

Unit 2 - Week 0 : Prerequisite

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Assignment 0

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-09-14, 23:59 IST.

- 1) The portion of the radiation spectrum emitted by the sun in the wavelength between 0.4 μm and 0.7 μm is called _____ **1 point**
- (a) Ultra violet radiation
 (b) Visible radiation
 (c) Infrared radiation
 (d) None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
(b) Visible radiation

- 2) Which of the following expression relates correctly the energy (E) of photon of sunlight with wavelength (λ) **1 point**
- (a) $E = \frac{h \times c}{\lambda}$
 (b) $E = \frac{\lambda \times c}{h}$
 (c) $E = \frac{\lambda \times h}{c}$
 (d) $E = \lambda \times c \times h$

No, the answer is incorrect.
Score: 0

Accepted Answers:
(a) $E = \frac{h \times c}{\lambda}$

- 3) A hot object of temperature " T_1 " is placed in a vacuum chamber having cold wall at temperature " T_2 ". The hot object cools as a result of heat exchange by _____ **1 point**
- (a) Conduction
 (b) Convection
 (c) Thermal radiation
 (d) Evaporation

No, the answer is incorrect.
Score: 0

Accepted Answers:
(c) Thermal radiation

- 4) Which of the following law provides the rate at which energy is radiated by a black body at a given temperature of T (K)? **1 point**
- (a) Fourier Law
 (b) Newton's Law
 (c) Stefan-Boltzmann Law
 (d) Bouger's Law

No, the answer is incorrect.
Score: 0

Accepted Answers:
(c) Stefan-Boltzmann Law

- 5) The kinematic viscosity of a fluid is equal to **1 point**
- (a) Dynamic viscosity/fluid density
 (b) Dynamic viscosity \times fluid density
 (c) 1/ Dynamic viscosity \times fluid density
 (d) Fluid density/ dynamic viscosity

No, the answer is incorrect.
Score: 0

Accepted Answers:
(a) Dynamic viscosity/fluid density

- 6) Reynolds number is the ratio of **1 point**
- (a) Viscous force to inertia force
 (b) Inertia force to viscous force
 (c) Buoyancy force to inertia force
 (d) Buoyancy force to viscous force

No, the answer is incorrect.
Score: 0

Accepted Answers:
(b) Inertia force to viscous force

- 7) For a closed system, the difference between the heat added to the system and the work done by the system is equal to the change in _____ **1 point**
- (a) Enthalpy
 (b) Entropy
 (c) Temperature
 (d) Internal energy

No, the answer is incorrect.
Score: 0

Accepted Answers:
(d) Internal energy

- 8) A cyclic heat engine operates between a source temperature of 800 $^{\circ}\text{C}$ and a sink temperature of 30 $^{\circ}\text{C}$. The Carnot efficiency of the heat engine is _____ **1 point**
- (a) 96.25 %
 (b) 71.76 %
 (c) 41.22 %
 (d) 28.23 %

No, the answer is incorrect.
Score: 0

Accepted Answers:
(b) 71.76 %

- 9) Which of the following instrument is used for measurement of temperature? **1 point**
- (a) Manometer
 (b) Thermocouple
 (c) Bordon tube
 (d) Anemometer

No, the answer is incorrect.
Score: 0

Accepted Answers:
(c) Bordon tube

- 10) Air is blown over a hot plate of area 50 \times 60 cm made of carbon steel maintained at 220 $^{\circ}\text{C}$. Given that the air temperature is 20 $^{\circ}\text{C}$ and the convective heat transfer coefficient is 25 W/m 2 K. The heat loss (in Watt) from the plate will be **1 point**
- (a) 4000
 (b) 1500
 (c) 3000
 (d) 2500

No, the answer is incorrect.
Score: 0

Accepted Answers:
(d) 2500