



Model Curriculum

1. Tinting Operator

SECTOR: PAINTS AND COATINGS
SUB-SECTOR: MANUFACTURING
OCCUPATION: LIQUID PAINT PRODUCTION
REF ID: PCS/Q0509, V1.0
NSQF LEVEL: 4





Skill India
सौभाग्यं भारत - कुशलं भवतु

PAINTS AND
COATINGS
SKILL COUNCIL





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CURRICULUM COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

PAINTS AND COATINGS SKILL COUNCIL

for

MODEL CURRICULUM

Complying to National Occupational Standards of
Job Role/ Qualification Pack: '**Tinting Operator**' QP No. '**PCS/Qo509 NSQF Level 4**'

Date of Issuance: December 27th, 2016

Valid up to*: **March 31st, 2018**

*Valid up to the next review date of the Qualification Pack or the
"Valid up to" date mentioned above (whichever is earlier)


Authorised Signatory
(Paints and Coatings Skill Council)

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Tinting Operator

CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a “Tinting Operator”, in the “Paints and Coatings” Sector/Industry and aims at building the following key competencies amongst the learner

Program Name	Tinting Operator		
Qualification Pack Name & Reference ID. ID	PCS/Q0509, v1.0		
Version No.	1.0	Version Update Date	
Pre-requisites to Training	10 th Standard. 5 th Standard, if has 2 years experience as Helper Colour Matcher.		
Training Outcomes	<p>After completing this programme, participants will be able to:</p> <ul style="list-style-type: none"> • Know about the sector: Discuss the Paints and Coatings sector in India and its sub-sectors • Know about different types of liquid paints and its uses with advantages and disadvantages • Know about the major ingredients of liquid paint • Know about paint manufacturing in general and the process flow. • Understand the colour characteristics of different pigment/ colourants and its use in tinting/ colour matching • Learn the use of computer coupled spectrophotometer for colour reading and matching • Learn to prepare sample panels as per standard application procedure • Demonstrate various skills: Performance of behavioural, professional, technical and communication skills • Understand safety: Work in a safe manner without endangering your health and that of your colleagues 		



This course encompasses 7 out of 7 National Occupational Standards (NOS) of “Tinting Operator” Qualification Pack issued by “Paints and Coatings Skill Council”.

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	<p>Introduction</p> <p>Theory Duration (hh:mm) 6:00</p> <p>Practical Duration (hh:mm) 00:00</p> <p>Corresponding NOS Code Bridge Module</p>	<ul style="list-style-type: none"> Understand General Discipline in the class room (Do’s & Don’ts) Understand the scope of the Paints and Coatings sector in India with its sub sectors Understand the liquid paint segment Advantages and benefits and features of various liquid paints as well as its uses and shortcomings Learn and Practice Basic skills of communication 	Laptop, white board, marker, projector
2	<p>Prepare and perform colour matching</p> <p>Theory Duration (hh:mm) 40:00</p> <p>Practical Duration (hh:mm) 60:00</p> <p>Corresponding NOS Code PCS/No505</p>	<ul style="list-style-type: none"> Understand what are different types of liquid paints, their characteristics and where they are used Compare and explain differences between water based and solvent based paints Compare, understand and explain the differences between the various resin systems used Understand the components of liquid paints and paint chemistry Learn basics of liquid paint manufacture Learn to study and understand formulation of liquid paint and the process sheet Learn colour theory Understand the different pigments/ colourants used in paints and its characteristics Understand the colour requirement of the customer from the process sheet and standard shade panel Learn to understand the different pigments/ colourants required for matching the colour and estimate its quantity Learn the importance of maintaining a data base of colourants used for achieving consistent colour matching for each batch Understand the importance of using recommended pigments/ colourants and following the instructions of the process sheet and SOP to get a consistent quality for each batch Communicate with colleagues/supervisor regarding the operation at each stage 	<p>Laptop, white board, marker, projector, first aid kit.</p> <p>Lab model paint processing set up.</p>



