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**Questions from Past Physics Lecturer
Tests by Punjab Public Service
Commission
(PPSC).**

PAST PAPERS

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Following are the questions from Past Physics Lecturer Tests by Punjab Public Service Commission (PPSC).

1. A line joining any planet to the Sun sweeps out equal _____ in equal time.
 - A. areas
 - B. distance
 - C. velocity
 - D. angle
2. Fluid flow in which the speed varies layer-by-layer is called?
 - A. steady flow
 - B. chaotic flow
 - C. laminar flow
 - D. turbulent flow
3. The parallel axis theorem has the form?
 - A. $I_{cm} + MH$
 - B. $I_{cm} + M^2H$
 - C. $I_{cm} + MH^2$
 - D. none of these
4. A sphere, a cylinder and a hoop start from the rest and roll down the same incline. Which body reaches the bottom first?
 - A. sphere
 - B. cylinder
 - C. hoop
 - D. all bodies at the same time
5. A thin strip of material is bent into the shape of a semicircle of radius R. Its center of mass is given by?

- A. 0.637R
- B. 0.657R
- C. 0.677R
- D. 0.697R

6. The work done by the resultant force acting on a system is equal to the change in _____ of the system.

- A. kinetic energy
- B. momentum
- C. angular velocity
- D. torque

7. If the velocity is doubled then Kinetic Energy of a moving object will be?

- A. double of previous value
- B. 4 times of previous value
- C. half of previous value
- D. one-fourth of previous value

8. The value of 'g' at the center of the Earth is?

- A. 0
- B. 1
- C. 9.8m/s²
- D. none of these

9. What is the vector force due to a potential energy $U = \frac{1}{2}kx^2$

$\frac{1}{2}kx^2$

- A. kx
- B. $-kx$
- C. 1
- D. -

1

$\frac{1}{2}kx$

10. If $r = 1.5\text{mm}$, $V_T = 7\text{m/s}$. The value of b for the raindrop assuming the drag force is given by $D = bv$, and the density is 1.0g/cm^3 , is given by?

- A. $2 \times 10^{-5}\text{N}\cdot\text{s}/\text{m}$
- B. $3 \times 10^{-5}\text{N}\cdot\text{s}/\text{m}$
- C. $4 \times 10^{-5}\text{N}\cdot\text{s}/\text{m}$
- D. $5 \times 10^{-5}\text{N}\cdot\text{s}/\text{m}$

ANSWERS

- 1. A
- 2. C
- 3. C
- 4. A
- 5. A
- 6. A
- 7. B
- 8. A
- 9. B
- 10. A

Physics MCQs for SS Punjab Public Services Commission,

1. If we add all the 7 colours of rainbow (red, yellow, blue, green, orange, violet and indigo), the resultant colour would be?

- A. White
- B. Black
- C. Maroon
- D. Dark Blue

2. When white light passes through a prism, it splits into _____ colours.

- A. 5
- B. 6
- C. 7
- D. 8

3. A camera uses a _____ to form an image on a piece of film at the back.

- A. convex lens
- B. concave lens
- C. diverging lens
- D. none of these

4. Short-sight defect could be corrected by a _____.

- A. convex lens
- B. concave lens
- C. converging lens
- D. none of these

5. Red + Green + Blue = ?

- A. White
- B. Black
- C. Maroon
- D. Dark Blue

6. Ozone layer protects the Earth from _____ radiations from the Sun.

- A. microwaves
- B. infrared
- C. X-rays
- D. ultraviolet

7. The distance of Moon from the Earth is _____ km.

- A. 364,000
- B. 384,000

- C. 464,000
 - D. 484,000
8. There are _____ planets in orbit around the Sun.
- A. 6
 - B. 7
 - C. 8
 - D. 9
9. Planets are kept in orbit by the?
- A. Attraction among the Planets
 - B. Attraction among the Planets and the Sun
 - C. Radiations from the Sun
 - D. Gravitational pull of the Sun
10. Which from the following is NOT a Renewable Energy?
- A. Geothermal
 - B. Solar
 - C. Nuclear
 - D. Biofuels

ANSWERS

- 1. A
- 2. B
- 3. A
- 4. B
- 5. A
- 6. D
- 7. B
- 8. C
- 9. D
- 10. C

1. Radiocarbon is produced in the atmosphere as a result of
- A. collision between fast neutrons and nitrogen nuclei present in the atmosphere
 - B. action of ultraviolet light from the sun on atmospheric oxygen
 - C. action of solar radiations particularly cosmic rays on carbon dioxide present in the atmosphere
 - D. lightning discharge in atmosphere

