effective adherence to response to emergency procedures / protocols	7.5	3.75	3.75
PC13. report any case of emergency / risks to the concern people at the construction site	7.5	3.75	3.75
PC14. report any perceived risk hazards to the superiors / concerned EHS	7.5	3.75	3.75
PC15. demonstrate the use of fire protection Equipments for different type of fire hazard	7.5	3.75	3.75
PC16. implement control measures to reduce risk & meet legal requirement as per organizational policies	5	2.5	2.5
<b>Total</b>	<b>100</b>	<b>50</b>	<b>50</b>