Past Paper MCQs

Chapter 1: Measurements

1. Which of the following is not a unit of pressure? (FBISE-2022)

A. kg $m^{-1}s$
B. kg ms
C. Nm
D. pascal

Correct answer: B

2. In colour printing, the entire range of colours can be obtained by mixing. (FBISE-2010)

A. Seven
B. Six
C. Five
D. Four

Correct answer: D

3. Which of the following pairs have the same dimensions? (FBISE-2010)

A. Power, Speed
B. Force, Momentum
C. Work, Torque
D. Velocity, Acceleration

Correct answer: C

4. Number of significant figures in 8.7×10^4 are (FBISE-2011)

A. 1
B. 3
C. 4
D. 7

Correct answer: B

5. SI unit of time is (FBISE-2012)

A. 60 min
B. Cesium second
C. Krypton 86
D. 60 s

Correct answer: B

6. Light year is the unit of (FBISE-2013, 2014)

A. Distance
B. Time
C. Light intensity
D. Speed

Correct answer: A

7. Solid angle of a sphere is (FBISE-2011)

A. 12.57 sr
B. 6.28 sr
C. 3.14 sr
D. 57.3 sr

Correct answer: A

8. Base unit of linear momentum is (FBISE-2012)

A. $N * s^2$
B. kg m/s
C. kgm^2/s
D. kg m / (s^2)

Correct answer: B

9. Which of the following is a dimensionless quantity? (FBISE-2023, AJK-M.C.Q.2)

A. Stress
B. Strain
C. Spring constant k
D. Young's modulus Y

Correct answer: B

10. Which of the following is not a unit of work? (FBISE-2011)

A. Joule
B. Nm
C. $kgm * s^{-1}$

D. watt second

Correct answer: C

11. The dimensions of Power are: (FBISE-2016, 2017)
A. [M L T^-2]
B. [ML T^-3]
C. [M² L² T^-2]
D. [M L² T^-3]

Correct answer: D

12. The significant figures in 34.678 are (FBISE-2017)
A. 4
B. 3
C. 5
D. 2

Correct answer: C

13. Which of the following pairs of units are both derived units? (FBISE-2017)
A. Kilogram, Angstrom
B. Ampere, Degree
C. Newton, Candela
D. Joule, Watt

Correct answer: D

14. The prefix one Peta is: (FBISE-2015)
A. 10^9
B. 10^19
C. 10^15
D. 10^12

Correct answer: C

15. One year is equal to: (FBISE-2018)
A. 3.15 * 10^7 s
B. 5.4 * 10^4 s

C. 1.41 * 10^17 s
D. 2.8 * 10^6 s

Correct answer: A

16. Which of the following may be used as a valid formula to calculate the speed of ocean waves? (FBISE-2023)
A. sqrt(lambda*g)
B. lambda/(8h)
C. h / lambda

Correct answer: B

17. The final result in a cricket match where 500 spectators are counted one by one. How many significant figures will be there in the result? (FBISE-2022)
A. 1
B. 2
C. 3
D. 0

Correct answer: C

18. Which of the following are the dimensions of angular momentum? (FBISE-2019)
A. [M T^-2]
B. [ML T^-3]
C. [M^2 L^2 T^-2]
D. [M L^2 T^-1]

Correct answer: D

19. Which of the following pairs contains one vector and one scalar quantity? (FBISE-2019)
A. Impulse, Energy
B. Torque, Angular momentum
C. Work, Power
D. Impulse, Torque

Correct answer: A

20. Which of the following pairs contain both vector quantities? (FBISE-2015)

A. Impulse, Energy
B. Torque, Angular momentum
C. Work, Power
D. Impulse, Pressure

Correct answer: B

21. Error in the measurement of radius of a sphere is 1%. The error in the calculated value of its volume is: (FBISE-2022)

A. 3%
B. 4%
C. 1%
D. 2%

Correct answer: A

22. One radian is: (FBISE-2023)

A. 180°
B. 150°
C. 90°
D. 57.3°

Correct answer: D

Chapter 2:Vectors

1. Minimum number of forces of different magnitudes which can give zero resultant are: (FBISE-2017)

A. 2
B. 3
C. 4
D. 1

Answer: A

2. If V = 4i - 4j, then the angle of the vector with the positive x-axis is: (FBISE-2022)

A. 315°
B. 180°
C. 90°
D. 45°

Answer: A

3. Angle at which magnitude of dot product and cross product are equal is: (FBISE-2022)

A. 90°
B. 60°
C. 45°
D. 30°

Answer: A

4. A force of 5N acts parallel to the moment arm of 5m, then the torque is: (FBISE-2012)

A. 25 Nm
B. 10 Nm
C. 5 Nm
D. 0 Nm

Answer: A

5. If A = 5i + 7j - 3k and B = 2i + 2j - a k are perpendicular vectors, then which of the following is the value of 'a'? (FBISE-2018)

A. -2
B. -7
C. 5
D. 0

Answer: A

6. The scalar product of two vectors is $2\sqrt{3}$, and the magnitude of their vector product is 2. The angle between them is: (FBISE-2022)

A. 60°
B. 90°
C. 45°
D. 30°

Answer: A

7. Which of the following instruments works on the principle of moments? (FBISE-2014)

A. Physical Balance
B. Spring Balance
C. Measuring Cylinder

D. Vernier Calipers

Answer: A

8. The unit of torque is: (FBISE-2018)

A. N.m
B. $kg.m/s^2$
C. Joule
D. Watt

Answer: A

9. If two forces of equal magnitude act at an angle such that their resultant is also equal to the magnitude of either of the forces, what is the angle between them? (FBISE-2017)

A. 45°
B. 60°
C. 90°
D. 120°

Answer: A

10. The angle at which two vectors of equal magnitude produce maximum resultant is: (FBISE-2018)

A. 0°
B. 30°
C. 45°
D. 180°

Answer: A

11. If the angle between two vectors is 45°, the magnitude of their resultant is: (FBISE-2011)

A. $\sqrt{(A^2 + B^2)}$
B. $\sqrt{(2AB)}$
C. AB
D. 0

Answer: A

12. Two forces are acting together, and the resultant is minimum when the angle between the forces is: (FBISE-2017)

A. 0°
B. 30°
C. 45°
D. 180°

Answer: D

13. When two reference lines are drawn at right angles to each other, their point of intersection is called: (FBISE-2017)
A. Coordinate system
B. Origin
C. Coordinate axis
D. Rectangular components