Answer: Option A

2. It is easier to roll a stone up a sloping road than to lift it vertical upwards because
- A. work done in rolling is more than in lifting
 - B. work done in lifting the stone is equal to rolling it
 - C. work done in both is same but the rate of doing work is less in rolling
 - D. work done in rolling a stone is less than in lifting it

Answer: Option D

3. The absorption of ink by blotting paper involves
- A. viscosity of ink
 - B. capillary action phenomenon
 - C. diffusion of ink through the blotting
 - D. siphon action

Answer: Option B

4. Siphon will fail to work if
- A. the densities of the liquid in the two vessels are equal
 - B. the level of the liquid in the two vessels are at the same height
 - C. both its limbs are of unequal length
 - D. the temperature of the liquids in the two vessels are the same

Answer: Option B

5. Large transformers, when used for some time, become very hot and are cooled by circulating oil.

The heating of the transformer is due to

- A. the heating effect of current alone
- B. hysteresis loss alone
- C. both the heating effect of current and hysteresis loss
- D. intense sunlight at noon

Answer: Option C

6. Nuclear sizes are expressed in a unit named

- A. Fermi B. angstrom
- C. newton D. tesla

Answer: Option A

Explanation:

Fermi - A unit of length equal to 10^{-15} meter (one femtometer), used in nuclear physics. It is similar to the diameter of a proton.

7. Light year is a unit of

- A. time B. distance
- C. light D. intensity of light

Answer & Explanation

Answer: Option B

8. Mirage is due to

- A. unequal heating of different parts of the atmosphere
- B. magnetic disturbances in the atmosphere
- C. depletion of ozone layer in the atmosphere
- D. equal heating of different parts of the atmosphere

Answer: Option A

9. Light from the Sun reaches us in nearly

- A. 2 minutes
- B. 4 minutes
- C. 8 minutes
- D. 16 minutes

Answer: Option C

10. Stars appears to move from east to west because

- A. all stars move from east to west
- B. the earth rotates from west to east
- C. the earth rotates from east to west
- D. the background of the stars moves from west to east

Answer: Option B

11. Pa(Pascal) is the unit for

- A. thrust B. pressure
- C. frequency D. conductivity

Answer: Option B

12. Planets do not twinkle because

- A. they emit light of a constant intensity
- B. their distance from the earth does not change with time
- C. they are very far away from the earth resulting in decrease in intensity of light
- D. they are nearer to earth and hence we receive a greater amount of light and, therefore minor variations in the intensity are not noticeable

Answer: Option D

Physics Mcqs For Lecturer & Subject Specialist Exams

1. What are primary colors?

- A. Color of the rainbow
- B. Color in the spectrum of the white light
- C. colors which cannot be produced
- D. color found in nature

Answer is = C

2. Air bubble in water shines because of the phenomenon of

- A. Dispersion
- B. Refraction
- C. Diffraction
- D. Total internal reflection

Answer is = D

3. Sun and the other stars are virtuously huge nuclear explosion chambers producing a large amount of heat and light yet, we do not hear any of the explosions because

- A. Heat and light are electromagnetic
- B. Sound waves get attenuated completely before they reach the earth
- C. the process involved in the interior of the sun and the stars relate to atomic and subatomic particles and not molecules and their vibration
- D. the outer space is an absolute vacuum

Answer is = D

4. The advantage of AC over DC is that

- A. it contain more electrical energy
- B. it is free from voltage fluctuation
- C. its generation costs much less
- D. it can be transmitted over long distances

with minimum power loss

Answer is = D

5. What minimum escape velocity—

the speed necessary to counter earth gravity

and to break away from earth into outer—space required from a rocket to be lunched into space?

A. 5 km per second

B. 6 km per second

C. 11 km per second

D. 20 km per second

Answer is = C

6. Which of the following device is use to step down the voltage of alternating current?

A. induction cool

B. Transformers

C. Transistor

D. Rectifier

Answer is = B

7. The spherical shape of a small drop of a rain is due to

A. Viscosity

B. Surface tension

C. atmospheric pressure

D. gravity

Answer is = B

8. The blue color of sky can be attributed to

A. differential scattering of the sunlight by the atmosphere

B. Total internal reflection of the sunlight by the atmosphere

C. Absorption of sunlight

D. Refraction of sunlight by the atmosphere

Answer is = A

9. Which one of the following sets of properties are relevant for an electrical fuse wire needed for normal application?

- A. Thick wire, high melting point alloy, short length
- B. thick wire, low melting point alloy, large length
- C. Short length, low melting point alloy, thin wire
- D. Large length, low melting point alloy, thin wire

Answer is = A

10. Ice floats on water because the density of Ice is less than that of water, Out of the following what part of giant icebergs remains above water?

