HVSU

BAMF13

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.

Roll Number

— p. 70 —

SECTION-A (OBJECTIVE TYPE QUESTIONS)

(10×1=10 Marks)

Q1 An ideal voltage source will charge an ideal capacitor

(a) in infinite time (b) exponentially (c) instantaneously (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 When transformer winding suffers a short-circuit, the adjoining turns of the same winding experience

(a) an attractive force (b) a repulsive force (c) no force (d) none of these

Q4 The torque speed characteristics of a repulsion motor resembles which of the following dc motor characteristics

(a) Separately excited (b) shunt (c) series (d) compound

Q5 In an induction motor, if the air gap is increased

(a) Speed will reduce (b) Efficiency will improve

(c) Power factor will be lowered (d) Breakdown torque will reduce

Q6 Instrument used for measurement of power is _____?

Q7 In a balanced 3 phase delta connected system, the relation between phase current and line current is_____?

Q8 What are the specifications of wires?

Q9 Explain the concept of Relay?

Q10 Earth wire or ground wire is made up of _____?

SECTION-B (ESSAY TYPE QUESTIONS)

(5×5=25 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?

---------- END OF PAPER----------