Sr. No.	Module	Key Learning Outcomes	Equipment Required
3	<p>Co-ordinate with colleagues and/or customers</p> <p>Theory Duration (hh:mm) 08:00</p> <p>Practical Duration (hh:mm) 04:00</p> <p>Corresponding NOS Code PCS/N9901</p>	<ul style="list-style-type: none"> Understand customer requirements and specifications Learn about various performance indicators, meaning of targets and timelines and how to communicate about these with your colleagues and customers Learn appropriate behavioural skills whilst dealing with colleagues/co-workers Learn how you can contribute to improving customer satisfaction 	Laptop, white board, marker, projector
4	<p>Maintain standards of product / service quality</p> <p>Theory Duration (hh:mm) 12:00</p> <p>Practical Duration (hh:mm) 10:00</p> <p>Corresponding NOS Code PCS/N9902</p>	<ul style="list-style-type: none"> Learn about quality requirements for manufacturing process Understand how quality is defined, various tests and their acceptance criteria, and how standards can be achieved Learn about various equipment used for quality tests and how to use them Learn to meet and exceed quality requirements of a customer 	Laptop, white board, marker, projector
5	<p>Maintain OH&S standards and follow environmental standards</p> <p>Theory Duration (hh:mm) 6:00</p> <p>Practical Duration (hh:mm) 16:00</p> <p>Corresponding NOS Code PCS/N9903</p>	<ul style="list-style-type: none"> Learn about health hazards of chemicals/ ingredients used in paint manufacturing Learn the use and importance of personal protective equipment Learn to handle chemical, powder materials, tools and equipment in a safe manner Minimising risks of inhalation injury Become aware of hazards in liquid paint manufacturing process and how to prevent/eliminate them Understand methods and precautions to be taken for safe disposal of waste generated in the process Learn about safety signs in a plant environment and how to interpret and adhere to them 	Laptop, white board, marker, projector
6	<p>Maintain IPR of organisation and customers</p>	<ul style="list-style-type: none"> Learn to explain the meaning of IPR and the various confidential information and trade secrets in an organisation 	Laptop, white board, marker, projector



Sr. No.	Module	Key Learning Outcomes	Equipment Required
	<p>Theory Duration (hh:mm) 04:00</p> <p>Practical Duration (hh:mm) 04:00</p> <p>Corresponding NOS Code PCS/N9904</p>	<ul style="list-style-type: none"> Understand why protection of IPR and trade secrets are critical for a business Learn about your responsibilities in maintaining IPR and trade secrets of your organisation and customers 	
7	<p>Operate computer coupled spectro-photometer</p> <p>Theory Duration (hh:mm) 10:00</p> <p>Practical Duration (hh:mm) 20:00</p> <p>Corresponding NOS Code PCS/No506</p>	<ul style="list-style-type: none"> Understand the working of a computer coupled spectro-photometer and its calibration before use Understand the importance of maintaining the required database of the colourants as per the requirement of the machine Understand the requirement of storing standard colour panel Learn the process of obtaining the pigment/ colourant composition to achieve the standard colour Understand the general maintenance and preventive maintenance of the spectro-photometer Communicate with colleagues/supervisor regarding the operation at each stage 	<p>Laptop, white board, marker, projector, first aid kit.</p> <p>Lab model paint processing set up.</p> <p>Computer coupled spectro-photometer</p>
8	<p>Prepare the sample for colour matching</p> <p>Theory Duration (hh:mm) 10:00</p> <p>Practical Duration (hh:mm) 30:00</p> <p>Corresponding NOS Code PCS/No507</p>	<ul style="list-style-type: none"> Understand the standard colour required by the customer Understand the painting system for colour matching as per the process sheet or customer specification Understand the requirement of dry film thickness for colour matching Understand the painting process to be followed for colour matching Learn the importance of documenting each step of colour matching by maintaining the data on pigment/ colorant addition, colour achieved, application process and conditions. Communicate with colleagues/supervisor regarding the operation at each stage 	<p>Laptop, white board, marker, projector, first aid kit.</p> <p>Lab model paint processing set up.</p> <p>Lab model application system</p>
	<p>Total Duration</p> <p>Theory Duration 96:00</p> <p>Practical Duration</p>	<p>Unique Equipment Required: First aid kit</p>	



