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UG (CBCS) IInd Year Annual Examination

2808

B.Sc. PHYSICS

(Electrical Circuits and Network Skills)

(SEC-2)

Paper : PHYS 205 TH

Time : 3 Hours]

[Maximum Marks : 50

Note :- Attempt any *five* questions.

1. (a) What is multimeter ? Write the merits of digital multimeter over analogue multimeter.

(b) Three resistances $75\ \Omega$, $60\ \Omega$ and $20\ \Omega$ are connected in parallel. The total current is 1A.

Determine the applied voltage and current in each branch.

6,4

2. (a) Discuss the single phase and three phase alternating current system. Out of these which one is better and why ?
- (b) What we can do to save electric energy ? 6,4
3. (a) What do you mean by blueprint of electrical diagram ? Write procedural steps for preparing blueprint of an electrical diagram.
- (b) What is power circuit ? Explain with a suitable diagram. 6,4
4. (a) Explain the principle, construction and working of a transformer.
- (b) Write factors on which the working of electric motors depend. 6,4
5. (a) What do you mean by inductor ? Explain different types of inductors with their applications.
- (b) Differentiate between full wave rectifier and half wave rectifier. 6,4
6. (a) Explain different electrical protection devices like fuses, circuit breakers and molded case circuit breakers.
- (b) Why do over current exist ? Explain overload, short circuit and ground fault. 6,4

7. (a) Explain the working of basic instruments used for measuring current, voltage and power in an electrical circuit.
- (b) Write a procedure to prepare a three switch extension board with suitable wiring diagram. 6,4