

## CGPSC MAIN EXAM 2013

### PAPER IV(SCIENCE,TECHNOLOGY & ENVIRONMENT)

#### EXPECTED QUESTIONS (PHYSICS)

- 1) A water heater is marked 1500 W, 220 V. If the voltage drops to 180 V, calculate the power consumed by the heater.
- 2) Define ampere
- 3) Describe the principle, construction and working of a choke coil.
- 4) Discuss the advantages and disadvantages of a.c. over dc.
- 5) Why automobile batteries have low internal resistance?
- 6) Why is copper wire not suitable for a potentiometer?
- 7) Explain the flow of charges in a metallic conductor.
- 8) Distinguish between drift velocity and mobility. Establish a relation between drift velocity and current.
- 9) State Ohm's law.
- 10) Distinguish between electric power and electric energy.
- 11) An electric iron of resistance  $80 \Omega$  is operated at 200 V for two hours. Find the electrical energy consumed.
- 12) In a house, electric kettle of 1500 W is used everyday for 45 minutes, to boil water. Find the amount payable per month (30 days) for usage of this, if cost per unit is Rs. 3.25
- 13) Explain the principle of transformer. Discuss its construction and working.

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