Sr. No.	Module	Key Learning Outcomes	Equipment Required
	144:00		

Grand Total Course Duration: **240Hours, 0 Minutes**

(This syllabus/ curriculum has been approved by [Paints and Coatings Skill Council](#))



Trainer Prerequisites for Job role: "Tinting Operator" mapped to Qualification Pack: "PCS/Qo509, v1.0"

Sr. No.	Area	Details
1	Description	A Tinting Operator is an individual who performs colour matching for achieving the accurate and desired final colour, by mixing the right proportion of colourants, pigment pastes, tinters or base colours either into a production vessel or the mixing machine.
2	Personal Attributes	A Tinting Operator should have corrected normal vision, no colour blindness, the ability to distinguish one or more chromatic colours and ability to work in a paint-redolent environment.
3	Minimum Educational Qualifications	B. Sc. (Chemistry)/(Paint Technology)
4a	Domain Certification	Certified for Job Role: "Tinting Operator" mapped to QP: "PCS/Qo509, v1.0". Minimum accepted score is 80%
4b	Platform Certification	Recommended that the Trainer is certified for the Job Role: "Trainer", mapped to the Qualification Pack: "SSC/Q1402". Minimum accepted % as per respective SSC guidelines is 70%.
5	Experience	<ul style="list-style-type: none"> 1-year experience in colour matching and relevant training or teaching experience.



Annexure: Assessment Criteria

Assessment Criteria	
Job Role	Tinting Operator
Qualification Pack	PCS/Qo509, v1.0
Sector Skill Council	Paints and Coatings

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 theory part will be based on knowledge bank of questions created by the SSC.
3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below)
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criteria
5. To pass the Qualification Pack , every trainee should score a minimum of 60% in every NOS
6. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.

	Performance Criteria	Total Marks (350)	Out of	Theory	Skills Practical
PCS/N0505 Prepare and perform color matching	PC1. receive and interpret correctly the work instructions from supervisor	50	1.5	0.5	1
	PC2. understand the job sheet for the colour required and target for completion of work		1.5	0.5	1
	PC3. plan the work process in order to complete the colour matching in time		1.5	0.5	1
	PC4. collect the paint to be tinted from the production department		1.5	0.5	1
	PC5. receive documents/details of product to be matched and the standard		1.5	0.5	1
	PC6. estimate the amount of colourants and base material to be added		1.5	0.5	1
	PC7. arrange the required base colour, tinters, equipment, etc.		1.5	0.5	1
	PC8. ensure adequate stock of required materials in advance		1.5	0.5	1
	PC9. maintain record of the paint stock received for colour matching and dispatched after colour matching		1.5	0.5	1
	PC10. accurately assess any colour difference as per the company's specifications		2.5	1	1.5
	PC11. add and mix the pigment pastes, tinters, colorants or base colours with paints, enamels or lacquers in exact proportion in order to match colours		2.5	1	1.5



	Performance Criteria	Total Marks (350)	Out of	Theory	Skills Practical
	PC12. ensure that exact raw material in specified amounts are mixed		2	0.5	1.5
	PC13. ensure to diligently follow the formula and standard colour samples in order to avoid wastage and mismatch		1.5	0.5	1
	PC14. compare samples using colorimeter/ spectro-photometer (colour computer)		1.5	0.5	1
	PC15. repeat operation and make colour adjustments until the specified colour is obtained		1.5	0.5	1
	PC16. test the colour obtained to match the specifications		1.5	0.5	1
	PC17. interpret the test results and calculate the required colour adjustments/ additions		1.5	0.5	1
	PC18. send the samples to quality check for final colour, gloss, specific gravity and viscosity tests		1.5	0.5	1
	PC19. analyze and resolve any complaints on colour		1.5	0.5	1
	PC20. maintain status of complaints in database such as complaint analysis, action on complaints, etc.		1.5	0.5	1
	PC21. ensure to wear suitable personal protective equipment and use the specified environmental safety equipment		1.5	0.5	1
	PC22. ensure accuracy of the desired colour		2.5	1	1.5
	PC23. ensure to achieve the batch card work order instructions on time		1.5	0.5	1
	PC24. clean and maintain the laboratory/work area and equipment		1.5	0.5	1
	PC25. ensure to operate the tinting equipment in a safe manner		1.5	0.5	1
	PC26. maintain detailed records of work orders, formulae and the amount of ingredients added or mixed to obtain the desired colour		1.5	0.5	1
	PC27. ensure 100% colour matching against the established colour standards and quality		1.5	0.5	1
	PC28. ensure compliance to specified laboratory procedures for quality check		1.5	0.5	1
	PC29. ensure to complete the colour matching in target time		1.5	0.5	1



