UNIVERSITY OF UYO, UYO
POST-UTME SCREENING EXERCISE 2006/2007 SESSION
PHYSICS 2006-2007

1. Which of the following devices are used to measure pressure? I Aneroid barometer, II hydrometer, II hygrometer , IV manometer (a) I and III (b) II and III (c) III and IV (d) I and IV
2. A piece of wood of mass 40g and uniform cross sectional area of 2cm2 floats upright in water. The length of the wood increased is (a) 8cm (b) 40cm (c) 20cm (D) 2cm
3. The pressure on the gas of a constant gas thermometer at the ice point is 325mm of mercury and at the steam point 875mm of mercury. Find the temperature when the pressure of the gas is 190m of mercury (A) 30k (b) 243k (c) 300k (d) 303k
4. A column of air of 10cm long is trapped in a tube at 270C. what is the length of the column at 1000C (a) 12.4cm (b) 13.7cm (c)18.5cm (d) 37.0cm
5. A mass of gas at 700C and 70cm of mercury has a volume of 1200cm3. Determine its volume at 2700C and pressure of 75cm of mercury (a) 1200cm3 (b) 1378cm3 (c) 4329cm3 (d) 4625cm3
6. An electric heater is used to melt a block of ice of mass 1.5kg. If the heater is powered by a 12v battery and a current of 20A flows through the coil, calculate the time taken to melt the block of ice. (Specific latent heat of fusion of ice = 336 x 103 kg (a) 76.0min (c)35.0min (c) 21.0min (d) 2.9min
7. From the kinetic theory of gases temperature is a (a) form of energy and is proportional to the total kinetic energy of the molecules (b) form of energy and is proportional to the average kinetic of the molecules (c) Physical property and is proportional to the average kinetic energy of the molecules.

8. Light of wavelength 5000 x 10-8 travels in free space with a velocity of 3 x 103ms-1 .What is its wave length an glass of refractive index 1.5? (a)3333 x10-8cm(b)500 x 108cm (c) 666 x108 (d) 75000x108.
9. an object is placed 5.6 x 102cm in front of a converging lens of focal length 1.0 x10-1, the image formed is (a) real, erect, and magnified (b) Virtual, erect and magnified (c) real, inverted and magnified (d)virtual, erect and diminished.

10. The magnification of the image of an object placed in front of a convex mirror is 1/3, if the radius of curvature of the mirror is 24cm, what is the distance between the object and its image? (a) 8cm (b) 16cm (c) 24cm (d) 32cm.
11. The plane mirrors is a kaleidoscope are usually placed (a) at an angle of 600 (b) parallel to one another (c) perpendicular to one another (d) at an angle of 450
12. A far sighted person cannot see objects that are less that 100cm away. If this person wants to read a book at 25cm, what types and focal length of lens does he need? (a) convex, 20cm (b) concave, 20cm (c) convex, 33cm (d) concave, 33cm.
13. When a yellows card is observed through a blue glass, the card would appear (a) black (b) green (c) red (d) white
14. Dispersion of light by a glass prism is due to the (a) different hidden colours of the glass (b) different speeds of the various colours in glass (c) defects in the glass (d) high density of glass.
15. Which of the following pairs is NOT part of the electromagnetic spectrum? I. radio waves II. Beta rays III. Gamma rays IV. Alpha rays (a) I and III (d) II and IV.
16. The insulated charged spheres of different sizes and carrying opposite charges are connected together by a metallic conductor. Current will flow from one sphere to the other until both spheres (a) carry the same magnitude and sign of change (b) are at the same potential (c) are at the same temperature (d) are of the same size.
17. When a number of identical small magnets are arranged in a line, the strength of the resultant magnet (a) is a largest when they area arranged end to end (b) is greatest when they are arranged parallel with like poles adjacent to each other (c) depends only on the number of magnets provided they are parallel (d) is greater when the magnets are arranged on a wooden surface than on a meta surface.
18. A bar magnet is most effectively demagnetized by (a) placing it in a N-S position and hitting it with a hammer (b) subjecting it to an electric current from a battery (c) bringing its north pole in contact with the north pole of a very strong magnet (d) heating the magnet.
19. The resistance of a 5cm uniform wire of cross sectional area 0.2 x10-6m2 is 0.425□. What is the Resistively of the materials of the wire? (a) 1.10x 10-6□ (b) 4.25 x10-6□m (c) 2.40 x 10-6□m 9d) 1.70 x10-6□m.
20. Three resistors with resistance 250□ and 1k□ are connected in series. A 6V battery is connected to either end of the combination. Calculate the potential difference between the ends of the 250□ resistor (a) 0.20v (b) 0.86v (c) 1.71V (d) 3. 34V