Answer: B

14. The component of a force of 10 N acting along horizontal direction is: (FBISE-2019)
A. 8 N
B. 6 N
C. 10 N
D. 5 N

Answer: A

15. The torque is counterclockwise when: (FBISE-2018)
A. Zero
B. Negative
C. Positive
D. Infinite

Answer: C

16. A person walks first 10 km north and then 20 km east. The magnitude of the resultant displacement is: (FBISE-2010)
A. 22.36 km
B. 20.36 km
C. 25.23 km
D. 22.46 km

Answer: A

17. The magnitude of vector A = 2i - j + 3k is: (FBISE-2018)
A. 4
B. √14

C. 3
D. 5

Answer: B

18. If the magnitude of the scalar product of vectors A and B is 1/2 AB, then the angle between A and B is: (FBISE-2019)
A. 60°
B. 90°
C. 120°
D. 30°

Answer: A

19. If the magnitude of vector A is zero, then: (FBISE-2022)
A. A = B
B. A is perpendicular to B
C. A has no direction
D. A is a null vector

Answer: D

20. When the angle between two vectors is 90°, the dot product is: (FBISE-2010)
A. 0
B. 1
C. AB
D. $\sqrt{(A^2 + B^2)}$

Answer: A

21. If the scalar product of vectors A and B is zero, then which of the following is NOT correct? (FBISE-2019)
A. A and B are perpendicular
B. A = B
C. A is null vector
D. A and B have zero resultant

Answer: B

22. The magnitude of vector A = 2i - j + 3k is: (FBISE-2022)
A. 4
B. $\sqrt{14}$
C. 3
D. 5

Answer: B

23. If the magnitude of vector A * vector B = 1/2 AB, then the angle between A and B is: (FBISE-2019)

A. 60°
B. 90°
C. 120°
D. 30°

Answer: A

24. When the angle between two vectors is 90°, the dot product is: (FBISE-2010)

A. 0
B. 1
C. AB
D. $\sqrt{(A^2 + B^2)}$

Answer: A

25. The unit of torque is: (FBISE-2018)

A. N.m
B. $kg.m/s^2$
C. Joule
D. Watt

Answer: A

26. When two reference lines are drawn at right angles to each other, their point of intersection is called: (FBISE-2017)

A. Coordinate system
B. Origin
C. Coordinate axis
D. Rectangular components

Answer: B

27. A person walks first 10 km north and then 20 km east. The magnitude of the resultant displacement is: (FBISE-2010)

A. 22.36 km
B. 20.36 km
C. 25.23 km
D. 22.46 km

Answer: A

28. The torque is counterclockwise when: (FBISE-2018)
A. Zero
B. Negative
C. Positive
D. Infinite

Answer: C

Chapter 3:Translatory Motion

1. When a body is in motion, it always changes. (FBISE 2015)
A. Velocity
B. Acceleration
C. Position vector

Correct option: c: Position vector

2. A body is moving in a circle of radius r (metre). What is the ratio of distance to displacement in half revolution? (FBISE 2015)
A. Zero
B. 1
C. 2
D. 3

Correct option: a: Zero

3. Which of the following pairs has the same direction always? (FBISE 2017)
A. Force, displacement
B. Force, velocity
C. Force, acceleration
D. Force, momentum

Correct option: c: Force, acceleration

4. Area under the v-t graph gives (FBISE 2015)
Options:
A. Speed
B. Distance
C. Acceleration
D. Momentum

Correct option: b: Distance

5. Rate of change of momentum of a body is equal to (FBISE 2018)
A. Force
B. Distance
C. Acceleration
D. Momentum

Correct option: a: Force

6. The angle between the velocity and acceleration at the maximum height of the projectile is: (FBISE 2021)
A. 0°
B. 90°
C. 180°
D. 45°

Correct option: a: 0°

7. At an angle of projection of 45° height of the projectile will equal to (FBISE 2017)
A. Zero
B. Half of range
C. Maximum height
D. Minimum height

Correct option: b: Half of range

8. If the velocity of the moving body is doubled, then by applying the same force on the brake paddle, the stopping distance will become (FBISE 2021)
A. Half
B. Twice
C. Four times
D. Remain the same

Correct option: c: Four times

9. When the velocity of the moving object is doubled, which of the following quantities becomes double? (FBISE 2017)
A. Acceleration
B. Kinetic energy
C. Potential energy
D. Momentum

Correct option: d: Momentum

10. If is same, then at which angle of projection the range of the projectile is half of its maximum range? (FBISE 2020)

A. 30°
B. 22.5°
C. 15°
D. 45°

Correct option: a: 30°

11. SI unit of impulse is (FBISE 2014)

A. Impulse
B. Joule-seconds (Js)
C. Newton-meter (Nm)
D. Kilogram-meter (kg.m)

Correct option: b: Joule-seconds (Js)

12. One dyne is equal to (FBISE 2019)

A. 10 N
B. N
C. N
D. N

Correct option: c: N

13. If a projectile is projected at with initial velocity , then the velocity at the highest point is: (FBISE 2019)

A. 0
B. 1
C. 2
D. 3

Correct option: a: 0

14. The direction of acceleration is always along the direction of (FBISE 2018)

A. Velocity
B. Momentum
C. Force
D. Displacement

Correct option: c: Force

15. Distance covered by a freely falling body in 2 seconds will be (FBISE 2022)

A. 19.0 m
B. 19.2 m
C. 19.4 m
D. 19.6 m

Correct option: d: 19.6 m

16. A car starts from rest and covers a distance of 100 m in one second with uniform acceleration. Its acceleration is (FBISE 2022)

A. 100
B. 200
C. 300
D. 500

Correct option: b:

17. During its entire trajectory, a ball rolls off the edge of a table. The horizontal component of the ball's velocity remains constant. The ball is not acted upon by a force in the horizontal direction (FBISE 2017).