	Performance Criteria	Total Marks (350)	Out of	Theory	Skills Practical
	PC30. highlight any errors identified with the finished paint or tinter		1.5	0.5	1
	PC31. communicate any shortage or requirement of tint bases, test panels and other materials		1.5	0.5	1
	POINTS		50	17	33
	TOTAL POINTS		50		

	Performance Criteria	Total Marks (350)	Out of	Theory	Skills Practical
PCS/N9901 Coordinate with colleagues and/or customers	PC1. receive job order and instructions from reporting superior	50	0.5	0.0	0.5
	PC2. understand the work output requirements, targets, performance indicators and incentives		2.0	0.5	1.5
	PC3. deliver quality work on time and report any anticipated reasons for delays		2.0	0.5	1.5
	PC4. escalate unresolved problems or complaints to the relevant senior		2.0	0.5	1.5
	PC5. communicate maintenance and repair schedule proactively to the superior		2.0	0.5	1.5
	PC6. receive feedback on work standards		1.0	0.0	1.0
	PC7. document the completed work schedule and handover to the superior		2.0	0.5	1.5
	PC8. exhibit trust, support and respect to all the colleagues in the workplace		1.0	0.25	0.75
	PC9. aim to achieve smooth workflow		2.0	0.5	1.5
	PC10. help and assist colleagues with information and knowledge		1.0	0.0	1.0
	PC11. seek assistance from the colleagues when required		1.0	0.25	0.75
	PC12. identify the potential and existing conflicts with the colleagues and resolve		1.0	0.25	0.75
	PC13. pass on essential information to other colleagues on timely basis		1.0	0.0	1.0
	PC14. maintain the etiquette, use polite language, demonstrate responsible and disciplined behaviors to the colleagues		2.0	0.5	1.5
	PC15. interact with colleagues from different functions clearly and effectively on all aspects to carry out the work among the team and understand the nature of their work		1.0	0.25	0.75
	PC16. put team over individual goals and multi task or share work where necessary supporting the colleagues		2.0	0.0	2.0
	PC17. highlight any errors of colleagues, help to rectify and ensure quality output		1.0	0.25	0.75



	Performance Criteria	Total Marks (350)	Out of	Theory	Skills Practical
	PC18. work with cooperation, coordination, communication and collaboration, with shared goals and supporting each other's performance		1.0	0.0	1.0
	PC19. ask more questions to the customers and identify their needs		1.0	0.25	0.75
	PC20. possess strong knowledge on the product, services and market		2.0	0.5	1.5
	PC21. brief the customers clearly on potential costs and hazards		1.0	0.25	0.75
	PC22. communicate with the customers in a polite, professional and friendly manner		1.0	0.25	0.75
	PC23. build effective but impersonal relationship with the customers		0.5	0.25	0.25
	PC24. ensure the appropriate language and tone are used with customers		1.0	0.25	0.75
	PC25. listen actively and have a two way communication		1.0	0.25	0.75
	PC26. be sensitive to the gender, cultural and social differences such as modes of greeting, formality, etc.		1.0	0.25	0.75
	PC27. understand the customer expectations correctly and provide the appropriate products and services		2.0	0.5	1.5
	PC28. understand the customer dissatisfaction and address or escalate their complaints effectively		2.0	0.5	1.5
	PC29. maintain a positive, sensible and cooperative manner all time		1.0	0.25	0.75
	PC30. ensure to maintain a proper body language, dress code, gestures and etiquettes towards the customers		1.0	0.25	0.75
	PC31. avoid interrupting the customers while they talk		1.0	0.0	1.0
	PC32. ensure to avoid negative questions and statements to the customers		1.0	0.0	1.0
	PC33. inform the customers on any issues or problems before hand and also on the developments involving them		2.0	0.5	1.5
	PC34. ensure to respond back to the customer immediately for their voice messages, e-mails, apps, etc.		1.0	0.0	1.0
	PC35. develop good rapport with the customers and promote other products and services		2.0	0.5	1.5
	PC36. seek feedback from the customers on their understanding to what was discussed		1.0	0.0	1.0
	PC37. explain the terms and conditions clearly		2.0	0.5	1.5
	POINTS		50	10	40



