Mid Term II Examination-2019

S.2 PHYSICS

Time: 1hr 30 mins

INSTRUCTIONS

Answer all questions in this paper

Section A

1. Which of the following are fundamental quantities?

A. Density B. mass C. pressure D. volume

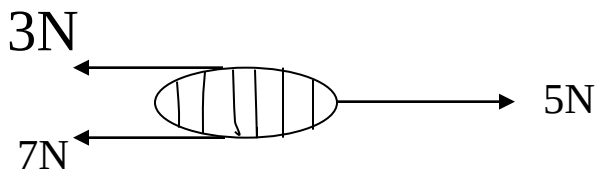
2. ……is the space occupied by matter

A. Volume B.area C.density D. length

3. Convert 250cm^3 to m^3

A. 0.000025m^3 B. 250m^3 C. 0.0025m^3 D. 0.00225m^3

4. Three forces of 3N,5N and 7N act on an object A as shown. Find single vector which can produce the same effect



A. 5N B. 1 N C. 15 N D.9N

5. ……is a measure of quantity of matter in a body

A. Weight B. density C. volume D. mass

6. The following are true about……

i) Far apart from each other

ii) No definite shape

iii) Compressible

A. Solids B. liquids C. gases D. matter

7. The constant random movement of tiny particles in fluids is

A. Brownian motion B. diffusion C. surface tension D. osmosis

8. When potassium permanganate is placed in water. The water will appear purple after sometime. This is because of

A. Brownian motion B. diffusion C. surface tension D. osmosis

9. Water is able to wet glass because of

A. cohesion B.adhesion C. electrostatic force cohesion D. friction

10. A pond skater can walk across water surface because of

A.diffusion B.friction C. cohesion D. surface tension

11. The efficiency of a machine is always

A. 100% B. 200% C. less than 100% D. 700%

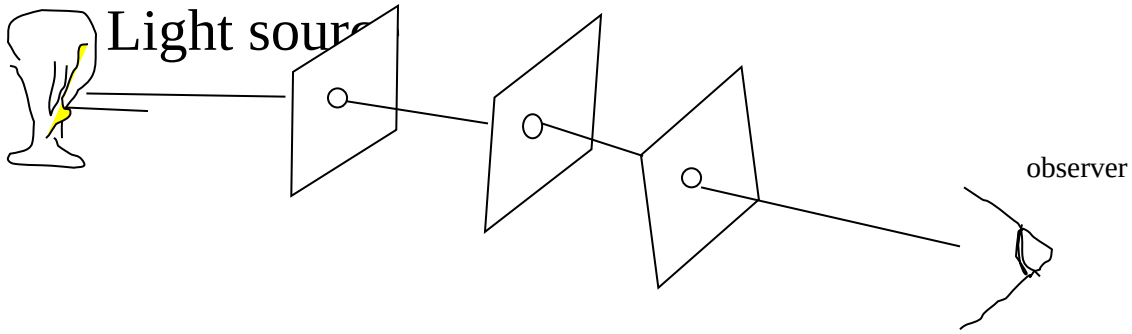
12.Calculate the work done when a force of 9000N acts on a body and makes it more through a distance of 6m

A. 54J B. 1800J C. 54000J D. 45000J

13. A man of mass 80kg runs up a stair case of 10 stairs,each of vertical height 25cm. find the work done against gravity

A. $2.0x10^{-3}J$ B. $2.0x10^{3}J$ C. $2.0x10^{-2}J$ D. $2.0X10^{1}J$

14.



when cardboard B is slightly displaced, the observer is

A. Able to see light B. unable to see light

C.isv dx able to bend light D. is able to reflect light

15. The enclipse which occurs when the earth is in between the sun and the moon is called

A. annular eclipse B. lunar eclipse C. Solar eclipse D. sun eclipse

16. The bouncing back of light is called

A. reflection B. refraction C. eclipse D. rectilinear

17. Light rays from a more dense medium to a less dense medium are refracted

A. towards the normal

B. away from the normal

C.towards the incident ray

D. Away from the refracted ray

18. ……is the distance from the pole of the mirror to the principle focus

A. Aperture B. pole C. focal length D. principle focus

19. when light travelling from a more dense medium to a less dense medium is reflected back into the more dense medium when the angle of incidence exceeds the critical angle is called

A. critical angle B. reflection C. total internal reflection

D. refraction

20. A ray of light travels from air into water at angle of incidence of 60^0. Calculate the angle of refraction given that the refractive of water is 1.33

A. 41.7^0 B.17.4^0 C. 50.0^0 D. 20.0^0

SECTION B

21a) Define the following

i) Refraction

……

……..

ii) Total internal reflection

……

……..

iii) Critical angle

……

……..

b) state three characteristics of images formed by concave mirror when object 0 beyond the centre of curvature

……

……

……..

22a) Differentiate between umbra and penumbra shadows

……

……

b) Briefly explain rectilinear propagation of light

……

……

……

23a) Give two conditions for total internal reflection to occur

……

…….

b) state two applications of total internal reflection

……

…….

24a) State Newton's laws of motion

……

……
……
……
……
……
b) Define momentum
……
……
25a) Define the terms

i) Work

……...

ii) Power

……...

iii) Energy

……

b) state principle of conservation of energy.

……
……
……..

----------GOOD LUCK----------