



UEENEEG106A (SIN S7323)

Terminate Cables & Accessories for Low Voltage Circuits

Student Name:		Student ID	
Assessment Date:		ATTEMPT #	1
STUDENT DECLARATION I certify that I understand the assessment instructions (see page over) and the submitted work is my own. Signed: _____			

Assessment Notes

Time allowed: 120 minutes **Total Marks – 80** **Pass Mark 100%**
Aids Permitted: AS/NZS 3000
WA Electrical Requirements
AS/NZS 3008

Assessor Feedback	
Performance demonstrated by this assessment is:	Satisfactory (S) or Not Yet Satisfactory (NYS)
Assessor Comment: The student's result was: _____%	
<input type="checkbox"/> Review all the worksheets and/or exercises. <input type="checkbox"/> Attend evening tutorials. <input type="checkbox"/> Join a study group. <input type="checkbox"/> Apply for a retest before the end of your enrolment period. <input type="checkbox"/> Other:	
Notes: 1. You are allowed two assessment attempts in the enrolment period. 2. Failure to achieve a Satisfactory Result within the enrolment period will require re-enrolment. 3. You have the right to appeal your assessment result.	
Assessor Name:	Assessor Signature:
Date assessment outcome and feedback received on:	Student Signature:



Instructions

1. Attempt ALL questions and write answer in the space provided.
2. Follow all instructions given by your assessor.
3. For multiple choice questions, put a cross in the box of the *most* correct answer.
4. All diagrams must be neat and labelled.
5. All material handed in must have your full name on it.
6. All calculations and numerical answers must be shown correct to two decimal places and include both the unit of measurement and metric prefix if applicable.
7. Time allowed and aids permitted are indicated on the test paper.
8. Programmable and/or graphic calculators are not permitted.
9. All bags, text books, pencil cases etc. must remain on the floor. Only the required pens, pencils, erasers, calculators are to be on the work surface.
10. Consult your assessor for assistance if required.
11. **NO** collaboration of **any** description between students.
12. You may not leave the assessment room without the assessor's permission. If you leave without your assessor's permission, your assessment attempt will be terminated and assessed as Not Yet Satisfactory.
13. Mobile phones must be **Switched Off** and placed in your bag for the duration of the assessment. If your mobile device is seen, 'rings' or vibrates during the assessment, your assessment attempt will be terminated and assessed as Not Yet Satisfactory.
14. If the assessment is interrupted for any reason, a new assessment will be attempted at a time determined by your assessor.
15. Verbal and written feedback will be given to you after the assessment.

Signing the Student Declaration on the front page indicates that you have read and agree to follow these instructions.



Portfolio Assessment

1.	What type of electrical cable is usually used for wiring general light and power circuits in a typical domestic installation?	(1)
	A	
2.	What <u>type</u> of electrical cable is usually used for connecting a roof-top television antenna to the television set <u>and</u> what is its <u>impedance</u> ?	(1)
	A	
3.	What type of material is usually used to provide the ARMOURING on armoured electrical cables?	(1)
	A	Copper wire
	B	Lead wire
	C	Steel wire
	D	Tin wire
4.	What is the maximum specified voltage rating of standard V75 insulated building wire?	(1)
	A	0.6/0.6 kV
	B	240 volts
	C	415 volts
	D	0.6/1 kV
5.	The terms 'functional' and 'protective' can be used to describe two separate parts of a TPS cable. To which part of the cable do the terms refer?	(1)
	A	The cable cores
	B	The strands of the cable
	C	The insulation layers
	D	The sheathing and the serving
6.	What <u>type</u> and <u>size</u> of cable would be most suitable for embedding in a brick/plaster wall vertically for a length of 2.5 metres supplying a 240 volt 10 amp socket outlet in a typical domestic installation?	(1)
	A	



Portfolio Assessment

7.	Give two reasons why a TPS wiring system is the most common system for domestic installations.	(2)
8.	What are four of the factors which must be considered when selecting a wiring system for a particular part of an installation?	(4)
9.	What is an undesirable feature of the compressed powder insulant in MIMS cable?	(1)
	A It is poisonous	
	B It is a poor conductor of heat	
	C It absorbs moisture readily	
	D It is difficult to remove from the cable sheathing	
10.	How many strands does a 1.0 square mm (32/0.20) flexible cord have?	(1)
	A 3	
	B 32	
	C 1	
	D 50	



Portfolio Assessment

11.	What is the special characteristic of woven glass insulated cable?		(1)
	A	It is bio-degradable	
	B	It has silver as the cable cores	
	C	It is not flexible	
	D	It is heat resistant	
12.	What <u>type and size</u> of cable would be most suitable for a 15 Amp single phase general purpose 12 metre extension cord to be used on a construction site?		(2)
	A		
13.	What is the only permissible method of joining a length of 1 square mm TPS flexible cord supplying a portable appliance? Give the AS/NZS 3000 clause number.		(2)
	A		
	Clause Number		
14.	How must the cord extension socket on a flexible cord extension set be polarised? Give the AS/NZS 3000 clause number.		(2)
	A		
	Clause Number		
15.	Name four different types of wiring <u>enclosures</u> used in wiring systems.		(4)