A. The net force acting on the ball is zero
B. The ball is acted upon by a force in the horizontal direction
C. The ball is not acted upon by a force in the horizontal direction
D. The ball is acted upon by a force in the vertical direction

Correct option: c: The ball is not acted upon by a force in the horizontal direction

18. A motorcycle safety helmet extends the time of collision and decreases (FBISE 2017)

A. Impulse
B. Force
C. Change of collision
D. Velocity of Vehicle

Correct option: a: Impulse

19. A brick of mass 2 kg is dropped from a rest position 5 m above the ground. What is its velocity at a height of 3 m above the ground? (FBISE 2017)

A. 12.4 m/s
B. 6.3 m/s
C. 7 m/s
D. 1.2 m/s

Correct option: b: 6.3 m/s

20. The motion and rest are: (FBISE 2018)

A. Discrete
B. Random
C. Continuous
D. Constant

Correct option: c: Continuous

21. The change in position of a body from initial position to final position is called: (FBISE 2018)

A. Displacement
B. Acceleration
C. Absolute
D. Velocity

Correct option: a: Displacement

22. The notation delta (Δ) is used to represent a: (FBISE 2018)

A. Small change
B. Big change
C. Zero change
D. No change

Correct option: a: Small change

23. When a block of wood of mass 2 kg is pushed along a horizontal flat surface of a bench, the force of friction is 4 N. When the block moves with a constant velocity, the applied force is (FBISE 2019)

A. Speed of 5 m/s
B. Acceleration of 3 m/s^2
C. Zero
D. No change

Correct option: d: No change

24. A projectile is thrown so that it travels a range of 1000 m. How high will it rise? (FBISE 2019)

A. 400 m
B. 500 m
C. 1000 m
D. 250 m

Correct option: a: 400 m

25. A car takes 1 hour to travel 100 km along a main road and then ½ hour to travel 20 km along a side road. What is the average speed of the car for the whole journey? (FBISE 2022)

A. 60 km/h
B. 70 km/h
C. 80 km/h
D. 100 km/h

Correct option: b: 70 km/h

26. Rate of change of velocity is (FBISE 2020)

A. Speed
B. Distance
C. Acceleration
D. Displacement

Correct option: c: Acceleration

27. If a ball is thrown with a speed of 30 m/s in a direction 30° with the x-axis, then time of flight is: (FBISE 2017)

A. 3 s
B. 6 s
C. 10 s
D. 12 s

Correct option: b: 6 s

28. A stone is thrown to perform projectile motion. Which of the following is true for its vertical acceleration? (FBISE 2022)

A. Zero
B. Maximum at the highest point only
C. Maximum at the point of projection only
D. Constant throughout the flight

Correct option: d: Constant throughout the flight

29. When velocity of moving object is doubled then which of the following quantity becomes double: (FBISE 2021)

A. Acceleration
B. Kinetic Energy
C. Potential Energy
D. Momentum

Correct option: d: Momentum

Chapter 4:Rotational And Circular Motion

1. What is the moment of inertia of a sphere? (FBISE 2019)

A. MR^2
B. $2MR^2$
C. $1/2\ MR^2$
D. None

Answer: C. $1/2\ MR^2$

2. If the Earth suddenly stops rotating, the value of 'g' at the equator would: (FBISE 2019)

A. Decrease
B. Remain unchanged
C. Increase
D. Become zero

Answer: A. Decrease

3. Time period of circular motion is given by: (FBISE 2022)

A. $T = r/v$
B. $T = 2\pi r$
C. $T = 2\pi/\omega$
D. None

Answer: C. $T = 2\pi/\omega$

4. SI unit of angular momentum is: (FBISE 2022)

A. Nm
B. Js
C. Ns

D. None

Answer: B. Js

5. Time period of a pendulum in a lift moving upward with constant velocity: (FBISE 2022)
A. Increases
B. Decreases
C. Remains the same
D. Zero

Answer: A. Increases

6. The relation between the orbital speed (ve) of a planet and its orbital radius (ro) is: (FBISE 2022)
A. ve = $\sqrt{(GM/ro)}$
B. ve = GM/ro
C. ve = ro/G
D. ve = ro$\sqrt{(GM)}$

Answer: A. ve = $\sqrt{(GM/ro)}$

7. A body of mass 2 kg is suspended in a lift by means of a spring balance. The balance reads its weight when the lift moves up with an acceleration of 5 m/s² as: (FBISE 2016)
A. 30.5 N
B. 29.6 N
C. 26.5 N
D. 9.8 N

Answer: B. 29.6 N

8. The rotational kinetic energy of a hoop of mass m moving down an inclined plane with velocity v will be: (FBISE 2016)
A. mv
B. mv^2
C. 1/2 mv^2
D. None

Answer: B. mv^2

9. Apparent weight of a freely falling body: (FBISE 2012)

A. Increases
B. Decreases
C. Zero
D. Remains the same

Answer: C. Zero

10. Which of the following is not an axial vector? (FBISE 2012)
A. Angular momentum
B. Angular velocity
C. Angular acceleration
D. Centripetal force

Answer: D. Centripetal force

11. Moment of inertia of a solid disc and solid cylinder is: (FBISE 2014)
A. $mr^2/2$
B. mr^2
C. $1/2\ mr^2$
D. None

Answer: A. $mr^2/2$

12. Centripetal force on a motorcycle of mass 100 kg moving around a curved path of radius 100 m with velocity 144 km/h is: (FBISE 2013)
A. 1600 N
B. 14000 N
C. 260 N
D. 377 N

Answer: D. 377 N

13. SI Units of angular momentum is: (FBISE 2013)
A. $kg \cdot m^2/s$
B. $kg \cdot m/s$
C. $kg \cdot m \cdot s$
D. None

Answer: A. $kg \cdot m^2/s$

14. Displacement covered by a body during two revolutions on a circle of radius r is: (FBISE 2014)

A. πr
B. 2πr
C. 2r
D. Zero

Answer: D. Zero

15. Moment of inertia of a thin rod of length L is: (FBISE 2017, 2018)

A. 1/12 mL^2
B. mL^2
C. 1/2 mL^2
D. 1/4 mL^2

Answer: A. 1/12 mL^2

16. The ratio of angular momentum to angular velocity is equal to: (FBISE 2023)

A. Mass
B. Moment of inertia
C. Angular acceleration
D. Torque

Answer: B. Moment of inertia

17. Real and apparent weight of a body seem to be equal when: (FBISE 2023)

A. a = 0
B. a = g
C. a > g
D. None

Answer: A. a = 0

18. Which one remains constant for a satellite in orbit? (FBISE 2024)

A. Angular momentum
B. Potential energy
C. Velocity
D. Kinetic energy

Answer: A. Angular momentum

19. Displacement covered by a body during two revolutions on a circle of radius r is: (FBISE 2024)

A. πr
B. 2πr
C. 2r
D. Zero

Answer: D. Zero

20. Moment of inertia of a thin rod of length L is: (FBISE 2017, 2018)

A. 1/12 mL^2
B. mL^2
C. 1/2 mL^2
D. 1/4 mL^2

Answer: A. 1/12 mL^2

21. The ratio of angular momentum to angular velocity is equal to: (FBISE 2023)

A. Mass
B. Moment of inertia
C. Angular acceleration
D. Torque

Answer: B. Moment of inertia

22. Real and apparent weight of a body seem to be equal when: (FBISE 2023)

A. a = 0
B. a = g
C. a > g
D. None

Answer: A. a = 0

23. Which one remains constant for a satellite in orbit? (FBISE 2024)

A. Angular momentum
B. Potential energy
C. Velocity
D. Kinetic energy

Answer: A. Angular momentum

Chapter 5:Work And Energy

1. SI unit of energy is: (FBISE)
A. erg
B. calorie
C. joule
D. all of these
Correct option: c:joule

2. If a body of mass 2 kg is raised vertically through 2 m, then the work done will be: (FBISE)
A. 4 J
B. 38.2 J
C. 39.21 J
D. 40 J
Correct option: c:39.21 J

