

VTSE (+1 non- Med)

Physics

1. Oersted and Faraday unified which of the following achievements?

- A) Electric and magnetic phenomena
- B) Electromagnetism and optics
- C) Electro-weak forces
- D) Terrestrial and celestial

2. Which of the following forces have the infinite range?

- A) Weak nuclear and Strong nuclear force
- B) Electromagnetic and Strong nuclear force
- C) Gravitational and Electromagnetic force
- D) Gravitational and Weak nuclear force

3. Complete the statement of the first law of motion. "A body at rest stays at _____ and a body stays in _____ unless an _____ is applied"

- A) Motion; Rest, External Force

B) Rest; Motion; External Force

C) Rest; Motion; Internal Force

D) None of these

4. Banking of roads is done due to

A) provide enough friction for circular motion of the vehicle

B) provide necessary centripetal force required for circular motion of the vehicle

C) provide enough radius of curvature for circular motion of the vehicle

D) provide enough area for navigating in the circular motion of the vehicle

5. If two balls each of mass 0.06 Kg moving in opposite directions with speed 4 m/sec collides and rebound with the same speed, then coefficient of restitution for the collision will be:-

A) $\frac{1}{4}$

B) $\frac{1}{2}$

C) 1

D) 0

Chemistry

1. "All gases have the same number of moles in the same volume at constant temperature and pressure. This statement belongs to:

- A) Boyle's law
- B) Charles's law
- C) Avogadro's principle
- D) ideal gas law
- E) Dalton's law

2. Which letter orbital corresponds to $l = 2$?

A) S

B) P

C) d

D) f

E) n

3. Which color of light has the highest energy?

A) Violet

B) Green

C) Yellow

D) Orange

E) Red

4. Electron affinity is the

A) Energy absorbed when an electron is added to an isolated atom in the gaseous state

B) Energy released when an electron is added to an isolated atom in the gaseous state

C) Energy required to take out an electron from an isolated gaseous state

D) Power of an atom to attract an electron to itself

5. In comparison with alkali metals, the electron affinity of halogen is

A) Very high B) Very low

C) Nearly same D) Exactly same

MATHEMATICS

Q1. The inclination of line $x-y+3=0$ with the positive direction of x-axis is

A) 45° B) 135° C) -45° D) -135°

Q2. Area of the triangle formed by the tangents at the points (4,6), (10,8) and (2,4) on the parabola $y^2 - 2x = 8y - 20$, is (in sq. units)

A)4 B)2 C)1 D)8

Q3. The length of the latus rectum of the parabola, $y^2 - 6y + 5x = 0$ is

A)1 B)3 C)5 D)7

Q4. The equation $x^2 + y^2 + 4x + 6y + 13 = 0$ is

A)Circle

B)Pair of coincident straight lines

C)Pair of concurrent straight lines

D)Point

Q5. If the point A(3,-2,4), B(1,1,1) and (-1,4,-2) are collinear then (C:AB)

A)1:2 B)-2:1 C)1-:2 D)4:0

BIOLOGY

1. Which of the following organelle forms the intra cellular transporting system?

A) Mitochondria B) Lysosomes

C) Endoplasmic reticulum D) Ribosomes

2. Which one of the following helps in keeping the body warm?

A) Sweat glands B) Adipose tissue

C) Skin D) Hair

3. Nictitating membrane is an example of

A) Analogous structures

B) Homologous structures

C) Vestigial structures

D) All

4. Protective layer found at the site of abscission is

- A) Parenchymatous
- B) Collenchymatous
- C) Sclerenchymatous

D) Suberized

5. Which of the following is secondary meristem?

- A) Protoderm
- B) procambium
- C) Cork cambium
- D) All of the above

VERON