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UG/3rd Sem/PHS(H)/T/19

2019

B.Sc.

3rd Semester Examination

PHYSICS (Honours)

Paper - SEC-1T



Full Marks : 40

Time : 2 Hours

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

(Physics Workshop Skill)

1. Answer any *five* questions of the following :

5×2=10

- (a) Convert 1 atmosphere pressure into CGS unit.
- (b) Define least count.
- (c) Define screw pitch of a screw gauge.
- (d) Write down the use of sextant.
- (e) Write down the types of welding defects.

[Turn Over]

(2)

- (f) How galvanometer used as voltmeter.
- (g) Why base region of transistor is thin.
- (h) Write down unit of resistivity and conductivity.

2. Answer any *four* questions : $4 \times 5 = 20$

- (a) Write a short note one-Turbine.
- (b) Explain backlash error.
- (c) Define welding and explain various types of welding.
- (d) Point difference between iron & steel. Which types materials are better for steel.
- (e) Explain briefly Common machine tools.
- (f) Explain multimeter and its different uses.

3. Answer any *one* question : 1×10

- (a) Define cathode ray oscilloscope (CRO). Explain briefly its different parts. $2+8$
- (b) (i) Write down differences between soldering and welding.
- (ii) What is integrated circuit (IC)

(3)

- (iii) Why discrete circuits are replaced by IC.
- (iv) What is classification of IC.
- (v) Where do we use linear and digital IC.

$2+2+3+1+2$

(Electrical Circuit and Network Skills)

1. Answer any *five* questions of the following :

$5 \times 2 = 10$

- (a) What is choke ? And its use.
- (b) Define Eddy current and discuss its use.
- (c) Why core of a transformer is laminated ?
- (d) Explain rotating magnetic field.
- (e) Define form factor.
- (f) Write Limitation of Ohm's Law.
- (g) Which type materials is used for Fuse element ?

[Turn Over]

(4)

(h) What are the main difference between Ammeter and Voltmeter

2. Answer any *four* questions : 4×5

(a) Write down the differences between star and delta conection.

(b) Describe Lap and wave winding.

(c) Write down the relation between current and emf at primary & secondary coil.

(d) Calculate instantaneous power in a ac circuit.

(e) Discuss different types of Loss in a transformer.

3. Answer any *one* question : 1×10

(a) What is principle of a A/C motor ? Discuss its different parts. Which meter is best A/C or D/C. $4+3+3=10$

(b) Derive the equation of emf produced in a DC generator. Define slipring and commutator. $6+4=10$