	Performance Criteria	Total Marks (350)	Out of	Theory	Skills Practical
	TOTAL POINTS				50

	Performance Criteria	Total Marks (350)	Out of	Theory	Skills Practical
PCS/N9902 Maintain standards of product/ service quality	PC1. keep in mind the profiles of expected customers	50	2.0	0.5	1.5
	PC2. understand the target customers and their product/ service quality requirements as defined by the company		3.0	0.5	2.5
	PC3. receive superior's/ customer feedback regularly		2.0	0.0	2.0
	PC4. aim to build a good connect with the customers through quality product/ service		2.0	0.5	1.5
	PC5. keep tab on frequent discussions with regular customers on general likes and dislikes in the market, latest trends, customer expectations, etc.		2.0	0.5	1.5
	PC6. receive updates on regular feedbacks from the clients on current service, complaints, and improvements to be made, etc.		2.0	0.5	1.5
	PC7. if necessary, compulsively seek customer rating of product/ service in order to help develop a set of regularly improved procedures		2.0	0.5	1.5
	PC8. demonstrate quality orientation at all level		4.0	1.5	2.5
	PC9. aim to gain their long lasting loyalty through satisfaction		3.0	1.0	2.0
	PC10. ensure 100% customer satisfaction via product/ service quality		3.0	0.5	2.5
	PC11. treat the customers fairly and with due respect		3.0	0.5	2.5
	PC12. focus on executing company's marketing strategies and product development needs		3.0	1.0	2.0
	PC13. focus on enhancing brand value of company by maintaining or enhancing quality standards		3.0	1.0	2.0
	PC14. ensure that customer expectations are met		2.0	0.5	1.5
	PC15. learn to read customers' needs and wants		2.0	0.5	1.5
	PC16. willingly accept and implement new and innovative products and services that help improve customer satisfaction		3.0	1.0	2.0
	PC17. communicate feedback of customer to senior, especially, the negative feedback		2.0	0.5	1.5



	Performance Criteria	Total Marks (350)	Out of	Theory	Skills Practical
	PC18. maintain close contact with the customers and focus groups		2.0	0.5	1.5
	PC19. offer promotions to improve product satisfaction level to the customers periodically		3.0	1.0	2.0
	PC20. weigh the cost of fulfilling unscheduled customer requests, consult with senior and advise the customer on alternatives		2.0	0.5	1.5
	POINTS		50	13	37
	TOTAL POINTS				50

	Performance Criteria	Total Marks (350)	Out of	Theory	Skills Practical
PCS/N9903 Maintain O&HS standards and follow environmental norms	PC1. assess the various health, safety and environmental hazards in the work areas	50	1.5	0.4	1.1
	PC2. take necessary steps to eliminate or minimize the hazards		1.0	0.4	0.6
	PC3. analyze the causes of accidents at the workplace		1.5	0.4	1.1
	PC4. suggest measures to prevent such accidents from taking place		1.5	0.4	1.1
	PC5. take preventive measures to avoid risk of burns and other injury due to contact with hot surfaces, gas, fire, hot fluids/ liquids, etc.		1.5	0.4	1.1
	PC6. suggest methods to improve the existing safety procedures at the workplace		1.5	0.4	1.1
	PC7. dispose waste in the designated areas safely as per company's policies and rules		1.5	0.4	1.1
	PC8. maintain appropriate ventilation in the rooms while there is more exposure to paint vapours		1.0	0.4	0.6
	PC9. avoid dumping unused cans to safeguard the environment		1.0	0.0	1.0
	PC10. be aware of the locations of fire extinguishers, emergency exits, etc.		1.0	0.4	0.6
	PC11. practice correct emergency procedures		1.5	0.4	1.1
	PC12. check and review the storage areas frequently		1.5	0.4	1.1
	PC13. stack items in an organized way and use safe lifting techniques to reduce risk of injuries from handling procedures at the storage areas		1.5	0.4	1.1
	PC14. ensure to be safe while handling materials, tools, acids, chemicals, equipment, etc.		1.0	0.4	0.6



