DO THE BEST FORGET THE REST

PHYSICS

11TH Standard MODEL QUESTION

PAPER - I

TIME : 3.00 MARKS : 70

I Choose the Correct Answer: 15x1 = 15

1. If $\pi = 3.14$, then the value of π^2 is

a. 9.8596 b. 9.860 c. 9.86 d. 9.9

2. If a particle has negative velocity and negative acceleration, its speed

a. Increases b. zero c. remains same d. decreases

3. Force acting on a particle moving with constant speed is

a. always zero b. need not to be zero

c. always non zero d. cannot be concluded.

4. If the linear Momentum of the object is increased by 0.1%. then the kinetic energy is increased by

a. 0.1% b. 0.2% c. 0.4% d. 0.01%

5. A couple produces

a. pure rotation b. pure translation

c. no motion d. rotation and Translation.

6. The work done by sun on earth in one year will be.

a. positive b. zero c. non zero d. negative.

7. Which of the following is not a scalar?
a. Viscosity b. surface Tension c. stress
d. Pressure.

8. In an adiabatic expansion of the air, the volume is increased by 4%. what is percentage change in pressure? (For air $\gamma = 1.4$)
a. 9.6 b. 4.6 c. 5.6 d. None.

9. the average translational kinetic energy of gas molecules depends on
a. P and T b. P only c. number of moles and T
d. Only on T

10. Motion of clouds:
a. Periodic b. Non-Periodic c. All d. None.

11. The work done by sun on earth at any finite interval of time is
a) positive, Negative or zero
b. It is always zero
c. strictly negative
d. strictly positive

12. Find out the unit vector in the following:
a) $\hat{i}+\hat{j}$ b) $\frac{\hat{i}}{\sqrt{2}}$ c) $\hat{k}-\frac{\hat{i}}{\sqrt{2}}$ d) $\frac{\hat{i}+\hat{j}}{\sqrt{2}}$

13. Given the vector $\vec{A} = 2\hat{i}+3\hat{j}$. what is $3\vec{A}$?
a. $6\hat{i}+9\hat{i}$ b. $9\hat{i}+6\hat{j}$ c. $6\hat{i}+9\hat{j}$ d. $6\hat{i}-9\hat{j}$

14. The word RADAR stands for ——
a. radio detection b. ranging c. time interval
d. both (a) & (b)

16) which of the following option is correct?

A	B
1) Quality	A) intensity
2) Pitch	B) wave form
3) Loudness	C) Frequency

(a) (B), (C) and (A) (b) (C), (A) and (B)

(c) (A) (B) and (C) (d) (B) (A) and (C)

PART - B

II Answer any six questions. Q.no 24 compulsory 6 x 2 = 12

16) Under what condition will a car skid on a leveled circular road?

17) Define power

18) State principle of moments

19) State Newton's Universal law of gravitation

20) Define Poisson's ratio?

21) i) what is PV diagram?

ii) Draw the PV diagram for

i) Adiabatic process

22) Write short note on two strings connected in parallel.

23) Explain the beat phenomenon

24) We can cut vegetables easily with a sharp knife as compared to a blunt knife. why?

PART - C

III Answer any six question. Question number 33 is compulsory. $6 \times 3 = 18$

25) Write a note on Triangular method and Radar Method.

26) state the laws of simple pendulum

27) Explain the concepts of fundamental frequency harmonics and Overtones in detail.

28) Explain the variation of g with latitude.

29) what is an equation of state, give an example.

30) Derive a expression for Loss of kinetic energy in perfect inelastic collison.

31) state three Newton's law

32) Discuss any four properties of scalar and vector product.

33) A Mobile phone Tower transmits a wave signal of frequency 900 MHz. Calculate the length of the waves transmitted from the mobile phone Tower?

PART - D

$5 \times 5 = 25$.

34) a. Derive a expression for Meyer's relation

(or)

b. Arrive at an expression for elastic collison in one dimensional and discuss any Two cases.

35)

a. What do you Meant by propogation of Errors? Explain the propogation of errors in subtraction and multiplication.

(or)

b. Explain in Detail triangle law of addition.

36)

a. Explain the motion of blocks connected by a string in Horizontal Motion

(or)

b. Discuss the Simple pendulum in detail.

37)

a. Derive the expression for gravitational potential energy.

(or)

b. Derive the expression for moment of Inertia of a rod about its centre and perpendicular to the rod.

38) a. A particle of mass 5 units is moving with a uniform speed of $v = 3\sqrt{2}$ units in the XOY plane along the line $y = x + 4$. Find the magnitude of angular momentum.

(or)

b. Explain how overtones are produced in a a) open organ pipe b) closed organ pipe.

ALL THE BEST

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