16.	Is it permissible to install TPS cables in a plaster or cement render wall without further protection? Give the AS/NZS 3000 clause number.	(2)
	A	
	Clause Number	
17.	Is it permissible to install TPS cables direct in a concrete floor slab without any further protection? Give the AS/NZS 3000 clause number.	(2)
	A	
	Clause Number	
18.	What is the minimum permissible insulation resistance to earth in a 240 volt single phase domestic installation which does not include fixed electrical heating appliances? Give the AS/NZS 3000 clause number.	(2)
	A	
	Clause Number	
19.	What is the maximum permissible resistance of a <u>main earthing</u> conductor? Give the AS/NZS 3000 clause number.	(2)
	A	
	Clause number	
20.	What special conditions are deemed to apply, when cables are run within 100 mm of a ceiling in a roof space, in a domestic installation? Give the W.A.E.R. clause number.	(2)
	A	
	Clause Number	
21.	What special condition must be met if rigid PVC conduit is installed in direct sunlight? Give the Wiring Rules clause number. Give the AS/NZS 3000 clause number.	(2)
	A	
	Clause Number	



Portfolio Assessment

22.	What is the common name of a lubricant which can be used when drawing cables into rigid PVC conduit?	(1)
	A	
23.	Name the common accessory which can be used to bend rigid PVC conduit without distorting the conduit.	(1)
	A	
24.	Is galvanised screwed steel CONDUIT permissible as an enclosure for underground wiring? Give the AS/NZS 3000 clause number.	(2)
	A	
	Clause Number	
25.	What is the <u>correct name</u> of the test instrument must be used to measure the insulation resistance between conductors, and conductors and earth, in MIMS cables?	(1)
	A	
26.	What is the minimum permissible bending radius for armoured sheathed cables according to the Wiring Rules? Give the AS/NZS 3000 clause number.	(2)
	A	
	Clause Number	



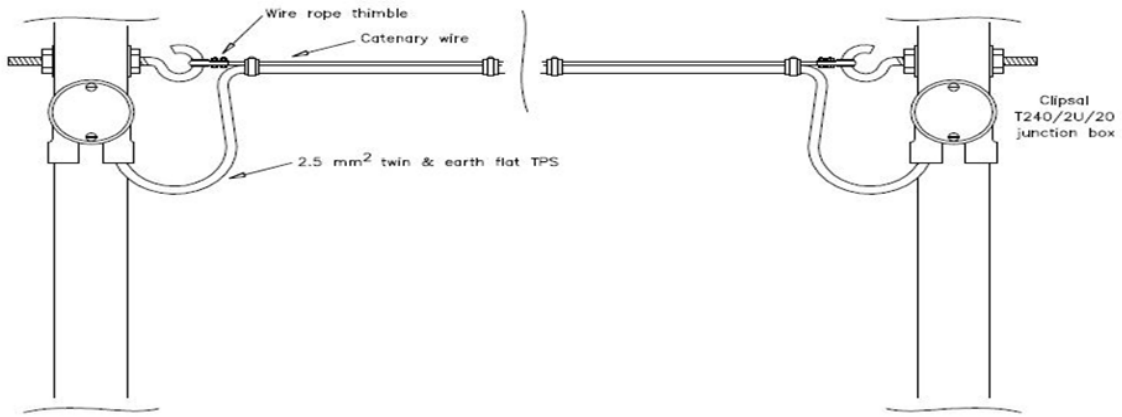
Portfolio Assessment

27.	Is it permissible to install served armoured cables in concrete or plaster without a wiring enclosure according to the Wiring Rules? Give the AS/NZS 3000 clause number.		(2)
	A		
	Clause Number		
28.	Why is it necessary to provide a loop of at least 150 mm before the first and after the last point of fixture of a cable to a catenary wire?		(2)
	A		
	Clause Number		
29.	Is it permissible to install single insulated TPI cables by a catenary wire? Give the AS/NZS 3000 clause number.		(2)
	A		
	Clause Number		
30.	What is the largest sized opening allowed in a fire rated barrier in a building to allow cable through? Give the AS/NZS 3000 clause number.		(2)
	A		
	Clause Number		
31.	(Complete the Sentence) Where cables are installed in a manner permitting the free circulation of air around them (for example in a wiring enclosure of adequate dimensions, and in any case, of dimensions not less than 50mm X 100mm). Give the WAER clause number.		(2)

