



বিদ্যাসাগর বিশ্ববিদ্যালয়
VIDYASAGAR UNIVERSITY
Question Paper

B.Sc. Honours Examinations 2021
(Under CBCS Pattern)
Semester - III
Subject : PHYSICS
Paper : SEC 1 - T

Full Marks : 40 (Theory)
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.*

[PHYSICS WORKSHOP SKILL]

Group-A

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

12×3=36

1. Express the process of cutting of a metal sheet and smoothing of cutting edge. Explain the process of fixing of gear with motor axle with proper diagram. Demonstrate the pulley experiment. 12
2. Frame a 6V regulated power supply with electronic circuit and explain the working principle of it. 12
3. (a) Write down the uses of a multimeter.
(b) What is the working principle of power generation system? 6+6

4. (a) What is the concept of machine processing for manufacturing like steel, copper, iron, metal sheets?
- (b) How the volume of cylindrical glass can be measured? 8+4
5. (a) Explain the operating principle of an oscilloscope.
- (b) What is SMD in PCB? Write down few applications of 555 timer IC. 8+4
6. (a) Briefly explain various welding defects.
- (b) Explain the working of Lathe. 4+8

Group-B

Answer any *two* of the following questions : 2×2=4

7. How does a transistor behave like a switch?
8. What is the use of relay in electronic circuit?
9. What is the use of filter material during welding?
10. Write down the SI and CGS units of length, Area, Volume, density.
- _____

OR

[ELECTRICAL CIRCUITS AND NETWORK SKILLS]

Group-A

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

12×3=36

1. What is power factor? Derive the equation of power factor of L-C-R circuit. Compare this for a series and parallel circuit. 12
2. Describe the operation of a transformer. Write down the difference between DC & AC generator.
3. What is diode rectifier? Design a rectifying circuit using four diode and explain it's operation.
4. Describe the terms-Splices, Wirenuts, Split bolts and solder.
5. Explain the operation of AC generator with proper diagram.
6. Write down the difference between AC Electricity and DC Electricity. Explain the working of relays with proper diagrams.

Group-B

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

2×2=4

7. Write down two differences between D.C. and A.C. motor.
 8. What is surge protection?
 9. Write down the difference between Star and delta connection.
 10. What is Ground-fault protection?
-