3. Two masses 1g and 4g are moving with the same K.E. The ratio of their momenta is: (FBISE)
A. 1:16
B. 1:2
C. 1:4
D. None
Correct option: b:1:2

4. A 1 kg block is dropped from a height of 5 m. Its velocity just before hitting the ground is: (FBISE)
A. √(9.8)
B. 5
C. 9.8
D. 72
Correct option: d:72

5. A brick of mass 2 kg is dropped from rest from a height of 4 m. Then its velocity at a height of 2 m above the ground is: (FBISE)
A. 3.6 m/s
B. 8.6 m/s
C. 6.26 m/s
D. 7.8 m/s
Correct option: c:6.26 m/s

6. Which of the following is an example of conservative force: (FBISE)
A. Tension in the string
B. Propulsion force of rocket
C. Gravitational field
D. Restoring force in compressed spring
Correct option: d:Restoring force in compressed spring

7. KWh is unit of: (FBISE)
A. Energy
B. Power
C. Work
D. Both A and C
Correct option: d:Both A and C

8. Energy released by burning 1 liter of petrol: (FBISE)
A. 100 J
B. 7×10^6 J
C. 5×10^6 J
D. 4×10^6 J
Correct option: c:5×10^6 J

9. Gravity performs zero work when a body moves: (FBISE 2023)
A. At an angle of 60°
B. Horizontally
C. Vertically
D. At an angle of 30°
Correct option: b:Horizontally

10. If K.E of moving body is doubled, then momentum becomes: (FBISE 2017)
A. √2 times
B. 2 times
C. 3 times
D. 4 times
Correct option: a:√2 times

11. Anybody requires escape velocity to escape from gravitational pull of Mars: (FBISE 2017)
A. 2.4 km/s
B. 4.3 km/s

C. 5 km/s
D. 10.4 km/s
Correct option: c:5 km/s

12. A brick of mass 2 kg is dropped from rest at 5 m above ground. What is its velocity at height of 3 m above the ground? (FBISE 2017)
A. 3.6 m/s
B. 8.6 m/s
C. 6.26 m/s
D. 7.8 m/s
Correct option: b:8.6 m/s

13. Anybody requires escape velocity to escape from gravitational pull of Venus: (FBISE 2017)
A. 5.5 km/s
B. 6.3 m/s
C. 7 m/s
D. 10.4 km/s
Correct option: d:10.4 km/s

14. When the angle between force and displacement is greater than 90°, the work done is: (FBISE 2018)
A. Negative
B. Positive
C. Maximum
D. Zero
Correct option: a:Negative

15. Which of the following is a non-conservative force? (FBISE 2018)
A. Electric force
B. Elastic spring force
C. Gravitational force
D. Normal force
Correct option: d:Normal force

16. 1 kWh is equal to: (FBISE 2018)
A. 3.6×10^3 J
B. 3.6×10^6 J
C. 3.60×10^6 J
D. 3.6×10^5 J

Correct option: a:3.6 × 10^3 J

17. When angle θ is greater than 90°, the work done is: (FBISE 2018)
A. Maximum
B. Positive
C. Zero
D. Negative
Correct option: d:Negative

18. One horsepower is equal to: (FBISE 2019)
A. 746 Joules
B. 746 KW
C. 746 N
D. 746 Watt
Correct option: d:746 Watt

19. An example of a non-conservative force is: (FBISE 2019)
A. Electric force
B. Magnetic force
C. Gravitational force
D. Frictional force
Correct option: d:Frictional force

20. If a body of mass 2 kg is raised vertically through 3 m, then work done will be: (FBISE 2024)
A. 58.8 J
B. 50 J
C. 6 J
D. 50.8 J
Correct option: a:58.8 J

Chapter 6:Fluid Mechanics

1. Which of the following is equal to one torr? (FBISE-2010)
A. 1.333 Nm
B. 13.33 Nm^{-2}
C. 133.3 Nm
D. 1333 Nm
Correct Option: c: 133.3 Nm

2. Which of the following is the S.I unit of viscosity? (FBISE-2010, 2011, 2015 ON)

A. N·s·m

B. $N \cdot s \cdot m^2$

C. $N \cdot s \cdot m^{-1}$

D. N·m·s

Correct Option: b: $N \cdot s \cdot m^2$

3. Sphere of mass 1 kg falls through fluid with maximum constant velocity then drag force is:

A. 98 N

B. 49 N

C. 9.8 N

D. Zero

Correct Option: b: 49 N

4. Clouds float in atmosphere because of:

A. Low density

B. Low viscosity

C. Low temperature

D. Low pressure

Correct Option: a: Low density

5. The radius at two ends of a pipe is in the ratio 2:3, then the speed of liquid at the two ends is in the ratio of: (FBISE-2014)

A. 3:2

B. 2:3

C. 4:9

D. 9:4

Correct Option: a: 3:2

6. Which of the following represent motion of freely falling water droplet?

A. $V_1 = 9\eta r$

B. $V_1 = 2g\eta$

C. $V_1 = 2gr/9\eta$

D. $V_1 = 9gr$

Correct Option: c: $V_1 = 2gr/9\eta$

7. Which of the following is the expression for terminal velocity? (FBISE-2012, 2015, 2021)

A. $V_t = 9\eta g$

B. $V_t = 2gr$

C. $V_t = 2gr / 9\eta$

D. $V_t = 9ng$

Correct Option: c: $V_t = 2gr / 9\eta$

8. Venturi meter is used to find:
A. Speed of the fluid
B. Density of the fluid
C. Pressure of the fluid
D. Viscosity of the fluid
Correct Option: a: Speed of the fluid

