### IMSTUTORIAL.IN

## Model guess paper-1 - March - 2019

# INTERMEDIATE II -YEAR telengana

Time: 3hours PHYSICS - II Max.Marks:60

#### **INSTRUCTIONS:**

- 1. Q.Nos: 1 10 are Very Short Answer Type. Each question carries 2 marks.
- 2. Q. Nos: 11 18 are Short Answer Type. Each question carries 4 marks.
- 3. Q.Nos: 19 21 are Long Answer Type. Each question carries 7 marks.

#### I. Answer ALL questions in 2 or 3 lines each.

 $[10 \times 2 = 20]$ 

- 1. A small angled prism of 4° deviates a ray through 2.48°. Find the refraçtive index of prism.
- 2. Define magnetic delcination.
- 3. Give two uses of Infrared rays?
- 4. What are Eddy currents?
- 5. What type of transformer is used in a 6V bed lamp?
- 6. What is photoelectric effect?
- 7. The radius of the first electron orbit of a hydrogen atom is 5.3 10<sup>-11</sup>m. What is the radius of second orbit?
- 8. Classify the following materials with regard to Magnetism, Manganese, Cobalt, Nickel, Bismuth, Oxygen, Copper.
- 9. Draw the circuit symbols for p n p, n p n transistors
- 10. Define modulation. What is it necessary?

#### II. Answer any SIX of the following questions in about 75 words each.

 $[6 \times 4 = 24]$ 

- 11. With a neat labelled diagram explain the formation finage in a simple microscope?
- 12. Discuss the intensity of transmitted light where polaroid sheet is rotated between two crossed polaroids?
- 13. Explain series combination of capacitors. Dervie the formula for equivalent capacitance in series combination.
- 14. State Kirchoff's law for an electrical net work. Using these laws deduce the condition for balance in a wheatstone bridge.
- 15. Current in a circuit falls from 5A to 0A in 0.1s. If an average emf of 200V induced give an estimate of the self inductance of the circuit.
- 16. State the principle on which a transformer works. Describe the working of a transformer with necessary theory.
- 17. Derive an expression for potential and kinetic energy of an electron in any orbit of an hydrogen atom according to Bohr's atomic model. How does PE changes with increasing 'n'.
- 18. Describe how a semi conductor diode is used as a half wave rectifier?

#### III. Answer any TWO of the following questions in about 300 words each.

 $[2 \times 8 = 16]$ 

- 19. Explain the formation of stationary waves in stretched stringe and hence deduce the laws of transverse waves in stretched strings?
  - A stell wire 0.72m long has a mass  $5 \times 10^{-2}$ kg. If the wire is under a tension of 60N. What is the speed of transverse waves on the wire?
- 20. Obtain an expression for the torque on a current carrying loop placed in a uniform magnetic field. Describe the construction and working of a moving coil galvanometer.
- 21. Explain the principle and working of a nuclear reactor with the help of a labelled diagram? If one

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microgram of  $\frac{U}{92}$  is completely destroyed in an atom bomb, how much energy will be released.