

B.Sc. F.Y. (NEP) - Semester-I
SEC13 / STUG01PHY004 - Physics Workshop Skills

P. Pages : 2

Time : Two Hours



GUG/W/24/15899

Max. Marks : 40

- Notes :
1. All questions are compulsory.
 2. Draw neat diagram wherever necessary.
 3. Scientific calculator allowed in exam.

Either

1. a) i) What do you mean by measurements? Distinguish between SI and CGS unit system. 4
- ii) Explain principle of vernier caliper. Draw its neat diagram and label it properly write any two limitations. 4

OR

- b) a) Provide steps for screw gauge measurements. 2
- b) Discuss limitations and applications of screw gauge. 2
- c) Write down steps or process for determining a diameter of thin wire using screw gauge. 2
- d) Describe the sextant scale. 2

Either

2. a) i) Write a short notes on multimeter. Write its uses. 4
- ii) What is soldering iron? Draw well labeled diagram and write its applications. 4

OR

- b) a) What is oscilloscope? How is it used? 2
- b) What is regulated power supply? Draw the block diagram of regulated power supply. 2
- c) Write application of timer? 2
- d) How can a transistor use as a switch? 2

Either

3. a) i) What is gears? Write its types. 3
- ii) Write a short notes on wheel and axel. 3
- iii) How one can life a heavy loud using lever. Explain. 2

- b) a) What are the requirement of breaking system? 2
- b) Write down different types of brakes. 2
- c) Write a working principle of thermal power station. Mention its advantages. 2
- d) What is pulley? Write its applications. 2

Either

- 4. a) i) What is rectifier? Explain the process of designing circuits of half wave rectifier using a bread board. Draw circuit diagram. 5
- ii) What is full wave rectifier ? Write its advantages and disadvantage. 3

OR

- b) a) Explain 'NOT' gate using diode write its truth table. 2
- b) What is 'OR' gate? Draw its symbol and write its truth table. 2
- c) Write a short notes on "NAND" gate. 2
- d) How "AND", "OR" and "NOT" gates are constructed using "NAND" gate? 2

5. Solve any eight of the followings.

- a) What is the SI unit of area? 1
- b) What is the least count of vernier caliper? 1
- c) What is the use of sextant? 1
- d) What is relay? 1
- e) What is full form of CRO? 1
- f) What is PCB? 1
- g) What is use of lever? 1
- h) Write any two power generation systems. 1
- i) What is breaking system? 1
- j) what is filters? 1
- k) Write down components for bridge rectifiers. 1
- l) Write a truth table for AND gate. 1
