3RD TERM FIRST CA

JSS2 BASIC SCIENCE

1. When a substance is heated, its particles A. move slowly B. move fast C. remain stationary D. lose kinetic energy
2. Heat energy is transferred from one particle in a substance to the next particle during A. convection B. conduction C. radiation D. evaporation
3. Conduction cannot take place in a A. vacuum B. metal spoon C. metal rod D. cooking pot
4. Heat energy can be transferred by radiation through A. metal B. plastics C. water D. vacuum
5. Which of the following is a mode of heat transfer? A. boiling B. evaporation C. sublimation D. conduction
6. Which of the following materials absorbs thermal energy most slowly A. silvered can B. black can C. plastics D. water
7. The following are types of abstinence EXCEPT A. life – long B. periodic C. primary D. secondary
8. …… is a locking item of clothing design to prevent sexual intercourse A. hand-cuffs B. rope C. chastity belt D. belt
9. Genetics counselling is importance before marriage A. True B. false C. I don’t know D. it is optional
10. Heat transfer occurs due to difference in A. humidity B. material C. length D. temperature

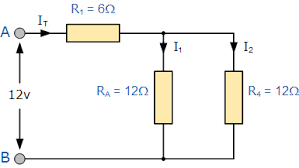
THEORY

1. (a) State the 3 method of heat transfer (ii) state one application of each
2. List the types of abstinence (b) state 3 importance of breastfeeding

SS1 PHYSICS

1. Which of the following devices transforms light energy to electrical energy? A. bulb B. television C. solar cell D. Light emitting diode
2. The maximum density of water occurs at a temperature of A. 0°C B. 4°C C. 37°C D. 273°C
3. Which of the following objects is not a conductor of electricity? A. the earth B. human body C. iron rod D. dry wood
4. A lamp rated 100W, 240V is lit for 5 hours. Calculate the cost of lighting the lamp if 1kWh of electrical energy cost #5. A. #2.50 B. #3.20 C. #6.50 D. #9.60
5. Which of the concepts is a method of heat transfer that does not require a material medium A. conduction B. radiation C. diffusion D. convention
6. To get the accurate measurement of the relative density of substances in liquid form, one needs a beam balance and a A. pipette B. burette C. density bottle D. measuring cylinder
7. I Polythene II Glass III Ebonite IV Silk ; Which of the materials can be used to obtain positive charge? A. III and IV B. II and IV C. I and III D. I and II
8. Which of the following can be used to measured human body temperature? A. Constant volume gas thermometer B. liquid –in-glass thermometer C. clinical thermometer D. thermocouple thermometer
9. Which of the following CANNOT be used as a measure of degree of expansion in solids? A. linear expansivity B. cubic expansivity C. area expansivity D. apparent expansivity
10. Any liquid that will be used as a thermometric liquid must have the following properties EXCEPT A. have a low freezing point B. have a high boiling point C. be a good conductor of heat D. have a high freezing point

THEORY

1. In a certain house, 3 fans each of 80W, an air-conditioner rated 1500W are operated for 6 hours each day. The home theatre 100W and television set 80W are switched on for 10 hours each day. Seven lamps each rated 40W are switched on 5 hours. Calculate (i) the total power consumed in the house for one month( 30 days) in kWh (ii) the cost of operating all the appliances for one month at #1 per kWh
   1. 

Complete the table

|  |  |  |
| --- | --- | --- |
| R/Ω | V/V | I/A |
|  | 12 |  |
| 6 |  |  |
| 12 |  |  |
| 12 |  |  |

SS2 PHYSICS

1. A plane is inclined at an angle θ to the horizontal. Its velocity ratio is A. sin θ B. tan θ C. D.
2. Two plane mirrors are inclined at an angle 20° to each other. Determine the number of images formed when an object is placed between them. A. 17 B. 18 C. 19 D. 20
3. The inverse of the time required for a wave to complete one full cycle is called A. wavelength B. period C. frequency D. amplitude
4. The absolute refractive indexes of glass and water are and respectively. The refractive index at the interface when a ray travel from water to glass is A. B. C. D.
5. Which of the following is used for controlling the amount of light entering the eye? A. cornea B. pupil C. iris D. ciliary muscle
6. Which of the following takes place at any temperature? A. Boiling B. Evaporation C. Freezing D. Melting
7. An object is placed at 20cm of a concave mirror of radius of curvature 30cm. calculate the distance of its image from the mirror. A. 8.6cm B. 20cm C. 30cm D. 60cm
8. Which of the concepts is a method of heat transfer that does not require a material medium A. conduction B. radiation C. diffusion D. convention
9. If an object is located 25cm from a converging mirror of radius of curvature 10cm. calculate the image distance from the mirror. A. 6.25 cm B. 8 cm C. 3.12 cm D. 4.02cm
10. To get the accurate measurement of the relative density of substances in liquid form, one needs a beam balance and a A. pipette B. burette C. density bottle D. measuring cylinder

THEORY

1. Show with the aid of diagrams explain how the following defects occur and also how they can be corrected (i) myopia (ii) hypermetropia
2. (a) Explain the terms ***critical angle*** and ***total internal reflection*** with diagram (b) the angle of refraction (r) of a ray of white light from air through a triangular glass prism of refractive index 1.5 is 29°. Calculate the angle through which the ray is least deviated.