- A. 1/10
- B. 1/4
- C. 1/2
- D. 3/4

Answer is = B

11. Which one of the following coolers has the longest wavelength?

- A. Green
- B. Yellow
- C. Blue
- D. Red

Answer is = D

12. Which one of the following can be used to focus sunlight?

- A. Plan mirror
- B. Concave lens
- C. Concave mirror
- D. Convex mirror

Answer is = C

13. Which one of the following is a good conductor of electricity?

- A. PVC

- B. Glass
- C. Rubber
- D. Graphite

Answer is = D

14. The tendency of a liquid drop to contract and occupy minimum area is due to

- A. Surface tension
- B. Viscosity
- C. Density
- D. Vapour pressure

Answer is = A

15. Choke coil is coil of

- A. High resistance and high inductance
- B. Low resistance and high inductance
- C. High resistance and low inductance
- D. Low resistance and low inductance

Answer is = B

16. Conductors, insulators and semi-conductors differ from each other due to property of

- A. ability of the current to carry
- B. formation of crystal lattice
- C. binding energy of their electrons
- D. mutual width of their energy gaps

Answer is = D

17. On which principle does the tape-recorder function?

- A. Electromagnetic Induction
- B. Electrovalency
- C. Gay-Lussac's law of combining volume
- D. Boyle's Law

Answer is = A

18. When a constant force is applied to a body it move with uniform

- A. Momentum
- B. Velocity
- C. Speed
- D. Acceleration

Answer is = B

19. The silvered surface of thermos flask prevents transfer of heat by

- A. Conduction
- B. Convection
- C. Reflection
- D. Radiation

Answer is = D

20. When wind blows at high velocity roof tops are blown off because pressure

- A. Outside is more than inside the roof
- B. inside is more than outside the roof
- C. Increases due to wind velocity
- D. Is exerted by air from outside

Answer is = B

21. Tube light works on the principle of

- A. Chemical effect of current
- B. Heating effect of current
- C. Magnetic effect of current
- D. Discharge of electricity through gases

Answer is = D

22. in a refrigerator, cooling is produced by

- A. The Ice is deposits on the freezer
- B. The evaporation of a volatile liquid
- C. The sudden expansion of a compressed gas
- D. Increases stability

Answer is = B

23. On earth a removed from an electric bulb to prevent

- A. Oxidation of tungsten filament
- B. Bursting of bulb
- C. Loss of light due to absorption
- D. None of the above

Answer is = A

24. A person climbing a hill bends forward in order to

- A. Avoid slipping
- B. Increases speed
- C. Reduce fatigue
- D. Increases stability

Answer is = D

25. On earth a moving body ordinarily comes to rest by it self because of the

- A. Law of inertia
- B. Forces of friction
- C. Conservation of momentum
- D. Gravity

Answer is = B

26. When the door of an operating refrigerator is opened the temperature of the room will

- A. Decreases
- B. Remain unchanged
- C. Fall down immediately
- D. increases

Answer is = D

27. An electric motor is used to convert

- A. Electrical energy into mechanical energy
- B. Mechanical energy into kinetic energy

- C. Mechanical energy into electrical energy
- D. Higher voltage to lower voltage

Answer is = C

28. Two parallel wires carrying currents in the same direction attract each other because official

- A. Potential difference between them
- B. Mutual inductance between them
- C. Electric forces between them
- D. Magnetic forces between them

Answer is = C

29. Energy of a body due to its motion is called

- A. Heat energy
- B. Kinetic energy
- C. potential energy
- D. Light energy

Answer is = B

30. A moving ball stops due to action of

- A. Nuclear forces
- B. frictional forces
- C. Electric forces
- D. Magnetic forces

Answer is = B

31. The energy stored in a stretched spring is

- A. Potential energy
- B. kinetic energy
- C. heat energy
- D. Electrical energy

Answer is = D

32. In cells chemical energy is transformed into

- A. kinetic energy
- B. potential energy
- C. heat energy
- D. Electrical energy

Answer is = D

33. When body is dropped from a certain height, the gravitational potential energy is converted into

- A. Elastic potential energy
- B. chemical energy
- C. kinetic energy
- D. Light energy

Answer is = C

34. Human body converts chemical potential energy of food into

- A. kinetic energy
- B. Light energy
- C. Nuclear energy
- D. heat energy

Answer is = D

35. Electrochemical energy is required for the working of

- A. Circulatory system
- B. Nervous system
- C. Excretory system
- D. Digestive system