21. In a sound wave in air, If the adjacent refractions and compressions are separate by a distance of 17cm. If the velocity of the sound wave is 340ms-1, determinant the frequency (a) 10HZ (B) 20HZ (C) 1000HZ (D) 5780HZ.
22. Which if the following is a set of vectors? (a) Force, mass and moment (b) acceleration, veracity and moment (c) mass, weight and density (d) mass, weight and density
23. The magnitude of the resultant of two mutually perpendicular forces, F1 and F2 is 13N. The magnitude of F1 is 5N, what is the magnitude of F2? (a) 2.6N (b) 8.0N (c)12.0N (d) 18.0N
24. Two points on a velocity ……have co-ordinates 95s, 10ms-1 and 10s ……. Calculate the mean acceleration between two points (a) 0.67ms-2 (b) 0.83ms-2 (c) ……..
25. A block and tackle system is sued to lift a load of 20N through a vertical height of 10m. If the efficiency of the system is 40%, how much work is done against friction? (a)80J (b) 120J (c) 300J (d) 500J

ANSWERS TO 2006/2007-PHYSICS

1D 2C 3C 4A 5C 6B 7D 8D 9B 10D 11A 12A 13A 15D 16B 17B 18D 19D 20B 21C 22B 23C 24A 25B

UNIVERSITY OF UYO, UYO
POST-UTME SCREENING EXERCISE 200/72008 SESSION
PHYSICS 2007/2008

1. The saturated vapour pressure of a liquid increases as the (a) Volume of the liquid increases (b) volume of the liquid decreases (c) temperature of the liquid increases (d) temperature of the liquid decrease.
2. The absolute temperature of a perfect gas proportional to the average (a) potential energy of the molecules (b) separation between the molecules (c) kinetic energy of the molecule (d) velocity of the molecules
3. A room is heated by means of charcoal fire. All occupants of the room standing away from the fires is warmed mainly by (a) convection (b) radiation (c) conduction (d) reflection

4. A boy timed 30 oscillations of a certain pendulum thrics and obtained 1 min. 10s 1min, 10s min 12s and 1min 7s respectively. The mean period of the pendulum is (a) 0.14s (b) 0.43 (c) 2.35 (d) 6.97s
5. Which of the following is TRUE of light and sound waves? (a) They both transmit energy (b) they both need a medium for propagation (c) they are both transverse wave (d) their viscosity in air are equal
6. The image in a pin-hole camera is (a) erect and formed by refraction through a lens (a) erect and formed by refraction through means (b) virtual and formed by dispersion (c) erect and gets sharper as the hole becomes larger (d) inverted and formed by the light from each point traveling in a straight line.
7. When a plane mirror at which a ray of incident is rotated through an angle, the reflected ray will be rotated through (a) 1/2□ (b) □ (c) 2□ (d) 3 □
8. a trough 12.0cm deep is filled with water of refractive index 4/3.By how much would a coin at the bottom of the trough appear to be displaced when viewed vertically from above the water surface? (a) 3.0cm (b) 6.0cm (c) 9.0cm (d) 16.0cm
9. In a ray diagram for a thin converging lens, a ray that is not parallel to the optic axis but passes through the optic centre will (a) Pass through un deviated (b) pass through the centre of curvature after refraction (c0 emerge parallel to the principal axis (d) pass through the principal focus after refraction.
10. Which of the following correctly describes the image of an object , 4cm from a diverging lens of focal length 12cm? (a) the image is virtual, 3cm in front of the lens (b) the image is real, 6cm in front of the lens (d) the image is real, 3cm in front of the lens.
11. Two tuning forks of frequencies 256HZare sounded close to each other. What is the frequency of the beats produced? (a) 2HZ (b) 4Hz (c) 8Hz (d) 258Hz.
12. A man hears his echo from a nearby hill 2s after he shouted, if the frequency of his voice is 260HZ and the wavelength is 1.29m, how far is the hill/ (a) 330.0m (b) 335.5m (c) 660.0m (d) 670.8m.
13. When the bottom tip of vibrating tuning fork is held in contact with a wooden box, a louder sound is heard. This phenomenon is known as (a) beats (b)echoing (c) resonance (d) reverberation.
14. Which of the following statement is CORRECT about the earth's magnetic field? (a) the angle of the dip is the angle which freely suspended magnet makes which the cortical (b) the angle declination is the angle between magnetic meridian and the geographic meridian (c) the angle of declination is the angle which is magnetic compass makes with the magnetic meridian (d) The angle of inclination the difference between the angle of declination.

15. An insulated rod when rubbed with a material acquires (a) negative charge if it is made of glass and rubbed with silk (b) no charge if its is made of glass and rubbed with fur (c) no charge if it is made of copper and rubbed with the silk (d) a positive charge if it is made of cooper and rubbed with fur.
16. Which of the following is Obeys Ohm's Law? (a) glass (b) diode (c) all electrolytes (d) all metals

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