

MODERN AND SPACE PHYSICS, SOURCES OF ENERGY 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. Which of the following does NOT allow harmful ultraviolet radiations from the sun to reach the earth?

- a) NO_2
 - b) CO_2
 - c) O_2
 - d) O_3
-

Q2. Television signals are

- a) amplitude modulated
 - b) both frequency and amplitude modulated
 - c) frequency modulated
 - d) phase modulated
-

Q3. If an α -particle is projected normally through a uniform magnetic field, then the path of the α -particle inside the field will be

- a) parabolic
 - b) elliptical
 - c) circular
 - d) a straight line
-

Q4. Consider the following statements: In a nuclear reactor, self-sustained chain reaction is possible, because:

- More neutrons are released in each of the fission reactions.
- The neutrons immediately take part in the fission process.

- The fast neutrons are slowed down by graphite.
- Every neutron released in the fission reaction initiates further fission.

Which of the statements given above are correct?

- a) 1 and 3
- b) 2 and 4
- c) 1, 2 and 3
- d) 2, 3 and 4

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Q5. The number of atoms per unit cell in a sc, bcc and fcc system are:

- a) 8, 6 and 10 respectively
- b) 1, 4 and 2 respectively
- c) 1, 2 and 4 respectively
- d) 2, 4 and 1 respectively

Q6. Match Column I and Column II.

Column I	Column II
A. Sputnik - I	1. Indian experimental satellite
B. Apple	2. The first active satellite
C. Apsara	3. Detecting ? and ? particles
D. Geiger muller counter	4. The first Indian nuclear reactor

Select the correct answer using the codes given below the columns:

- a) A – 4 ; B – 2 ; C – 1 ; D – 3
- b) A – 2 ; B – 1 ; C – 4 ; D – 3
- c) A – 3 ; B – 4 ; C – 1 ; D – 2
- d) A – 2 ; B – 4 ; C – 1 ; D – 3

Q7. Electromagnetic waves with frequencies greater than the critical frequency of ionosphere cannot be used for communication using sky wave propagation because:

- a) The refractive index of the ionosphere becomes very low for $f > f_c$
 - b) The refractive index of the ionosphere very high for $f < f_c$
 - c) The refractive index of the ionosphere becomes very high for $f > f_c$
 - d) None of the these
-

Q8. Telephony is an example of _____ mode of communication

- a) broadcast
 - b) both (a) and (c)
 - c) point-to-point
 - d) None of these
-

Q9. Which part of the solar cooker is responsible for green house effect?

- a) Mirror
 - b) Glass sheet
 - c) Coating with black colour inside the box
 - d) Outer cover of the solar cooker
-

Q10. Consider the following statements:

- A geostationary satellite is at an approximate height of 10,000 km.
- FM transmission of music is of very good quality because the atmospheric or man-made noises which are generally frequency variations can do little harm.

Which of the statement(s) given above is/are **correct**?

- a) 2 only
 - b) 1 and 2 both
 - c) 1 only
 - d) None
-

Q11. In a hydro power plant

- a) kinetic energy possessed by stored water is converted into potential energy
- b) electricity is extracted from water
- c) potential energy possessed by stored water is converted into electricity
- d) water is converted into steam to produce electricity

Q12. Consider the following statements :

- Collation is a process of sorting at receiving end
- Encoding of signal is required for modulation at transmitting end
- Long wave broadcast transmitter are used for temperate countries

Which of the above statements are correct?

- a) 2 and 3
- b) 1 and 3
- c) 1 and 2
- d) 1, 2 and 3

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Q13. Match the List I and List II.

List I	List II
A. Nebulae	1. Highly dense matter available in the atmosphere
B. Stratosphere	2. Layer of the atmosphere
C. Black hole	3. Ursa major
D. Saptarishi	4. The clouds of dusty gases

Select the correct answer using the codes given below the lists:

- a) A – 4 ; B – 2 ; C – 1 ; D – 3
- b) A – 2 ; B – 1 ; C – 4 ; D – 3

c) A – 3 ; B – 4 ; C – 1 ; D – 2

d) A – 2 ; B – 4 ; C – 1 ; D – 3

Q14. Which of the following statement is/are the applications of photovoltaic cells?