9. When the streamlines are far apart from each other, the pressure will be:
A. Low
B. High
C. Zero
D. Medium
Correct Option: a: Low

10. Which of the following is the S.I unit of flow rate? (FBISE-2019)
A. m/s
B. m^2/s^2
C. m^2/s
D. m^3/s
Correct Option: d: m^3/s

11. Which of the following is the unit of co-efficient of viscosity? (FBISE-2008, 2016 S, 2017)
A. $Kg \cdot m \cdot s^{-1}$
B. $Kg \cdot m \cdot s$
C. $Kg \cdot m \cdot s$
D. $Kg \cdot m \cdot s$
Correct Option: a: $Kg \cdot m \cdot s^{-1}$

12. Which of the following are the dimensions of co-efficient of viscosity? (FBISE-2017 ON, 2017 SUP)
A. $[MLT^{-1}]$
B. $[MLT^{-2}]$
C. $[MLT^2]$
D. [MLT]
Correct Option: a: $[MLT^{-1}]$

13. If radius of the droplet is doubled at same density, then its terminal velocity increases: (FBISE-2018)
A. Four times

B. Eight times
C. Two times
D. Three times
Correct Option: b: Eight times

14. Which of the following is the device used to measure the speed of liquid flow? (FBISE ON-2018)
A. Speedometer
B. Spectrometer
C. Barometer
D. Venturi meter
Correct Option: d: Venturi meter

15. Which of the following are the dimensions of flow rate? (FBISE ON-2018)
A. $[L \cdot T^{-1}]$
B. $[L \cdot T]$
C. [LT]
D. [MLT]
Correct Option: a: $[L \cdot T^{-1}]$

16. The property of fluid by which its own molecules are attracted is said to be: (FBISE ON-2017)
A. Adhesion
B. Cohesion
C. Viscosity
D. Both A and B
Correct Option: b: Cohesion

17. A rain drop of radius 'r' falls in air with terminal speed v_t. What should be the terminal speed of drop of radius 2r? (FBISE-2018, 2013)
A. v_t
B. $4v_t$
C. $2v_t$
D. $8v_t$
Correct Option: b: $4v_t$

18. Bernoulli's equation is based on the law of conservation of: (FBISE-2019 ON)
A. Charge
B. Momentum
C. Mass
D. Energy

Correct Option: d: Energy

19. Pressure will be low where the speed of fluid is: (FBISE-2023)
A. Zero
B. High
C. Low
D. Medium
Correct Option: b: High

20. In equation of continuity, the volume flow rate is equal to:
A. Av
B. AΔE
C. Ad
D. Ap
Correct Option: a: Av

21. Which of the following devices is used to measure speed of liquid flow?
A. Barometer
B. Venturi meter
C. Spectrometer
D. Speedometer
Correct Option: b: Venturi meter

Chapter 7:Deformation Of Solids

1. The ratio of stress to strain is called:
A. Young's Modulus
B. Modulus of Elasticity
C. Modulus of Rigidity
D. Shear Modulus
Correct Option: b: Modulus of Elasticity

2. When a wire is cut into half, then extension with same load becomes: (FBISE-ON 2019)
A. Half
B. Double
C. One fourth
D. No change
Correct Option: b: Double

3. A wire, suspended vertically from one end, is stretched by attaching a weight of 20 N to the lower end. The weight stretches the wire by 1 mm. How much energy is gained by the wire?

A. 1 J
B. 0.04 J
C. 0.01 J
D. 0.005 J
Correct Option: c: 0.01 J

4. The dimensions of stress are:
A. [MLT]
B. $[MLT^{-2}]$
C. $[ML^{-1}T^{-2}]$
D. [MT]
Correct Option: c: $[ML^{-1}T^{-2}]$

5. What are substances called which undergo plastic deformation until they break? (FBISE 2011, 2017, 2019)
A. Amorphous solids
B. Polymeric solids
C. Brittle substances
D. Ductile substances
Correct Option: d: Ductile substances

6. Which of the following is the correct relation for Bulk Modulus?
A. F/A
B. ΔA/A
C. -ΔP / (ΔV/V)
D. F / ΔV
Correct Option: c: -ΔP / (ΔV/V)

7. Which of the following is the relation for Young's Modulus?
A. F / A
B. ΔL / L
C. (F/A) / (ΔL/L)
D. F / ΔL
Correct Option: c: (F/A) / (ΔL/L)

8. A wire is stretched and its final length is four times the original length. Its strain is: (FBISE 2023)
A. 3
B. 1

C. 0.5
D. 4
Correct Option: a: 3

9. A material which breaks down just after crossing the elastic limit is known as:
A. Hard
B. Ductile
C. Brittle
D. Elastic
Correct Option: c: Brittle

10. Which of the following is the Young's Modulus of steel?
A. 3.9×10^7 N/m²
B. 1.5×10^9 N/m²
C. 2×10^{10} N/m²
D. 2×10^{11} N/m²
Correct Option: d: 2×10^{11} N/m²

11. A wire is stretched and its final length becomes double the original length. Its strain is: (FBISE 2024)
A. 3
B. 1
C. 0.5
D. 4
Correct Option: b: 1

Chapter 8:Heat And Thermodynamics

1. The efficiency of a diesel engine is about: (FBISE-2010)
A. 30% to 35%
B. 25% to 30%
C. 45% to 50%
D. 35% to 40%
Correct Answer: A

2. In which of the following processes maximum work can be obtained? (FBISE-2012)
A. Isothermal
B. Isobaric
C. Adiabatic
D. Isochoric
Correct Answer: A

3. An isothermal process is represented by: (FBISE-2015, 2018)
A. Charles' law
B. Gay-Lussac law
C. Ideal gas law
D. Boyle's law
Correct Answer: D

4. In an isothermal process, internal energy of the system:
A. Increases
B. Decreases then increases
C. Decreases
D. Remains constant
Correct Answer: D

5. If the temperature of the source increases, the efficiency of a Carnot engine:
A. Decreases
B. Increases then decreases
C. Increases
D. Remains same
Correct Answer: C

6. The efficiency of a Carnot engine working between higher and lower temperatures T1 and T2 respectively is given by:
A. (T - T)/T
B. 1 - T2/T1
C. T2/T1
D. (T1 - T2)/(T1 + T2)
Correct Answer: B

7. The temperature at which a system undergoes a reversible isothermal process without transfer of heat is called:
A. Reversible temperature
B. Critical temperature
C. Kelvin temperature
D. Absolute zero temperature
Correct Answer: D

