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University Examinations 2013/2014

FIRST YEAR, SECOND SEMESTER EXAMINATION FOR CERTIFICATE IN ELECTRICAL INSTALLATION

EEE 0105: ELECTRICAL INSTALLATION TECHNOLOGY II

DATE: APRIL 2014

TIME: 1 ¹/₂ HOURS

INSTRUCTIONS: Answer question one and any other two questions

QUESTION ONE – (30 MARKS)

(a) List in order the main tests which should be carried out on completion of an electrical							
	installa	ation.	(4 Marks)				
(b)	(b) Explain the importance of testing an electrical installation after completion.						
			(6 Marks)				
(c) Describe any three factors which affect the choice of wiring system.							
(d)	(d) State any one advantage and one disadvantages of the following wiring systems:						
	(i)	P.v.c armoured	(2 Marks)				
	(ii)	Conduits	(2 Marks)				
	(iii)	Rising mains	(2 Marks)				
(e)	(e) With reference to earthing system, define the following terms:						
	(i)	Earth electrode	(1 Mark)				
	(ii)	Earthing lead	(1 Mark)				
	(iii)	Earthing leakage circuit breaker	(1 Mark)				
	(iv)	Protective multiple earthing	(1 Mark)				
(f)	Explai	n stroboscopic effect and state how it can be eliminated.	(4 Marks)				

QUESTION TWO – (15 MARKS)

(a)	With the aid of labelled diagrams explain how the following tests are carried out on	a
	completed electrical installation;	

- (i) Earth electrode resistance test (5 Marks)
- (ii) Verification of polarity (5 Marks)
- (b) Briefly describe the process of handling over a completed installation work to a client. (5 Marks)

QUESTION THREE – (15 MARKS)

(a) With reference to earthing systems distinguish between continuous neutral earthing and earth leakage circuit breakers, stating one advantage and disadvantage of each system.

(8 Marks)

(b) With the aid of a labelled diagram explain the principles of operation of current-operated earth leakage circuit breaker and list one application of it. (7 Marks)

QUESTION FOUR – (15 MARKS)

(a) Define the following with reference to illumination							
	(i)	Glare	(1 Mark)				
	(ii)	Luminous intensity	(1 Mark)				
	(iii)	Maintenance factor	(1 Mark)				
	(iv)	Luminous flux	(1 Mark)				
(b) With the aid of a suitable wiring circuit explain the principles of operation of a							
	fluore	scent fitting.	(5 Marks)				
(c) Draw a wiring circuit of 3 bedroom premises showing a self contained type with security							
	lighti	ng.	(6 Marks)				