



বিদ্যাসাগর বিশ্ববিদ্যালয়
VIDYASAGAR UNIVERSITY
Question Paper

B.Sc. Major Examinations 2022
(Under CBCS Pattern)
Semester - IV
Subject : AUTOMOBILE MAINTENANCE
Paper : SEC 2-T
Electro Magnetism and Digital Electronics

Full Marks : 40
Time : 2 Hours

*Candidates are required to give their answers in their own words as far as practicable.
The figures in the margin indicate full marks.*

Group - A

Answer any **four** of the following questions :

5×4=20

1. What is Kirchhoff law?
2. Why transformer rating is in KVA?
3. Explain the difference between RAM & ROM.
4. (i) Convert the decimal number $(36)_{10}$ to binary number.
(ii) Construct Half Adder circuit and explain it.

2+3

5. Draw a schematic diagram for hysteresis loops of soft iron and steel. Which materials are suitable for use as transformer cores and permanent magnets? Explain briefly on the basis of your diagram. 2+1+2

6. Write down the application of Ohm's law.

Answer any *two* of the following :

10×2=20

7. Write down the classification of transformer and the construction of three phase transformer. 5+5

8. MCB stands for.... . Draw the symbol of FUSE. What is basic difference between FUSE and MCB? 2+2+6

9. What is magnetic materials? Classification of magnetic material with an example of each. 2+8

10. (i) State the two de Morgan's theorem. Write down the truth tables of two universal gates.

(ii) What are the uses of encoder and decoder?

(iii) Draw a circuit diagram of a clocked S-R Flip-Flop. Discuss briefly the operation of a clocked SR Flip-Flop with Truth table. (2+2)+(1+1)+(2+2)