	Performance Criteria	Total Marks (350)	Out of	Theory	Skills Practical
	PC15. store the chemicals and acids in a well-ventilated and locked areas with warning signs displayed		1.5	0.4	1.1
	PC16. ensure safe techniques while moving furniture and fixtures		1.5	0.4	1.1
	PC17. ensure to reduce risk of injury from use of electrical tools		1.5	0.4	1.1
	PC18. read the manufacturer's manual carefully before use of any equipment		1.0	0.0	1.0
	PC19. unplug the electrical equipment before performing maintenance		1.0	0.4	0.6
	PC20. keep the floors free from oil, water and grease to avoid slippery surface		1.0	0.4	0.6
	PC21. use rubber mats in the places where floors are constantly wet		1.0	0.0	1.0
	PC22. ensure safety from injuries of cuts to loss of fingers, while handling sharp hazardous tools and equipment		1.5	0.4	1.1
	PC23. use flat surfaces, secure holding and protective wear while using such sharp tools		1.5	0.4	1.1
	PC24. use health, safety and environmental protection practices for storing, cleaning, and maintaining tools, equipment, and supplies		1.5	0.4	1.1
	PC25. practice ergonomic lifting, bending, or moving equipment and supplies		1.5	0.4	1.1
	PC26. identify the requirement for maintaining environmental norms		1.0	0.4	0.6
	PC27. comply with the environmental safety norms while on work to prevent accidents and health hazards		1.0	0.4	0.6
	PC28. follow company policies and rules regarding use of hazardous materials to avoid health, safety and environmental impacts caused by them		1.0	0.4	0.6
	PC29. ensure the employees have access to first aid kit when needed		1.0	0.0	1.0
	PC30. ensure all equipment and tools are stored and maintained properly and safe to use		1.0	0.4	0.6
	PC31. ensure to use personal protective equipment and safety gear such as gloves, mask, headwear, footwear, glasses, goggles, etc. for specific tasks and work conditions where required		1.5	0.4	1.1
	PC32. ensure to display safety signs at places where necessary for people to be cautious		1.5	0.4	1.1
	PC33. ensure electrical precautions such as insulated clothing, adequate equipment insulation, dry work area, switch off the power supply when not required, etc.		1.5	0.4	1.1



	Performance Criteria	Total Marks (350)	Out of	Theory	Skills Practical
	PC34. ensure availability of general health and safety equipment such as fire extinguishers, first aid equipment, safety equipment, clothing, safety installations such as fire exits, exhaust fans, etc.		1.5	0.4	1.1
	PC35. document all the first aid treatments, inspections, etc., conducted to keep track of the safety measures undertaken		1.0	0.4	0.6
	PC36. document all the environmental hazards caused and the measures undertaken to comply with the established safety procedures of the workplace		1.0	0.0	1.0
	PC37. report to the supervisor on any problems and hazards identified and any breach of environmental procedures.		1.0	0.4	0.6
	PC38. ensure zero accident at workplace		1.0	0.4	0.6
	PC39. adhere to safety standards and ensure no material damage		1.0	0.4	0.6
	PC40. take necessary action and correct any environmental hazards caused		1.0	0.4	0.6
	POINTS		50	14	36
	TOTAL POINTS				50