8. The entropy of the universe always: (FBISE-2018)

A. Increases and decreases simultaneously
B. Remains constant
C. Increases
D. Decreases
Correct Answer: C

9. An ideal reversible heat engine has: (FBISE-2012)
A. 100% efficiency
B. Highest efficiency
C. Efficiency depending on nature of working substance
D. None of these
Correct Answer: B

10. What would be the efficiency of a Carnot engine operating with boiling water and freezing mixture? (FBISE-2017, 2022)
A. 26.8%
B. 67%
C. 12%
D. 100%
Correct Answer: A

11. In a reversible cycle, the entropy of the system: (FBISE-2017)
A. First increases then decreases
B. Increases
C. Decreases
D. Does not change
Correct Answer: D

12. A frictionless heat engine can be 100% efficient only if its exhaust temperature is: (FBISE-2013, 2017)
A. Zero Kelvin
B. Equal to input temperature
C. Kelvin temperature
D. 0°C
Correct Answer: A

13. According to First Law of Thermodynamics:
A. $\Delta U = Q - W$
B. $\Delta U = Q + W$
C. $Q = \Delta U - W$
D. $\Delta U = W - Q$

Correct Answer: A

14. If temperatures of source and sink in a Carnot engine are both increased by 200 K, efficiency will: (FBISE-2022)

A. Remain unaffected
B. Increase
C. Decrease
D. Become one

Correct Answer: C

15. For an ideal gas, internal energy is directly proportional to: (FBISE-2023)

A. Mass
B. Temperature
C. Pressure
D. Volume

Correct Answer: B

Chapter 9:Waves

1. If stretching force T of a wire increases, then its frequency:

A. Decreases
B. Increases
C. Remains the same
D. All of these

Correct Answer: B

2. A stretched string of length 2 m vibrates in four segments, its wavelength is:

A. 0.25 m
B. 0.5 m
C. 1 m
D. 0.75 m

Correct Answer: C

3. In a stretched string, if tension in string is increased four times, then speed of waves increases:

A. 2 times
B. 4 times
C. 8 times
D. 16 times

Correct Answer: A

4. There is no net transfer of energy by particles of medium in: (FBISE ON 2019)
A. Longitudinal wave
B. Transverse wave
C. Progressive wave
D. Stationary wave
Correct Answer: D

5. When wave enters from one medium to another, which of the following does not change?
A. Wavelength
B. Frequency
C. Speed
D. None
Correct Answer: B

6. Stars moving towards the earth show a:
A. Red shift
B. Blue shift
C. White shift
D. Yellow shift
Correct Answer: B

7. Distance between two consecutive nodes is:
A. λ/2
B. λ
C. 2λ
D. 4λ
Correct Answer: A

8. Speed of stationary waves in stretched strings is independent of:
A. Number of loops
B. Tension in the string
C. Point where it is plucked
D. Both A & C
Correct Answer: D

9. Length of a pipe is 10 cm (closed at one end), maximum wavelength can be:
A. 5 cm
B. 10 cm
C. 20 cm
D. 40 cm
Correct Answer: D

10. Waves which propagate by oscillations of material particles are known as:
A. Magnetic waves
B. Material waves
C. Electromagnetic waves
D. Mechanical waves
Correct Answer: D

11. To monitor blood flow, ultrasonic waves are used in the range:
A. 5 MHz – 10 MHz
B. 8.25 MHz – 30 MHz
C. 9 MHz – 90 MHz
D. 20 MHz – 200 MHz
Correct Answer: A

12. An organ pipe 50 cm long with one end closed; its fundamental frequency is (v = 332 m/s):
A. 166 Hz
B. 200 Hz
C. 332 Hz
D. 400 Hz
Correct Answer: A

13. Fundamental frequency of a pipe closed at one end is 85 Hz. Next two harmonics are:
A. 170 Hz, 255 Hz
B. 255 Hz, 340 Hz
C. 170 Hz, 340 Hz
D. 255 Hz, 425 Hz
Correct Answer: D

14. Frequency of nth mode of vibration for stationary waves in a pipe open at both ends is:
A. nv/4l
B. nv
C. v/2l
D. nv/2l
Correct Answer: D

15. Stars moving away from the earth show a: (FBISE-2023)
A. Violet shift
B. Black shift
C. Blue shift
D. Red shift

Correct Answer: D

Chapter 10:Electrostatics

1. The fact that electric field exists in space around a charge is:
A. Electrical property
B. Magnetic property
C. Intrinsic property
D. Gravitational property
Correct Answer: A

2. Four charges +Q, -Q, +Q, -Q are placed at the corners of a square in order. At the center of the square:
A. $E \neq 0, V \neq 0$
B. $E = 0, V = 0$
C. $E \neq 0, V = 0$
D. $E = 0, V \neq 0$
Correct Answer: D

3. Electron volt is a unit of: (FBISE 2012)
A. Potential difference
B. Capacitance
C. Energy
D. Electric flux
Correct Answer: C

4. The ratio of gravitational force Fg to the electrostatic force Fe between two electrons at same distance apart is: (FBISE 2013 ON, 2017)
A. $2^4 – 10$
B. $2^4 / 10$
C. 9.8
D. $2^4 \times 10^{-45}$
Correct Answer: D

5. Relative permittivity is defined as:
A. $\varepsilon / \varepsilon_0$
B. εr
C. ε
D. Both A & B
Correct Answer: D

6. Electrostatics is the study of: (FBISE 2018)

A. Electric current
B. Stationary charges
C. Moving charges
D. Magnetism
Correct Answer: B

7. The relative permittivity for rubber is: (FBISE 2018)
A. 2.94
B. 2.1
C. 2.284
D. 3.40
Correct Answer: A

8. The negative of potential gradient is: (FBISE 2012 ON)
A. Electric field intensity
B. Potential difference
C. Electric potential
D. Electrical energy
Correct Answer: A

9. The quantity dV/dx is called:
A. Potential gradient
B. Electric energy
C. Potential barrier
D. Electric potential
Correct Answer: A

10. If the distance between two charged bodies is halved, the force between them becomes:
A. Double
B. Half
C. Four times
D. One fourth
Correct Answer: C

11. The number of electrons or protons constituting one coulomb of charge is:
A. 6.25×10^{18}
B. 6.25×10^{-18}
C. 1.6×10^{-19}
D. 1.6×10^{19}
Correct Answer: A