- They are used to detect opacity of solids, defects in materials.
- They are used to switch on and off the street lights automatically
- They are used to compare illuminating power of two sources.
- To control temperature in furnaces and chemical reactions

a) B, C, D

b) A, B, C

c) B and C

d) All of these

Q15. Chadwick was awarded the 1935 nobel prize in physics for his discovery of the

a) proton

b) neutron

c) electron

d) positron

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Answers to the above questions :

Q1. Answer: (d)

Q2. Answer: (b)

Q3. Answer: (c)

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MECHANICS (MASS, FORCE, ACCELERATION, WORK, ENERGY, MOMENTUM, VELOCITY)

FORCE OF GRAVITY, SOLIDS AND FLUIDS MOTION UNDER GRAVITY

PHYSICAL PROPERTIES OF MATERIALS

LIGHT, HEAT, THERMODYNAMICS, WAVE MOTION, SOUND, OPTICS & OSCILLATIONS

ELECTRIC CURRENT AND MAGNETISM NUCLEAR PHYSICS AND CONDUCTIVITY

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GENERAL CONCEPTS OF CHEMISTRY NATURE OF MATTER AND COMPOSITION

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

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VITAMINS, NUTRITION, HEALTH, DISEASE AND TREATMENT

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PHYSIOLOGY OF PLANTS, HUMANS AND ANIMALS

REPRODUCTION

FOOD PRODUCTION

BIOLOGY IN HUMAN WELFARE

ECOLOGY AND ENVIRONMENT AWARENESS

GENETIC ENGINEERING AND BIO TECHNOLOGY

Q4. Answer: (c)

A nuclear reactor is a device to initiate and control a sustained nuclear chain reaction. The most common use of nuclear reactors is for the generation of electrical power and for the power in some ships.

In every fission reaction in which uranium nuclei splits up to give smaller nuclei three more neutrons are produced which further results into splitting of heavy uranium nuclei and more number of neutrons will be produced.

Thus, statement, 1 & 2 are correct.

In nuclear reactor all the neutrons produced can not take part in fission reaction, else reaction can turn out extremely violent. Thus, graphite rods are used as a control rods to slow down the speed of fast moving neutrons. Thus, statement 3 is also correct.

Q5. Answer: (c)

Number of atoms per unit cell,

$$n = \frac{N_c}{8} + \frac{N_f}{2} + \frac{N_i}{1}$$

For scc system, $N_c = 8$, $N_f = 0$ and

$$N_i = 2, \text{ so } n = 2$$

For f.c.c. system, $N_c = 8$, $N_f = 0$ and

$$N_i = 4, \text{ so } n = 4$$

Q6. Answer: (b)

A ? 2;

B ? 1;

C ? 4;

D ? 3.

Q7. Answer: (c)

For the total internal reflection of sky waves, the refractive index of the ionosphere should be less.

If $f > f_c$, the refractive index will increase. By this waves will just pass without reflection taking place.

Q8. Answer: (c)

Q9. Answer: (b)

Q10. Answer: (a)

The geostationary satellite is a satellite having a time period of 24 hours. Using this time period, the height of the satellite comes out to be approximately 35,800 km.

FM broadcasting is a broadcast technology pioneered by Edwin Howard Armstrong that uses frequency modulation (FM) to provide high-fidelity sound over broadcast radio. FM transmission is quite immune to noise as compared to AM transmission.

Noise is a form of amplitude variations in the transmitted signal due to atmosphere, industries, etc.

Q11. Answer: (c)

Q12. Answer: (a)

Q13. Answer: (a)

A ? 4;

B ? 2;

C ? 3;

D ? 1.

Q14. Answer: (d)

Q15. Answer: (b)

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