**SECTION “A”**

Q.01 Select the appropriate answer:

(i) According to Quantum Theory of Light photon are \_\_\_\_\_\_\_\_\_\_\_\_\_.

(a) Electromagnetic waves (b) Waves (c) Particles (d) Energy packets

(ii) Small of drops of rain water disperse sunlight into different colours is called \_\_\_\_\_\_\_\_\_\_.

(a) Dispersion (b) Interference (c) Rainbow (d) Spectrum

(iii) The image found in a plane mirror in \_\_\_\_\_\_\_\_\_\_\_.

(a) Real (b) Inverted (c) Real and Inverted (d) Virtual and Ereet

(iv) The machanical advantage of a moving pully in \_\_\_\_\_\_\_\_\_\_\_.

(a) 1 (b) 2 (c) 3 (d) 4

(v) The speed of light in \_\_\_\_\_\_\_\_\_\_.

(a) 3x106 (b) 1.86x106 (c) 3x108 (d) 3x1010

(vi) Which of the following are not electromagnetic in nature.

(a) Infared rays (b) Ultra – violet rays (c) Redar wares (d) Sound wares

(vii) The speed of light in air in \_\_\_\_\_\_\_\_\_\_\_\_ than the speed of light in water.

(a) increase (b) decrease (c) remove save (d) nine of these

(viii) For total internal reflection the angle of incidence must be \_\_\_\_\_\_\_\_\_\_\_\_ than critical angle.

(a) greater (b) smaller (c) equal to (d) half of

(ix) If the length of pendulum become four times its period will be.

(a) few times (b) twice (c) three time (d) eight times

(x) A pair of scissors oin an example of a .

(a) pully (b) lever (c) wheel and exle (d) inlined plane

(xi)If q=6cm and p=3cm then the magnification of mirror in .

(a) 4 (b) 2 (c) 3 (d) 12

**Fill in the blanks.**

(i) \_\_\_\_\_\_\_\_\_ in a device which makes the process of doing work easier.

(ii) The see-saw in an example of a order of\_\_\_\_\_\_\_\_\_\_\_\_ kind.

(iii) A motion which repeats itself in equal interval of time is called \_\_\_\_\_\_\_\_\_\_\_\_.

(iv) Human ear cannot hear sound of frequency greater than\_\_\_\_\_\_\_\_\_\_\_\_\_.

(v)The ratio of the size of image to the suze of object in called \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**True & False.**

i) If the inrer surface of a spherical mirror in reflecting it in called concave large.

ii) The eye and camera are scrinlac because the image formed in both is real , inverted and large.

iii) A single diverging lens is used in a magnifying glass.

iv) The image in the human eye in formed at the Iris.

v) Infared radiation stimulates the the formation of vitamin D.

**section B**

Q .01. Write four uses of spherical mirror?

Q .02. Describe quantum theory of light and explain dual nature of light?

Q .03. Define interference , ware length , frequency and time period.?

Q .04. Draw the figure of wheel and axle and calculate its mechanical advantage.?

Q .05. With the help of snell ‘s law prove that there in no change in direction of reflected ray if the incident ray is perpendicular on the surface separating the two media.?

Q .06. The length of the handle of a screw jack in 40 cm and its pitch in 5mm . How much load can be lifted by applying a force of 5N on the handle .?

Q .07. A load of 500N in lifted through 26cm vertically upward applying an effort of 100N upto 6cm on a pully system . Find the mechanical advantage and the effiecianry of the pully system?

Q .08. 40 wares passes through a point on the surface of a pond in 25. Calculate the wavelength if the velocity in 3.5 m/s ?

Q .09. The focal length of a concave mirror in 15cm where should an object be placed so as to get its,real image magnified twice ?

Q 10. Light travels from air into water whose index of reflection in 1.33 .If the angle of incidence in 40.What is the angle of reflection?

**Section C**

Q .12. Define simple harmonic motion and prove that the motion of a simple pendulum in simple harmonic motion.

Q .13. What is inclined plane calculate its mechanical advantage.

Q .14. Draw a ray diagram of compound microscope and describe its working.

Q .15. With the help of diagram show and explain short sighdness with its correction .

Q .16. With the help of figure.Write the four rules of reflection of ray of light by concave mirror with characterastics.

Q .17. Define the loudness of sound. Write three factors on which the loudness of sound depends.

Q .18. Draw a ray diagram of simple microscope . Write down the characterastics of image formed by its and the formula of its magnification power.