12. The minimum indivisible charge is:
A. Charge on electron

B. One microcoulomb
C. One coulomb
D. Charge on alpha particle
Correct Answer: A

13. Two charges 10 μC and 14.4 μC are 12 cm apart. The Coulomb force between them is: (Use $F = kq_1q_2/r^2$)
A. 9×10^9 N
B. 0.014 N
C. 90 N
D. None
Correct Answer: B

Chapter 11: Electricity

1. Four bulbs of 10W, 20W, 30W and 40W are connected in parallel, the bulb that will shine more is: (FBISE)
A. 10 W
B. 20 W
C. 30 W
D. 40 W
Correct Option: D

2. A current of 10A flows in a conductor of 10Ω resistance for 1 minute. The heat produced will be: (2014)
A. 10 J
B. 6×10^1 J
C. 6×10^2 J
D. 6×10^3 J
Correct Option: D

3. In the given circuit, when switch 'S' is closed, the current through all the branches are: (2014)
A. 1A, 1A, 4A
B. 2A, 2A, 2A
C. 3A, 2A, 1A
D. 2A, 3A, 1A
Correct Option: D

4. The temperature of a conductor is increased. The product of resistivity and conductivity: (2018)
A. Increases

B. Decreases
C. Remains constant
D. May increase or decrease
Correct Option: C

5. If a wire of resistance 12Ω is bent to form a circle, then resistance along any two points on diameter will be: (2017)
A. 12Ω
B. 3Ω
C. 24Ω
D. 6Ω
Correct Option: B

6. Three resistors each of 2Ω are connected to form a triangle. Equivalent resistance across any two ends is: (FBISE)
A. ¾Ω
B. 4/3Ω
C. 4Ω
D. 2/3Ω
Correct Option: C

7. If a battery is short-circuited, the terminal potential difference will be: (FBISE)
A. Zero
B. Equal to emf
C. Less than emf
D. Greater than emf
Correct Option: A

8. Energy consumed by a 60-watt bulb in 2 minutes is: (2022)
A. 720 J
B. 120 J
C. 72000 J
D. 7.2 kJ
Correct Option: D

9. Identify the dimensions of resistance: (FBISE)
A. $[ML^2T^{-2}A^{-1}]$
B. $[ML^2T^{-1}A^{-2}]$
C. $[ML^2T^{-3}A^{-2}]$
D. $[M^{-1}L^2T^2A^2]$
Correct Option: C

10. Resistances of 6Ω each are connected in the manner shown. The potential difference V–V is: (FBISE)

A. 1.5 V
B. 2.5 V
C. 4.0 V
D. 3.0 V

Correct Option: D

11. n equal resistors are first connected in series and then in parallel. The ratio of their equivalent resistances is: (FBISE)

A. n
B. n^2
C. n^2
D. n

Correct Option: C

12. In an electrolyte, the charge carriers are: (2016)

A. Positive ions and electrons
B. Electrons
C. Positive and negative ions
D. Protons

Correct Option: C

13. The amount of heat produced in a resistor when a current is passed through it is given by: (2017)

A. Faraday's law
B. Lenz's law
C. Joule's law
D. Kirchhoff's rule

Correct Option: C

14. If the current through a resistor is 0.8A, the potential drop across a 4Ω resistor is: (2015)

A. 3.2 V
B. 4.5 V
C. 8.8 V
D. 10 V

Correct Option: A

15. The proportionality constant between current and potential difference is: (2016)

A. R
B. 1/ρ
C. ρ

D. 1/R
Correct Option: D

16. Which property affects the resistivity of all metals to a great extent? (2016)
A. Temperature
B. Magnetic field
C. Pressure
D. Volume
Correct Option: A

17. The SI unit of resistivity is: (2017)
A. Ohm·meter (Ω·m)
B. mho/m
C. Ω/m²
D. Ω²/m
Correct Option: A

18. The unit of conductivity is: (2019)
A. mho·m^{-1}
B. ohm·m^{-1}
C. siemen
D. mho
Correct Option: A

19. In a resistor, power dissipated is: (2018)
A. V^2/R^2
B. $V/(R^2)$
C. V^2/R
D. V/R
Correct Option: C

20. Potentiometer is an accurate emf measuring instrument because: (2012)
A. It does not draw any current
B. It has low resistance
C. It draws maximum current
D. None of these
Correct Option: A

21. Which electric bulb has the least resistance? (2013)
A. 60 W
B. 100 W
C. 200 W
D. 500 W
Correct Option: D

22. Resistance of a wire is R ohms. If the wire is stretched to four times its length, the new resistance is: (2023)

A. R/4
B. 4R
C. 8R
D. 16R

Correct Option: D

23. The best instrument for accurate emf measurement of a cell is: (2024)

A. Ohmmeter
B. Voltmeter
C. Ammeter
D. Potentiometer

Correct Option: D

Chapter 12:Electromagnetism

1. When a charged particle moves through a magnetic field, the effect of the field changes the particle's: (FBISE)

A. Speed
B. Mass
C. Energy
D. Momentum

Correct Option: D

2. A particle of charge q and mass m enters a region of constant magnetic induction B, with velocity v perpendicular to the direction of the field. The radius R of its circular path is: (FBISE)

A. R = (BQ)/(mv)
B. R = (mvE)/q
C. R = (mal)/(√B)
D. R = (mv)/(BQ)

Correct Option: D

3. Which of the following is the correct relation between weber and maxwell? (DGK 2015, FBISE 2015)

A. 1 Wb = 10^{8} maxwell
B. 1 Wb = 10^{4} maxwell
C. 1 Wb = 10^{-4} maxwell
D. 1 Wb = 10^{-8} maxwell

Correct Option: A

4. The magnetic induction due to a straight current-carrying conductor at a distance d from it is: (FBISE)
A. (μ * q') / (2σ)
B. |k_q| / (2π * c')
C. Zero
D. $(\mu_0 I) / (2\pi d)$
Correct Option: D

5. An electron and a proton enter a magnetic field with the same velocity. What is the ratio of their accelerations? (FBISE)
A. 1
B. m_p / m_e
C. $\sqrt{(m_2 * m)}$
D. $\sqrt{(m_e / m_p)}$
Correct Option: D

6. If a charged particle is at rest in a magnetic field, the magnetic force on the charge is: (FBISE)
A. qvB cosθ
B. qvB sinθ
C. Zero
D. Bqv
Correct Option: C