Answer is = B

36. When cat laps for its prey then the chemical energy presents in its muscles is converted to

- A. potential energy then to light energy
- B. potential energy then to kinetic energy
- C. Electrical energy then to heat energy
- D. Heat energy then to nuclear energy

Answer is = B

37. The energy stored in the fossil fuel is

- A. chemical energy
- B. heat energy
- C. Electrical energy
- D. Elastic potential energy

Answer is = A

38. Semi -conductor is such a substance, whose ability to conduct current lies in between

- A. conductors and insulators
- B. conductors and superconductors
- C. insulators and superconductors
- D. Wood and plastic

Answer is = A

39. Though the temperature inside lighted electric bulb is around 2700C, the filament dose not burn because:

- A. The metal of which it is made is resistant to burning
- B. the oxygen necessary for combustion (and bumming)

is not available as the bulb is evacuated and filled

with pure nitrogen or inert gases

- C. it dose not burn in closed systems
- D. it is made of non- metallic substance

Answer is = B

40. A remote control gadget (for TV etc.)

- A. A small electromagnetic, that emits electromagnetic
- B. A small oscillator that emits electric pluses
- C. A small transmitter that emits infrared signals
- D. None of these

Answer is = C

When one body is actually sliding over the other, the friction is termed:

- (I) Limiting (II) Sliding
- (III) Kinetic (IV) Dynamic
- (a) I only
- (b) I & II
- (c) II & III
- (d) III & IV
- (e) III only

Q#03:- If A is perpendicular to B, i.e $\theta=90$, or one of the two vectors is a null vector then A.B will be,

- (a) Zero
- (b) A.B
- (c) $AB\cos\theta$
- (d) A^2
- (e) $AB\sin\theta$

Q#04:- Two forces equal in magnitude but opposite in direction and not acting along the same line constitute a:

- (a) Tension
- (b) Force
- (c) Momentum
- (d) Torque
- (e) Couple

Q#05:- The S.I unit of angular momentum is:

- (a) Newton-second
- (b) Joule-second
- (c) Meter-second
- (d) Newton-meter
- (e) None of these

Q#06:- The total angular momentum of a system of particles is constant if the net external torque acting

on the system is:

- (a) Constant
- (b) Increase
- (c) Decrease
- (d) Zero
- (e) None of these

Q#07:- Earth quake waves are an example of:

- (a) Compressional waves
- (b) Longitudinal waves
- (c) Pressure waves
- (d) Infrasonic waves
- (e) All of these except D.

Q#08:- A simple pendulum completes one oscillation in 2 second. Calculate its length when $g=9.8 \text{ ms}^{-2}$, the time period of simple pendulum is:

- (a) 0.1414 m
- (b) 0.025 m
- (c) 0.992 m
- (d) 9.202 m
- (e) None of these

Q#09:- Which of the following correct statement about Doppler effect:

- (I) When the listener is moving and the source is at rest
 - (II) When the source is moving and the listener is at rest
 - (III) When both, the source and the listener are moving
- (a) I only
 - (b) II only
 - (c) III only
 - (d) I & II
 - (e) I, II & III

Q#10:- A convex lens of focal length 20 cm, is used to form an erect image which is twice as long as the object. Find the position of the object?

- (a) 10 cm
- (b) 20 cm
- (c) -20 cm
- (d) 20.5 cm
- (e) -30 cm

Q#11:- In the British Engineering system, the unit of power is:

- (a) Meter.foot/second
- (b) Kilometer.foot/second
- (c) Foot.meter/second
- (d) Joule.pound/second
- (e) Foot.pound/second

Q#12:- A neutron travels a distance of 12 m in a time interval of 3.6×10^{-4} s. Assuming its speed was constant, find its kinetic energy. Take 1.7×10^{-27} kg as the mass of neutron.

- (a) 6.87 ev
- (b) 5.78 ev
- (c) 8.56 ev
- (d) -8.56 ev
- (e) 9.25 ev

Q#13:- The value of the gravitational constant G is:

- (a) $5.5 \times 10^3 \text{ kg/m}^3$
- (b) $5.5 \times 10^{-3} \text{ N.m}^2/\text{kg}^2$
- (c) $6.67 \times 10^{-11} \text{ N.m}^2/\text{kg}^2$
- (d) $6.98 \times 10^{-3} \text{ N.m}^2/\text{kg}^2$
- (e) $9.8 \times 10^{-11} \text{ N.m/kg}^2$

Q#14:- Which pair of the following is vector:

- (a) Weight, Momentum
- (b) Volume, Entropy

(c) Frequency, Velocity

(d) Acceleration, Distance

(e) Displacement, Speed

Q#15:- Calculate the centripetal acceleration and centripetal force on a man whose mass is 80 kg when resting on the ground at the equator if the radius of earth is 6.4×10^6 m.