	Performance Criteria	Total Marks (350)	Out of	Theory	Skills Practical
PCS/N9904 Maintain IPR of organisation and customer	PC1. prevent leak of new plans and designs to competitors by reporting on time	50	7.0	0.0	7.0
	PC2. be aware of any of company's product or design patents		8.0	1.0	7.0
	PC3. report IPR violations observed in the market, to supervisor or company head		8.0	2.0	6.0
	PC4. read copyright clause of the material published on the internet and any other printed material		8.0	0.5	7.5
	PC5. protect infringement upon customer's business or design plans		8.0	2.0	6.0
	PC6. consult supervisor or senior management when in doubt about using information available from customer		6.0	0.0	6.0
	PC7. report any infringement observed by anyone in the company		5.0	0.0	5.0
	POINTS		50	5.5	44.5
	TOTAL POINTS				50

	Performance Criteria	Total Marks (350)	Out of	Theory	Skills Practical
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PCS/N0506 Operate computer coupled spectro- photometer	PC1. receive and interpret correctly the work instructions from supervisor	50	2	1	1
	PC2. understand the job sheet for the colour required and target for completion of work		3	1	2
	PC3. plan the work process in order to complete the colour matching in time		3	1	2
	PC4. check the working condition of the tinting machine		3	1	2
	PC5. understand the operation of the machine as per operating manual or company's standards		3	1	2
	PC6. set the machine parameters in order to begin the tinting process		3	1	2
	PC7. switch on the colour spectro-photometer		2	0.5	1.5
	PC8. feed in required colour and parameters for correct composition of the colours as per the standard operating procedure		2	0.5	1.5
	PC9. operate the machine		2	1	1
	PC10. capture the visual as a number/chart		2	0.5	1.5
	PC11. store a standardised numbering in the system to show the difference between colours		3	1	2
	PC12. use colour spectro-photometer to control and quantify the colour		2	1	1
	PC13. check the accuracy of the colour with two similar shades of a colour		3	1	2
	PC14. add tinter or colour accordingly and repeat the process until the desired colour is achieved		3	1	2
	PC15. ensure general maintenance and upkeep of the colour spectro-photometer		2	0.5	1.5
	PC16. ensure no shut down of machines due to improper maintenance		2	0.5	1.5
	PC17. perform regular cleaning process as prescribed by the manufacturer		2	0.5	1.5
	PC18. ensure 100% colour matching against the established colour standards and quality		2	0.5	1.5
	PC19. ensure to complete the colour matching in target time		2	0.5	1.5
	PC20. report on any defect of tinting machine and equipment		2	0.5	1.5
	PC21. highlight any errors identified with the finished paint or tinter		2	0.5	1.5
POINTS	50	16	34		
TOTAL POINTS			50		

	Performance Criteria	Total Marks (350)	Out of	Theory	Skills Practical
PCS/N0507 Prepare the	PC1. receive the pre-treated or surface prepared panels to be painted as per company process	50	1	0	1



sample panel for colour matching	PC2. study the exact colour shade and paint thickness requirements	4	1	3
	PC3. confirm the colour shade with colour matching shade card of previous sample panel	4	1	3
	PC4. confirm the exact number of the colour to be matched	3	1	2
	PC5. recheck the colour shade difference on different metal panels	3	1	2
	PC6. read and understand the mixing ratio given for the colour shade	4	1	3
	PC7. create the exact colour by adding or diluting the quantities of coating, pigment, thinner and hardener, etc.	5	1.5	3.5
	PC8. check the micron thickness of coating using micronmeter and apply number of coats to obtain exact colour as per company's standards	5	1.5	3.5
	PC9. leave the panel for drying for specified amount of time or cure as per company's standards	3	1	2
	PC10. remove grains from the surface for a smooth finish by buffing	4	1	3
	PC11. check the panel for any bubbles, breaks, cracks as per specified standards	3	0.5	2.5
	PC12. send the panel for final quality check	2	0.5	1.5
	PC13. document all steps taken to prepare the sample panel for colour matching	3	0.5	2.5
	PC14. document the specifications applied such as types of coats, number of coats, drying time for each coat, QC check standards, micron thickness, shade card number for the shade, type of finish, pigment combinations used, new shade, any pretreatment of panel, etc.	3	0.5	2.5
	PC15. ensure 100% matching of sample panel with given shade card or previous sample panel	3	0.5	2.5
	POINTS	50	12.5	37.5
TOTAL POINTS			50	
TOTAL	350			