7. A proton and an α-particle are accelerated through the same potential difference. What is the ratio of their radii in a magnetic field? (FBISE)
A. 1
B. √2
C. 2
D. 4
Correct Option: B

8. If a charged particle enters a magnetic field at an angle of 60°, its path will be: (FBISE)
A. Elliptical
B. Straight Line
C. Helical
D. Circular
Correct Option: C

9. Wb/A·m is equal to: (FBISE)
A. Joule

B. Watt
C. Newton
D. Henry
Correct Option: C

10. A 2 m wire carrying 5 A current is placed perpendicular to a magnetic field of 0.5 Wb/m². What is the magnetic force on it? (FBISE)
A. 20 N
B. 15 N
C. 10 N
D. 5 N
Correct Option: C

Chapter 13:Relativity

1. Suggest the correct relativistic speed v of a spaceship at which its relativistic length L becomes half of its original length L0 (FBISE 2011)
a) v = 0.5c
b) v = 0.707c
c) v = 0.8c
d) v = 0.99c
Correct option: c: 0.8c

2. At which relativistic speed the mass of an electron becomes double of its rest mass? (FBISE 2017)
a) v = 0.5c
b) v = 0.707c
c) v = 0.8c
d) v = 0.99c
Correct option: a: 0.5c

3. If an object moves with a velocity of light, its relativistic mass becomes (FBISE 2018)
a) Some extent large
b) Infinity
c) Greater than its rest mass
d) Less than its rest mass
Correct option: b: Infinity

4. The quantity γ is always: (FBISE 2018)
a) Less than one
b) Greater than one
c) Equal to one

d) Infinity
Correct option: b: Greater than one

5. The speed of light in a vacuum is: (FBISE 2016)
a) 3 × 10^8 m/s
b) 2 × 10^8 m/s
c) 1.5 × 10^8 m/s
d) 3 × 10^6 m/s
Correct option: a: 3 × 10^8 m/s

6. The relativistic factor γ increases as: (FBISE 2015)
a) Speed of the object increases
b) Speed of the object decreases
c) Mass of the object increases
d) None of the above
Correct option: a: Speed of the object increases

7. The principle of relativity was first stated by: (FBISE 2012)
a) Isaac Newton
b) Albert Einstein
c) Galileo Galilei
d) Max Planck
Correct option: b: Albert Einstein

8. The mass-energy equivalence formula is given by: (FBISE 2014)
a) E = mc^2
b) F = ma
c) P = mv
d) V = IR
Correct option: a: E = mc^2

9. Time dilation occurs due to: (FBISE 2011)
a) Increase in velocity
b) Decrease in velocity
c) Increase in temperature
d) Decrease in temperature
Correct option: a: Increase in velocity

10. The rest energy of an object is: (FBISE 2016)
a) Zero
b) Equal to the total energy
c) Half of the total energy
d) More than the total energy

Correct option: b: Equal to the total energy

11. The special theory of relativity is applicable to: (FBISE 2013)
a) Objects moving at constant velocity
b) Objects moving in a gravitational field
c) Objects in motion with accelerating velocity
d) All of the above
Correct option: a: Objects moving at constant velocity

12. In the theory of relativity, the length of an object moving with a high velocity appears to: (FBISE 2015)
a) Increase
b) Decrease
c) Stay the same
d) Become infinite
Correct option: b: Decrease

13. A clock moving with a high velocity will: (FBISE 2014)
a) Run faster
b) Run slower
c) Stop working
d) Show no change
Correct option: b: Run slower

14. The total energy of a moving object is the sum of: (FBISE 2017)
a) Kinetic energy and rest energy
b) Kinetic energy and potential energy
c) Potential energy and rest energy
d) Kinetic energy and electric energy
Correct option: a: Kinetic energy and rest energy

15. The mass of an object in motion is: (FBISE 2013)
a) Less than its rest mass
b) Equal to its rest mass
c) More than its rest mass
d) Cannot be determined
Correct option: c: More than its rest mass

16. The velocity of light is independent of: (FBISE 2012)
a) The observer's frame of reference
b) The motion of the source

c) The medium through which it travels
d) Both a and b
Correct option: d: Both a and b

17. The theory of relativity was based on the postulate that: (FBISE 2011)
a) The speed of light is constant in all frames of reference
b) Objects at rest do not have mass
c) Time and space are independent of each other
d) Motion does not affect energy
Correct option: a: The speed of light is constant in all frames of reference

18. The energy of a photon is proportional to its: (FBISE 2015)
a) Speed
b) Wavelength
c) Frequency
d) None of the above
Correct option: c: Frequency

19. The concept of space-time is fundamental to: (FBISE 2016)
a) Newton's laws of motion
b) Special theory of relativity
c) Classical mechanics
d) Quantum mechanics
Correct option: b: Special theory of relativity

20. In relativity, the concept of simultaneity is: (FBISE 2014)
a) Absolute
b) Relative
c) Fixed
d) Undefined
Correct option: b: Relative

Chapter 14:Particle Physics

1. Which fundamental conservation principle states that the total number of nucleons (protons and neutrons) remains constant in a closed system?
A. nucleon
B. energy
C. momentum
D. charge
Correct option: A

2. According to the principle of charge conservation, in any physical process, the total electric charge before and after the process must?

A. charge
B. increases
C. becomes zero
D. remains constant

Correct option: D

3. In a nuclear reaction, if a nucleus emits an alpha particle (helium nucleus), what happens to the charge number (Z) of the original nucleus?

A. decreases by 1
B. decreases by 2
C. remains same
D. increases by 1

Correct option: A

4. During beta-minus (-) decay, a neutron is transformed into a proton, emitting an electron (beta particle) in the process. What happens to the total charge during this decay?

A. decreases
B. increases
C. remains same
D. becomes neutral

Correct option: C

5. Positrons in our atmosphere can be produced during the natural process of?

A. Spinning of earth
B. Lightning
C. Earth's magnetic field
D. Winds

Correct option: B

6. Which type of carrier particle has not been found yet?

A. W-boson
B. Z-boson
C. meson
D. graviton

Correct option: D

7. What type of hadron is always constructed partially of an anti-quark?

A. Baryon
B. Lepton
C. Pion
D. Meson

Correct option: A

8. Analysis of which particles results in the search of Higgs boson?

A. W and Z boson
B. Up and down quark
C. Mesons and baryons
D. Neutrinos and photons

Correct option: A

9. Which device is used for proton decay?

A. Cyclotron
B. Large Hadron Collider
C. Super-kamiokande
D. Synchrotron

Correct option: C