

Question Bank

FY. B.Sc. Sem-I

Subject: - PHY-102 Dynamics and Elasticity

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Multiple Choice Questions

- 1) the electrostatics force between two like charges is central force
  - i) attractive
  - ii) repulsive**
  - iii) natural
  - iv) none of these
- 2) body said to be in a state of weightless Ness when the reaction of floor is
  - a) Positive
  - b) negative
  - c) zero**
  - d) none of this
- 3) the space segment of a global positioning system has

A **1 satellite**

B 3 satellites

C 12 satellites

D 24 satellite

- 4) In GPS satellite transit frequency is known as

A **L1 frequency**

B L2 frequency

C both of this

D Either of this

- 5) In a GPS system, method used in locating the position of a receiver is

a Cross sectional

**b Trilateration**

c bilateration

d Quadilation

- 6) In GPS system,C/A code is used to modulate

**A L1 signal**

B L2 signal

C both L1 and L2

D Either L1 and L2

7) In GPS system Pseudo random bit sequence called P code is used to modulate

A L1 signal

**B L2 signal**

C both L1 and L2

D Either L1 and L2

8) To tracker a receivers , a GPS system uses

A P code

B C/A code

C Either of this

**D both of these**

9) to find the location of receiver,GPS system uses

A 1 satellite

B 2 satellite

**C 3 satellite**

D 4 satellite

10) the satellite signal acquisition by receiver is governed by

A Doppler shift

B code synchronization

**C both of these**

D either of these

11) in GPS system pseudo random bit sequence is called P code is used modulate

A L1 signal

**B L2 signal**

C both L1 and L2

D Either L1 and L2

12) in a GPS system , typical value within which the doppler shift must be accommodated is.....

A +\_ 1KHz

B +\_ 2KHz

C +\_ 3KHz

**D +\_ 4KHz**

13) the motion of a body which repeats itself in after equal intervals of time is called

A non oscillatory motion

B non periodic motion

**C periodic motion**

D rectilinear motion

14) A particle is moving in a circle with a uniform speed. Its motion is

A periodic and simple harmonic

B non periodic motion

**C periodic but not simple harmonic**

D non-periodic but simple harmonic

15) the total energy of particle performing S.H.M . Is proportional to

**A displacement from equilibrium position**

B frequency of oscillation

C velocity in equilibrium position

D square of amplitude of motion

16) The total energy of a particle performing SHM is Proportional to.....

**A Displacement from equilibrium position**

B frequency of oscillation

C velocity in equilibrium position

D square of amplitude of motion

17) all oscillatory motion are necessary periodic motion but

A all periodic motion are not oscillatory

B all periodic motion are oscillatory motion

C all periodic motion are non harmonic

**D none of these**

18) acceleration of a particle performing S.H.M. at mean position is

A infinity

B variable

C maximum

**D zero**

19) the acceleration of particle performing S.H.M. is

A Always zero

B always constant

**C maximum at the extreme position**

D maximum at equilibrium position

20) oscillation of simple pendulum is example of

A undamped free oscillation

**B damped free oscillation**

C forced oscillation

D resonant oscillation

21) if a body is displaced from equilibrium position and a release then its perform oscillations

**A free oscillation**

B damp oscillation

C undamped oscillation

D force oscillation

22) high quality factor Q means damping and hence greater efficiency of the system to perform oscillations

A high

B medium

C no

**D low**

23) the modulus of elasticity is dimensionally equivalent to

A Strain

**B stress**

C surface tension

D poisons ratio

24) when force is applied the shape of a body is changed this stress is known as

A Tensile stress

B bulk stress

**C shearing stress**

D compressive stress

25) the symbol of  $y, k$  and  $n$  represent the young modulus bulk modulus and rigidity modulus of material of a body if.  $n = 3k$

A  $Y = 2.5k$

B  $y = 3.5k$

**C  $y = 4.5k$**

D  $y = 9/5k$

26) according to hooke's law of elasticity, within elastic limit, if the stress is increased, the ratio of stress to strain

A increase

B decrease

C becomes zero

**D remains constant**

27) which one of the following does not affect the elasticity of a substance

A hammering

B adding impurity in a substance

**C changing the dimension**

D changing the temperature

28) shearing strain is given by

A deforming force

B shape of share

**C angle of share**

D change volume of the body

29) the ratio of change in dimension at right angles to the applied force to the initial dimension is known as

A Young's modulus

**B lateral strain**

C Poisson's ratio

D shearing strain

30) which of the following is dimensionless quantity

A stress

B Young's modulus

**C strain**

D pressure.

31) longitudinal strain is possible in a case of

A gases

**B only solids**

C liquids

D only gases and liquids

32) if there is no change in the volume of wire due to change in its length on stretching the Poisson's ratio of material of wire is

A +0.50

**B -0.50**

C 0.25

D -0.25

33) strain has

A no units but only dimensions

B only units but no dimension

C no units no dimensions but variable value

**D no units no dimensions but a constant value**

34) the Young's modulus for a plastic body is

A 1

**B 0**

C infinity

D less than 1

35) the breaking stress of wire depends on

**A material of the wire**

B length of the wire

C radius of the wire

D shape of the cross section

36) the hydrostatic pressure at any point inside the liquid at rest is given by

**A  $P = \rho gh$**

B  $p = \rho gh/g$

C  $P = \rho gh$

D  $P = \rho h^2 g$

37) when the velocity of practical of liquid flowing through pipe line at any given point is constant the the flow is said to be

A steady state

**B streamline**

C turbulent

D none of this

38) SI unit of coefficient of viscosity is

A Dynes-sec./cmsquare

B poise

**C NS/m square**

D NS/cm square

39) CGS unit of coefficient of viscosity is

**A Poise**

B Dynes/cm square

C NS/m square

D NS/cm square

40) The kinetic energy per unit weight due to motion of liquid is equal to.....

A  $V^2/2g$ .

B  $\frac{1}{2} MV^2$

C  $\frac{1}{2} V^2/m$

D  $P^2/2M$