ASSIGNMENT QUESTIONS

SUBJECT :APPLIED SCIENCE   SEM –I /II(Gr-ii&i)

BRANCH :CIVIL /CIVIL (RURAL)/ELECTRONICS /ELECTRICAL /COM.SC /MECHANICAL ENGG.

FACULTY NAME : Dr. JANARDAN PRASAD MAHTO

MOBILE NUMBER : 9431508863

EACH QUESTIONSFROM 1 to 34 CARRIES 4 MARKS EACH

1.Explain the motion of a body falling freely under gravity with equation of motion

2.Define energy . A body of mass 8 kg is moving with a velocity of 5 m/sec at a height of 10 m .

3.Explain the motion of lift .

4 . What is Amplitude ? Equation of a body executing SHM is X =5 Sin100t.Find the Amplitude and Frequency.

5.Define N.D.T .What are its advantages of N.D.T ?

6.Write Five essential features for good acoustic .

7 .Derive equation of motion . S =ut +1/2 at^2 by calculus method . Notations have usual meaning .

8.Define angular displacement ,angular velocity and angular acceleration .Give examples for each .

9.Explain advantages and limitations of magnetic particle methods of N.D.T. methods .

10. Write Newtons law of motion with examples.

11. A Car is moving with speed of 72 km/hour on a horizontal road .It is stopped by a force of 180 N in 0.1 second .What is the minimum power of engine of car .

12. Define acceleration . Draw the various velocity Time graph for positive ,negative and zero acceleration .

13. Explain the periodic motion and oscillatory motion with example.

14. Define kinetic Energy .The kinetic energy of a body inceased by 300%.How much linear momentum of the body will increased .

15. Explain the representation of work using graph .

16. Write the principle on which NDT works?

17. Define echo .Why echo of short room does not appeared .

18. Define uniform velocity using graph. A body starting from rest has acceleration of 4m/s. calculate the distance travelled by it in 20th second.

19. Explain angular velocity displacement and angular velocity of a particle in angular motion.

20. Explain the advantages and limitations of N.D.T.

21. Write the short notes an acoustics of building.

22. Define k.E. and deduce a relation between K.E and linear momentum.

23. Define Newtons third law of motion. Why it is difficult to walk on sand or ice?

24. Deduce the relation between linear velocity and angular velocity .

25. Define work .

A person holding a suitcase on his head is at rest is heading any work ? Explain .

26. Define K.E .

A light body and heavy body have same K.E. Which is having more momentum.

27. What is N.D.T.?

Name five important NDT methods.

28. What do you mean by pitch, quality, and intensity of musical sound.

29. What is inertia? Explain inertia of rest and inertia of motion with examples.

30. What will be nature of velocity v/s time graph and displacement v/s tine graph in uniform velocity.

31. Explain with the help of an example that rest and motion are relative terms.

32. Write the working of ultrasonics and what are the limitations.

33. What is luminous intensity? What is its SI unit.

34. Write inverse square law in photometry.

-------000-----------

EACH QUESTIONSFROM 1 to 20 CARRIES 6.5 MARKS EACH

1. Write the Newtons law of motion and explain with one example each.
2. Define S.H.M. Expalin SHM as the projection of uniform circular motion of any one diameter.
3. What are ultrasonics ? Discuss in details the use of ultrasonic detection in defects of metals.
4. Define luminous intensity. Explain the law of inverse square in photometry.
5. Define SHM. Show as projection of uniform circular motion on any one diameter.
6. Define luminous intensity . Explain write and explain inverse square law in photometry.
7. Explain limit of intensity and loudness of sound. Write the explain Sobine's formula.
8. First law of motion defines force and second law gives magnitude of force explain it.
9. Explain the working principle and advantages of ultrasonic testing method.

10. Define acoustics of building.

Explain the essential feature for a good acoustics.

11. (a) Define uniform velocity and uniform acceleration.
    (b) Derive and expression of distance travelled b y particle in nth second.

12. Explain the graphical representation of displacement velocity and acceleration of a particle executing SHM.

13. Define momentum . Explain Newtons second law of motion gives the measure of force.

14. What is acoustics of building . Explain the various devices to get good acoustics in an auditorium.

15. First law of motion defines force and second law gives magnitude of force explain it.

16. What indoor lighting? Write down the schemes and factors affecting indoor lighting?

17. Explain with a ray diagram of Bunsen photometer. Write the applications and working of Bunsen photometer.

18. Write the formula
    (1) Angular velocity (2) Displacement of SHM (3)Velocity of SHM

    (4)Velocity of SHM (5) Acceleration of SHM   (6) Energy related to SHM (7) Force (8) Torque   (9) Momentum

19. Define work , power, and energy ? Describe work energy principle or work energy theorem.

20. Explain Webers law .Also explain Fenchners law as modification of Webers law .

------------0000-------

Dr. J. P. Mahto ,Lecturer in Physics , G.P. Gopalganj

J Proshto
16/3/2020
Lecturer (physics)
Goot - Polytechnic , Gopalgg