Physics - FSC Part 1 Physics English Medium Full Book Short Question Test

Q1. which base quantities has units mole and kelvin

Ans 1: Mole: Mole is unit of base quantity "Amount of a substance"

Ans 2: Kelin: Kelvin is unit of base quantity "Temperature"

Q2. What is the total distance travelled by an object moving with SHM in a time equal to its period, if its amplitude is A?

Ans 1: The total distance travelled by an object moving with SHM in its time period is 4A, where A is amplitude of vibration.

Q3. What is principle of rocket propulsion speed?

Ans 1: Hot gases are expelled with extremely high velocity from the rocket engines.The gain in momentum of the gases equals the gain in momentum of the rocket.The gases and rocket move in opposite directions. This, the principle of rocket propulsion speed is law of conservation of momentum and Newton's 3rd law of motion.

Q4. Write the main type of error.

Ans 1: There are two types of errors possible I n physical measurements.

1. Random error
2. Systematic error

Q5. What is physics ? Discuss the importance of physics ?

Ans 1: Physics:
The branch of science which deals with the properties of matter energy and their mutual relationship is known as physics.
Physics has played on importance role in our daily life.

1. The electronic media like T.V, radio, Loudspeaker, Telephone, cell phone, Photo phone for machine etc are the important source of communication which works on the principles of physics.
2. Information technology is based on the principle of physics which is the scientific method of storing, protecting, processing, Transmitting, receiving and retrieving information
3. The whole world has become a global village due to use of computer net works which works on the principles of physics.
4. Atomic bomb is the invention of physics which can be used for the production of huge amount of energy. It can be also used for defence purposes.
5. X-rays, Y-rays Laser rays etc. are the inventions of physics which can be used in industry, health and agriculture department for various purposes.
6. Cathode ray oscilloscope (C.R.O) is the invention of physics which can be used as graph plotting device to see the wave from of a repetitive electronic signals the C.R.O can be also used in T.V circuits in computers system and as A.C circuits or D.C circuits circuits.
7. All means of transport, like aeroplane buses, motor cycles, railways etc work on the principles of physics
8. Electricity is the invention of physics without which we can not imagine any machine in working conditions

9. Rockets and satellites are the invention of physics with the help of which we can get information about the upper atmosphere.
10. The simple machine like pulley, wedge, like leaver screw-jack etc are the invention of physics which can be used for various purposes invention of physics which can be used for various purpose in daily life.
11. Physics explain the natural phenomena in term of fundamental principles and basics and basic Laws
12. Electron microscope is the invention of physics which is used to see distant objects clearly.
13. Microphone is the invention of physics which can be used to study microorganisms clearly and easily
14. Telescope is the invention of physics which is used to see distance objects clearly.
15. Physics employs the essential steps of scientific method observation recording analysis prediction and verification.

Q6. Define pressure of a gas.

Ans 1: The pressure exerted by a gas is the momentum transferred to the walls of the container per sec unit area due to continuous collision of molecules of gas.

Q7. What is negative entropy?Give example and its unit.

Ans 1:

Q8. Why a safety helmet of a motor cycle's is padded?

Ans 1: A motor cycle's safety helmet is padded so as to extend the time of collision to prevent serious injury.

Q9. On what factors moment of inertia depends?

Ans 1: The moment of inertia is $I = mr^2$
So it depends upon the mass of the body and its distance from the axis of rotation.

Q10. What is apparent change in frequency when source is moving away from stationary observer?

Ans 1:

Q11. Explain the term " precision" and accuracy ?

Ans 1: The 'Precision represents the magnitude of error in a measurement while the accuracy means to check how the measured values are closer to the actual value. The accuracy represents the relative error. It can be obtained by dividing the error with measured quantity.
The accuracy depends on the error if the error is greater than smaller will be the accuracy of the measurements and vice versa.
The accuracy of the measurements can be increased by taking several readings and take their average.

Q12. Can a vector have a component greater than the vector's magnitude?

Ans 1: No' the magnitude of the component of a vector can never be greater than the vector's magnitude. The maximum value of magnitude of component can be equal to the magnitude of the vector.

Q13. Define Force? Define its SI unit ?

Ans 1: A Force is an agent which stops a moving body try to stop a moving body (or) which moves a stationary body (or) try to move stationary The Product of mass and accelerations known as force
F = ma
Unit of force:
F= ma = kg m/sec^{2}So the unit of force is Newton, Which is define as,
Force is said to be 1 newton ,if it moves a body of mass 1 kg with acceleration of 1m/sec^2,

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Q14. Write two object?

Ans 1: Velocity time graph can be used to

1. Calculate the distance covered by the body .
2. Find the instantaneous acceleration of the body.

Q15. Describe free vibrations.

Ans 1: A Body is said to be executing free vibrations when it oscillates without the interference of an external force.

Q16. Why we use infrared light in a fiber optics communication system?

Ans 1: Infrared light travels faster through optical fiber than visible light. So, it is preferred.

Q17. Differentiate between the following? (a) Light year and year

Ans 1:

1. **Light Year:**Light year is the unit of distance. It is defined as, " the distance travelled by light in vacuum in one year."
2. **Year:**Year is the unit of time. It is defined as the time interval in which the earth completes one revolution around the sun"

1 Year = 365.25 days
and
1 year = 365.25*24*3600 sec
1 year = 31557600 sec

Q18. State Carnot's theorem.

Ans 1: It states that no heat engine can be more efficient than a carnot engine operating between the same two temperatures.

Q19. A person is standing near a fast moving train, is there any danger that he will fall towards it?

Ans 1: According to Bernoulli's equation. Where the speed is high, pressure will be low. So the pressure between the person and train will be low as compared to the pressure of side way. So there is a danger that he may fall towards the train.

Q20. State and explain Newton's second law of motion.

Ans 1: