



CAPF AC PYQ

(SUBJECT WISE)

(Institute for Defence exam)

SUBJECT : SCIENCE

YEAR : 2018

FOLLOW US

Telegram Link :- <https://t.me/krishnakuamar>

YouTube Link :- <https://www.youtube.com/@krishnasahu148>

Website Link :- <https://pathtoias.com/>

1. The optical phenomenon that is responsible for the propagation of light signal through an optical fibre is

- (a) interference
- (b) scattering
- (c) total internal reflection
- (d) refraction

2. Which of the following statements about optical microscope is/are correct?

1. Both the eyepiece and objective of a microscope are convex lenses.
2. The magnification of a microscope increases with increase in focal length of the objective.
3. The magnification of a microscope depends upon the length of the microscope tube.
4. The eyepiece of a microscope is a concave lens.

Select the correct answer using the code given below.

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



3. Which one of the following gemstones contains beryllium metal?

- (a) Topaz
- (b) Emerald
- (c) Ruby
- (d) Blue sapphire

5. The number of angular and radial nodes for $4d$ orbital is respectively

- (a) 2 and 1
- (b) 1 and 2
- (c) 3 and 1
- (d) 4 and 0



4. Lowering the atmospheric pressure on a liquid

- (a) increases the boiling point of the liquid
- (b) lowers the boiling point of the liquid
- (c) does not affect the boiling point of the liquid
- (d) increases the time required for it to boil

6. Which one of the following statements about proteins in mammalian cells is correct?

- (a) Proteins in mammalian cells are synthesized in cell membrane.
- (b) Proteins in mammalian cells are not synthesized in cell membrane but directly absorbed from food.
- (c) Proteins in mammalian cells are synthesized in rough endoplasmic reticulum.
- (d) Proteins in mammalian cells are synthesized in Golgi apparatus.

7. Which one of the following statements about transport mechanism in plants is correct?

- (a) Diffusion of ions and small molecules across cell membrane requires energy.
- (b) Active transport of ions and small molecules across cell membrane against concentration gradient requires energy.
- (c) Cells conserve energy and no energy is required for transport of ions and small molecules against concentration gradient.
- (d) Cells do not transport ions across their membrane as these are charged molecules.

8. If the amplitude of oscillation of a simple pendulum is very small, then its time period of oscillation

1. depends on the length of the pendulum, L
2. depends on the acceleration due to gravity, g
3. depends upon the mass of the bob of the pendulum, m
4. does not depend upon the amplitude of the pendulum, A

Select the correct answer using the code given below.

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



9. The term LASER stands for

- (a) Light Amplification by Stimulated Emission of Radiation
(b) Light Amplification by Spontaneous Emission of Radiation
(c) Light Amplification by Stimulated Emission of Rays
(d) Light Amplification by Stimulated Energy of Radiation

22. Which one of the following statements about blood elements is correct?

- (a) Red blood cells' number is same as that of white blood cells and platelets.
(b) The number of white blood cells is more than red blood cells.
(c) The number of red blood cells is the highest.
(d) The number of red blood cells is lower than platelets.

10. Which of the following statements about carboxylic acids is/are correct?

1. Simple aliphatic carboxylic acids are soluble in water.
2. Higher carboxylic acids are practically insoluble in water.
3. The acidity of a carboxylic acid depends on the number of carbon atoms present in the hydrocarbon chain.

Select the correct answer using the code given below.

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



11. Match List-I with List-II and select the correct answer using the code given below the Lists :

List-I (Compound)	List-II (Type of polymer)
A. Melamine	1. Linear
B. Polyvinyl chloride	2. Condensation
C. Terylene	3. Natural
D. Cellulose	4. Cross-linked

Code :

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

23. Which one of the following statements regarding muscle contraction and relaxation is correct?

- (a) It involves movement of Zn^{++} ion.
- (b) It involves Ca^{++} ion of blood.
- (c) It involves release of Ca^{++} from sarcoplasmic reticulum (SR) and pumping Ca^{++} back in SR.
- (d) It involves exchange of Na and K.

24. Which one of the following statements regarding digestion is correct?

- (a) Fat present in the food is digested by trypsin and chymotrypsin.
- (b) Starch of food is digested by lipases.
- (c) Fat of food is digested by lipases.
- (d) Nucleic acid is digested by amylases.

25. Which one of the following statements is correct?

- (a) In photosynthesis by green plants, carbon dioxide is used for making carbohydrate.
- (b) During photosynthesis, plants use oxygen for making carbohydrate.
- (c) The carbohydrate generated by plants comes from soil.
- (d) The carbohydrate generated by plants comes from urea.

48. Which one of the following is anisotropic in nature?

- (a) Glass
- (b) Rubber
- (c) Plastic
- (d) Quartz



26. Which one of the following statements regarding insulin hormone is correct?

- (a) Insulin is a protein hormone which is not produced in human body.
- (b) Insulin is a steroid hormone which is produced in human body.
- (c) Insulin is a cholesterol-driven hormone given to human.
- (d) Insulin is a protein hormone which is produced in human body.

49. Which one of the following is **not** a condensation polymer?

- (a) Nylon
- (b) DNA
- (c) Polythene
- (d) Bakelite



Directions :

The following **eight (8)** items consist of two statements, Statement I and Statement II. Examine these two statements carefully and select the correct answer using the code given below.

Code :

- (a) Both the statements are individually true and Statement II is the correct explanation of Statement I
- (b) Both the statements are individually true but Statement II is **not** the correct explanation of Statement I
- (c) Statement I is true but Statement II is false
- (d) Statement I is false but Statement II is true

60. Statement I :

A compass needle placed near a current-carrying wire will get deflected.

Statement II :

A current-carrying wire creates magnetic field around it.