(a) 0.69 N

(b) 2.35 N

(c) 2.69 N

(d) 8.65 N

(e) 6.78 N

Q#16:- $\Delta V/\Delta S$ is the rate of change of potential with respect to the distance and it is called:

(a) Electric field

(b) Electric flux

(c) Potential Difference

(d) Potential Gradient

(e) Electric intensity

Q#17:- The electron acquires a speed of 10^6 ms^{-1} . Find its energy in electron volts:

(a) 1.66 eV

(b) 2.84 eV

(c) 6.23 eV

(d) 8.34 eV

(e) 9.68 eV

Q#18:- $I=V/R$, This equation is known as:

(a) Hooke's law

(b) Gauss's law

(c) Ohm's law

(d) Ampere's law

(e) Lenz's law

Q#19:- 1 Kwh=

- (a) 2.6×10^2 Joule
- (b) 3.6×10^5 Joule
- (c) 3.6×10^6 Joule
- (d) 36×10^5 Joule
- (e) 36×10^4 Joule

Q#20:- The induced current always flows in such a direction as to oppose the change which is giving rise to it, This state of:

- (a) Ampere's law
- (b) Ohm's law
- (c) Newton's law
- (d) Hook's law
- (e) Lenz's law

Q#21:- The essential part/s of a moving coil galvanometer is/are:

- (I) A U-Shaped permanent magnet with cylindrical concave pole-pieces
 - (II) A flat coil of thin enamel insulated wire usually rectangular
 - (III) An spiral metallic wire connected to external terminal
- (a) I only
 - (b) I & II only
 - (c) I, II & III
 - (d) II & III
 - (e) III only

Q#22:-A potentiometer is a device for measuring the:

- (a) Current
- (b) Resistance
- (c) Voltage
- (d) Both A & C
- (e) None of these

Q#23:-The length of a measuring rod is 1 m when it is at rest. What will its length be if it is moving with

a velocity one third of the speed of light.

- (a) 0.943 m
- (b) 0.346 m
- (c) 3.64 m
- (d) 6.563 m
- (e) 9.321 m

Q#24:- The process of combining audio frequency (a-f) and radio frequency (r-f) waves to accomplish translational is called:

- (a) Transmission
- (b) Rectifier
- (c) Modulation
- (d) Crystal Diode
- (e) Carrier Signal

Q#25:-For hydrogen atom the energy needed to ionize it is _____ electron volts and the corresponding ionization potential is _____.

- (a) 6 volts, 6 volts
- (b) 12 volts, 12.6 volts
- (c) 12.6 volts, 13 volts
- (d) 13.6 volts, 13.6 volts
- (e) 20 volts, 30 volts

Q#26:- A material consisting of the fissionable (or fissile) isotope is called:

- (a) Nuclear fission
- (b) Nuclear fusion
- (c) Moderator
- (d) Nuclear reactor
- (e) Reactor fuel

Q#27:- A portable device which is widely used for the detection of ionizing particle or radiations:

- (a) Solid state detector
- (b) Geiger counter

- (c) Wilson cloud chamber
- (d) All of these
- (e) None of these

Q#28:- The unit of magnetic flux is:

- (a) Weber
- (b) Tesla
- (c) Henry
- (d) Coulomb
- (e) Newton-coulomb

Q#29:- A basic electric instrument which is used for the detection (or measurement) of small current:

- (a) Ammeter
- (b) Voltmeter
- (c) Galvanometer
- (d) Transmeter
- (e) All of these

Q#30:- $\Delta x \Delta p \geq h/2\pi =$

- (a) 1.05×10^{-20} J-s
- (b) 2.05×10^{-34} J-s
- (c) 1.08×10^{-30} J-s
- (d) 1.05×10^{-34} J-s
- (e) 1.05×10^{-10} J-s

ANSWER KEY

- 01. D 11. E 21. B
- 02. D 12. B 22. C
- 03. A 13. C 23. A

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04. E 14. A 24. C

05. B 15. C 25. D

06. D 16. D 26. E

07. D 17. B 27. B

08. C 18. C 28. A

09. E 19. D 29. C

10. A 20. E 30. D

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