32.	What is the method of securing circular TPS to cable/ladder tray? What problem can occur if you tie cable groups together?		(2)

33. Name the 3 parts of a Catenary system.

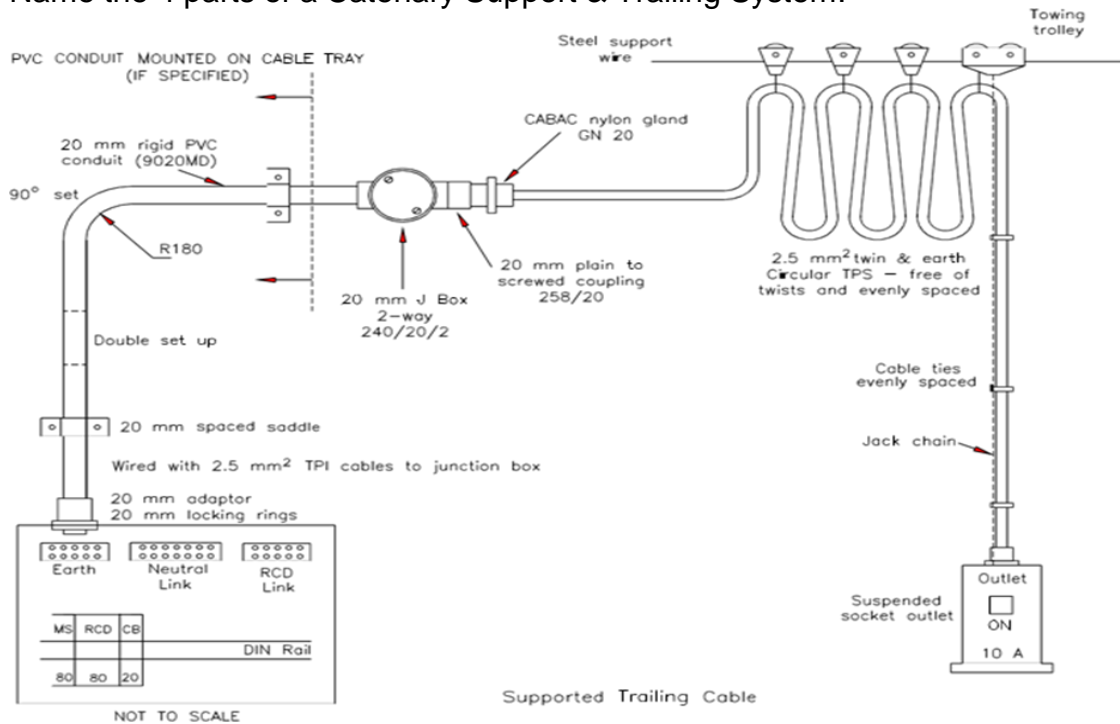
Specifications



(3)

- 1.) _____
- 2.) _____
- 3.) _____

34. Name the 4 parts of a Catenary Support & Trailing System.



(4)

- 1.) _____
- 2.) _____
- 3.) _____
- 4.) _____



35.	What is the temperature rating for V75 Cable?		(1)
	A		
36.	How are MIMS cables to be protected against mechanical damage due to vibration at the terminations when used, for example, to supply a large electric motor? Give the AS/NZS 3000 clause number.		(2)
	A		
	Clause Number		
38.	16mm ² 'Building wire' electric cable has the dimension specifications '7/1.70'. State what the dimensions '7/1.70' mean		(2)
	A		
	A		
39.	Does galvanised screwed steel CONDUIT used as wiring enclosure, have to be earthed? Give the AS/NZS 3000 clause number.		(2)
	A		
	Clause Number		
40.	Is it permissible to tie a knot in flexible cord? Give the AS/NZS 3000 clause number.		(2)
	A		
	Clause Number		
41.	Can 'Textile braided overall' and 'Parallel unsheathed (figure 8)' be used for extension cords? (YES/NO)		(1)
	A		
42.	An extension cable with four (4) concentric layers left on a cable drum, has a de-rating factor of 0.4. If the original current capacity was 10 amps, what is the new <u>de-rated maximum</u> current of that extension cord?		(1)
	A		



Portfolio Assessment

43.	Name the two <u>most common</u> metals used as conductors in electrical cables.		(1)
	A	Nichrome and Kanthal	
	B	Aluminium and silver	
	C	Silver and copper	
	D	Copper and Aluminium	
44.	What is the <u>diameter</u> of each of the strands in a 25mm ² (19/0.52) cable		(1)
	A	1.9mm	
	B	19mm	
	C	0.52mm	
	D	52mm	
44.	What are the four (4) <u>most important factors</u> which must be considered when selecting a wiring system for a particular installation?		(4)
	A		
	A		
	A		
	A		

TOTAL MARKS	SCORE	%
80		

End