

HARYANA VISHWAKARMA SKILL UNIVERSITY

(Established under the Government of Haryana Act of Legislation No 25/2016)

Course

: B.Voc. (Automotive Manufacturing)

Subject

: Fundamental of Electrical

Semester

2nd

Subject Code

ABEE-102

Duration

3 Hours

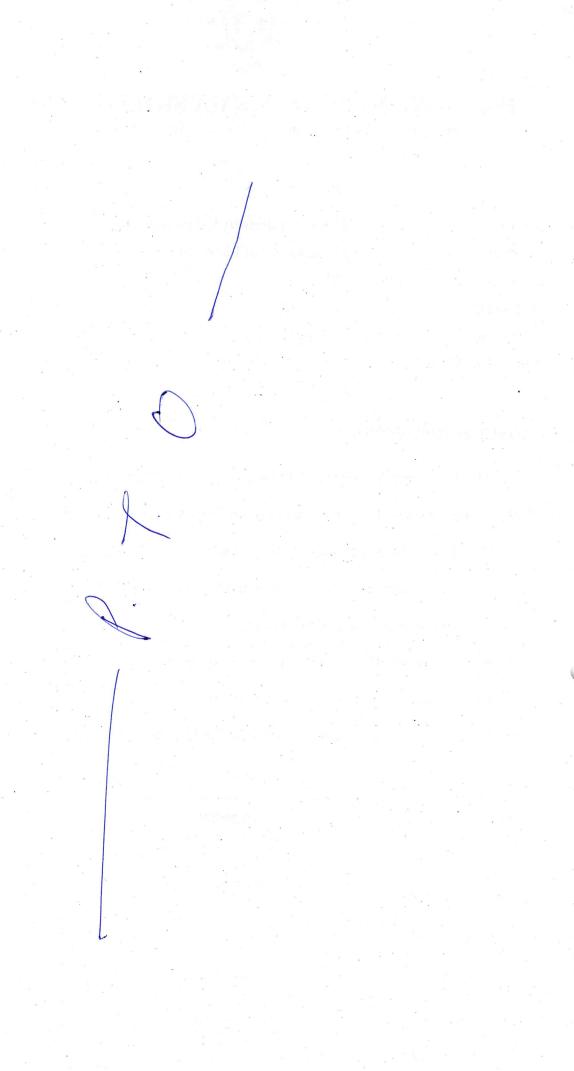
Maximum Marks

35

Instructions to the Students

- 1. This Question paper consists of two Sections. All sections are compulsory.
- 2. **Section A** comprises ten questions of objective type in nature. All questions are compulsory. Each question carries one mark.
- 3. **Section B** comprises six essay type questions out of which students need to do any five. Each question carries five marks.
- 4. Read the questions carefully and write the answers in the answer sheets provided.
- 5. Do not write anything on the question paper.
- 6. Wherever necessary, the diagram drawn should be neat and properly labelled.

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SECTION-A (OBJECTIVE TYPE QUESTIONS)

 $(10\times1=10 \text{ Marks})$

						(10 1	10 11141 115)		
Q1 An ideal voltage source will charge an ideal capacitor									
	(a)	in infinite time(b)ex	ponentially	(c) inst	antaneously	(d) none of	these		
Q2	How many 200W/220V incandescent lamps connected in series would consume the same total power as a single 100W/220V incandescent lamp.								
	(a)	not possible	(b) 4	(c) 3	(d) 2				
Q3	Who	en transformer windi	ng suffers a sh	ort-circ	uit, the adjoi	ning turns of	f the same		
	wind	ding experience							
	(a)	an attractive force	(b) a repulsiv	e force	(c) no force	(d) none of	these		
Q4	The	torque speed chara	cteristics of a	repulsi	on motor re	esembles whi	ch of the		
	following de motor characteristics								
	(a)	Separately excited	(b) shunt	(c) seri	es (d) co	ompound	St.		
Q5	In a	n induction motor, if	the air gap is i	ncreased	ı				
	(a)	Speed will reduce		(b) Effi	iciency will in	nprove			
	(c)	Power factor will be	lowered	(d) Bre	akdown torqu	e will reduce			
Q6	Inct	rument used for mea	surement of no	wer is		?			
Qu	11150	ument used for mea.	surement of po						
O 7	In a	balanced 3 phase de	lta connected	system,	the relation	between phas	se current		
		line current is		_?					
Q8	Wha	at are the specification	ns of wires?						
Q9	Exp	lain the concept of Re	elay?				A		
Q10	Eart	th wire or ground wir	e is made up o	of	?				

SECTION-B (ESSAY TYPE QUESTIONS)

 $(5\times5=25 \text{ Marks})$

- Q1 Explain Kirchhoff's voltage and current law in detail with suitable example? What is the difference between mesh analysis and nodal analysis?
- Q2 Define the concept of wires and their selection and also explain the classification of cables?
- Q3 Explain the direct on line Starter? Also explain the working of star delta starter in detail?
- Q4 The hysteresis and eddy current losses of a single phase transformer working on 200V, 50 Hz supply are Ph and Pe respectively. What is the percentage decrease in these, when operated on a 160V, 40 Hz supply?
- Q5 Derive the relationship between line voltage, phase voltage, line current and phase current in star connection? Also draw the phasor diagram.
- Q6 Explain why synchronous machine is not a self-starting machine? Also explain the working 3 phase induction motor?

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-	END	OF	PAPER.	 	 	