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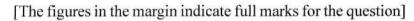
RETEST/2019/MJ APPLIED PHYSICS-II

Pages: 5

SC-204

Full marks: (Part A=25+Part B=45)=70

Time: 3 hrs.



PART -A

MARKS-25
1. Fill up the blank with appropriate words- 1x10=10
i) A small bulb is placed at the focal point of a convex lens. When the bulb is switch on, the lens produces
ii) Vacuum tubes are based upon the principle of
iii) When a glass rod is rubbed with silk, glass developed charge.
iv) The depolarizer in Denial cell is
v) Electrical conductivity is the of resistivity.
vi) The kinetic energy of photo -electrons emitted depends upon the of incident light.
vii) Magnetic moment is equal to product of and magnetic length.
viii) An electric potential isquantity.
ix) P-type germanium is obtained by doping pure germanium with element like

PTO

x) The Two Parallel conductors carrying current flowing in [1]

the same direction ----- each other.

2. Choose the correct answer of the following: 15x1 = 15

- a) In open circuit, the e.m.f. of a cell is
- i) equal to P.D. between its two poles
- ii) more than the P.D. between the two poles
- iii) less than the P.D. between two poles
- iv) None of these.
- 2.b) The commercial unit of electric energy is
- ii) watt iii) Kilowatt-hour iv) Volt

i) Joule

- c) The photo electric effect prove that
- i) Velocity of light is constant
- ii) light is quantum
- iii) light waves are electromagnetic waves
- iv) light waves are transverse in nature
- d) Lenz's law helps us to know
- i) The force exerted on a coil
- ii) The direction of induced e.m.f.
- iii) The motion of the magnet through the coil
- iv) Whether the current is A.C or D.C
- e) The angle between the magnetic meridian and the geographic meridian is know as
- i) magnetic dip
- ii) magnetic declination
- iii) magnetic moment
- iv) magnetic field strength
- absorbed at one junction and evolved at the others junction. f) When a current is passed through a thermo-couple, heat is

This is called:

- (i) Seebeck effect
- ii) Joule's effect
- iii)Peltier effect
- iv) Thomson effect
- g) Colour of a light is determined by
- i) Velocity in air ii) amplitude iii) frequency iv) wavelength
- h) An optical fibre is based on the principle of
- i) refraction of light
- ii)total internal reflection
- iii) dispertion of light
- iv) none of the above
- i) The particle which cannot be deflected by a magnetic field is
- i) proton ii) electron iii) sodium ion iv) neutron
- j) The focal length of a convex lens is 20cm. Its power is
- i) +5D ii) -5D
- iii) +.0005D iv) -0.05D

3. Write TRUE/ FALSE:

- i) Alpha particle has greater ionizing power
- ii) Two field lines cannot intersect each other
- a charge moving in a magnetic field iii) Fleming left hand rule give the direction of force acting on
- iv) Tesla is the unit of electric field intensity
- each other. v) Two wires carrying current in the opposite direction repel

PART-B

MARKS - 45

(Answer any five)

4.a). What is optical image and optical centre?

2

b) Define total internal reflection and critical angle with

PTO

2

[33

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and real image by a concave mirror With a neat ray diagram show the formation of a virtual image

water with respect to air are 3/2 and 4/3 respectively. What is c) Define refractive index. The refractive indices of glass and the refractive index of water with respect to glass? 1+3=4

OR

of 1cm, what will be the size, nature and position of the image. object at a distance of 50 cm from it. If the object has an height A concave mirror of focal length 10cm is kept in front of an

- 5.a) What are the conditions of minimum deviation?
- b) What are the elements of terrestrial magnetism?
- c) Find the magnetic intensity at a point due to a bar magnet at the broad side on position.
- unit charge. 6. a) State the laws of force between the charge and hence define
- condenser. b) Find an expression for the capacity of a parallel plate
- transferred from wool to polythene negative charge of 3x10^{-7c}. Estimate the number of electrons c) A polythene piece rubbed with wool is found to have a
- 7. a) Define self and mutual induction
- for maximum current b) In a grouping of cells in parallel, Calculate the condition
- c) State and explain the Kirchhoff's Laws
- d) State Ohm's Law.

- 8. a) What is work function and threshold frequency in case of photoelectric effect? How they are related? 2+1=3
- b) How the diod is used as a half-wave rectifier?
- c) What does LASER stad for ? Name two application of it. 3

9. Write short notes

a) Trasformer b) LED c) Photo Electric Cell

3x3=9

Write difference between-

3x3=9

a) Real image and virtual image

- b) E.M.F.and P.D
- c) primary and secondary cell
