LIGHT, HEAT, THERMODYNAMICS, WAVE MOTION, SOUND, OPTICS & OSCILLATIONS BASED GENERAL SCIENCE MCQ PRACTICE QUESTIONS AND ANSWERS PDF WITH EXPLANATION

For All Competitive SSC, Bank, IBPS, UPSC, Railway, IT & Other Govt. Exams

Created By Careericons Team

Q1. The sun is seen before the actual sunrise because of

a) scattering of light

b) reflection

c) refraction

d) rectilinear propagation of light

Q2. At 0°C a body emits

a) only microwave radiation

b) no radiation

c) only visible light

d) all wavelengths.

Q3. Blue colour of the sky is due to

a) Interference of light

b) Dispersion of light

c) Scattering of light

d) Emission of more blue light as compared to other colours by the Sun

---

Q4. Three colours are the primary colours. These are

a) Yellow, Green and Red

b) Blue, Green and Red

c) Blue, Yellow and Red

d) Blue, Yellow and Red

Q5. Retina of the eye is comparable to which of the following parts of a traditional camera?

a) Shutter

b) Lens

c) Film

d) Cover

Q6. Timbre is called the quality of sound. One can recognise the voice of a familiar human being or instrument without actually seeing them. This quality is associated with

a) overtones present in the sound

b) material of the body

c) shape of the body

d) all of the above

Q7. At a common temperature, a block of wood and a block of metal feel equally cold or hot. The temperatures of block and wood are

a) greater than temperature of the body

b) equal to the temperature of the body

c) less than the temperature of the body

d) either (b) or (c)

Q8. Which of the following is carried by the waves from one place to another ?

a) Wavelength

b) Mass

c) Velocity

d) Energy

Q9. 5g ice at 0ºC is mixed with 5g of steam at 100ºC . What is the final temperature?

a) 80ºC

b) 50ºC

c) 100ºC

d) 150ºC

Q10. When a CD (compact disc used in audio and video systems) is seen in sunlight, rainbow like colours are seen. This can be explained on the basis of the phenomenon of

a) diffraction and transmission

b) reflection and diffraction

c) reflection and transmission

d) refraction, diffraction and transmission

Q11. The normal temperature of human body on the Kelvin scale is

a) 290

b) 300

c) 280

d) 310

Q12. Assertion (A) :
A jet aircraft moving at Mach Number equal to 1 travels faster at an altitude of 15

km than while moving at Mach Number equal to 1 near the sea level.
Reason (R) :
The velocity of sound depends on the temperature of the surrounding medium.

a) Both A and R are true but R is not a correct explanation of A

b) Both A are R are true and R is the correct explanation of A

c) A is true but R is false

d) A is false but R is true

Q13. In scattering of light phenomenon, light falls on tiny particles absorbed by these tiny particles. Then these particles re-emit light in all directions.

- Intensity of scattered light, $I ? 1/?^4$
- Greenish-blue appearance of sea water is due to scattering of light
- In a clear atmosphere of the earth, red colour scatters more than blue colour.

Which of the above statement(s) is /are true?
a) 1 and 3

b) 1 and 2

c) 2 and 3

d) 1, 2 and 3

Q14. The technique used to transmit auto signals in television broadcasts is

a) Pulse Code Modulation

b) Frequency Modulation

c) Amplitude Modulation

d) Time Division Multiplexing

Q15. In the night wind blows fast, dew is not formed because

a) Moisture in air is low

b) Temperature is high

c) Rate of evaporation is fast

d) Sky is not clear

Read More light heat thermodynamics wave sound optics oscillation Question and Answes »

Answers to the above questions :

Q1. Answer: (c)

Q2. Answer: (d)

At any temperature other than zero K, each body emits all wavelengths.

Q3. Answer: (c)

ATOMIC STRUCTURE MOLECULES AND NUCLEAR CHEMISTRY

CLASSIFICATION OF ELEMENTS, CHEMICAL BONDING, PERIODICITY IN PROPERTIES & PHYSICAL TRANSFORMATION

METALS, NON METALS, MINERALS, ORES, PROPERTIES, USES

ALLOYS, CARBON & ITS VARIOUS FORMS, HYDROGEN & COMPOUNDS, SULPHUR, NITROGEN, HALOGEN & INERT GASES

ACIDS, BASES, SALTS AND METALS

HYDROCARBON, ALCOHOL, POLYMER, ORGANIC ACID AND EXPLOSIVE SUBSTANCE

FUEL, FOOD PRESERVATION, NUTRITION, MEDICINE, DETERGENTS AND FERTILIZERS

INORGANIC CHEMISTRY ORGANIC CHEMISTRY ENVIRONMENTAL CHEMISTRY

SOME IMPORTANT MAN MADE MATERIALS SUB DIVISIONS OF BIOLOGY

GENETICS, EVOLUTION OF LIFE & ECOLOGICAL BIODIVERSITY TAXONOMY

HEREDITY BIOFERTILIZER

BIOLOGICAL CLASSIFICATION CELL TISSUES AND DIVISION HUMAN ANATOMY

BLOOD TRANSPORT SYSTEM DIGESTION AND EXCRETION PHOTOSYNTHESIS

VITAMINS, NUTRITION, HEALTH, DISEASE AND TREATMENT

ENDOCRINE GLANDS, HORMONES

PHYSIOLOGY OF PLANTS, HUMANS AND ANIMALS REPRODUCTION

FOOD PRODUCTION BIOLOGY IN HUMAN WELFARE

ECOLOGY AND ENVIRONMENT AWARENESS

GENETIC ENGINEERING AND BIO TECHNOLOGY

Q4. Answer: (b)

Q5. Answer: (c)

Q6. Answer: (d)

Q7. Answer: (b)

The temperatures of the block and wood are equal to the temperature of the body as both feel equally hot or cold.

Q8. Answer: (d)

Q9. Answer: (c)

Heat required by ice to raise its temperature to 100°C,

$Q_1 = m_1L_1 + m_1c_ 1??_1$ = 5 × 80 + 5 × 1 × 100 = 400 + 500 = 900 cal.

Heat given by steam when condensed,

$Q_2 = m_2L_2$ = 5 × 536 = 2680 cal as $Q_2 > Q_1$.

This means that whole steam is not even condensed.

Hence temperature of mixture will remain at 100°C.

Q10. Answer: (d)

The reason CDs reflect rainbow colours is because they have a clear plastic coating on top of a mirrored surface. Light refracts (bends) when it moves from one medium (such as air) to another with a different optical density (such as the clear plastic surface of a CD).

Different wavelengths of light (every colour has a different wavelength) travel at different speeds so that the full spectrum appears when white light passes from the air through the plastic surface of a CD, separated light rays which are then reflected back to us by the mirrored centre surface of a CD.

Here the diffraction and transmission also take place because diffraction of light rays occurs when it strikes the surface of CD and transmission is obvious when light enters from one medium to another.

The thickness of the different optical media, angle of source light, and brightness of source light all affect which rainbow patterns are visible on a CD.

Q11. Answer: (d)

Q12. Answer: (d)

Q13. Answer: (d)

The wavelength of the red colour is more than the blue colour. According to Reybergh's scattering formula scattering ? $1/4$

Thus, the light of short waves is scattered about ten times as the longer waves of red light.

Q14. Answer: (b)

Q15. Answer: (c)