300+ TOP Applied Mechanics & Graphic Statics MCQs Pdf

Applied Mechanics and Graphic Statics Multiple Choice Questions :-

1. A force P of 50 N and another force Q of unknown magnitude act at 90° to each other. They are balanced by a force of 130 N. The magnitude of Q is

a) 60 N
b) 80 N
c) 100 N
d) 120 N
Ans: d

2. If the resultant of two forces has the same magnitude as either of the force, then the angle between the two forces is

a) 30°
b) 45°
c) 60°
d) 120°
Ans: d

3. A rod AB carries three loads of 30 N, 70 N and 100 N at distances of 20 mm, 90 mm and 150 mm respectively from A. Neglecting the weight of the rod, the point at which the rod will balance is
a) 109.5 mm from A
b) 119.5 mm from A
c) 125.5 mm from A
d) 132.5 mm from A
Ans: a

4. The angles between two forces to make their resultant a minimum and a maximum respectively are
a) 0° and 90°
b) 180° and 90°
c) 90° and 180°
d) 180° and 0°
Ans: d

5. When two forces, each equal to P, act at 90° to each other, then the resultant will be
a) P
b) PV2
c) P/V2

d) 2P
Ans: b

6. The resultant of two forces P and Q is R. If Q is doubled, the new resultant is perpendicular to P. Then,
a) P = R
b) Q = R
c) P = Q
d) None of the above is correct
Ans: b

7. A funicular polygon cannot be made to pass through
a) one specified point
b) two specified points
c) three specified points
d) more than three specified points
Ans: d

8. If the given forces P,, P2, P3 and P4 are such that the force polygon does not close, then the system will
a) be in equilibrium
b) always reduce to a resultant force
c) always reduce to a couple
d) both (a) and (c)
Ans: b

9. The condition of equilibrium for any system of forces in a plane is
a) that polygon of forces must close
b) that resultant couple must be zero
c) both (a) and (b)
d) none of the above
Ans: c

10. In which of the following trusses, the method of substitution is required for determining the forces in all the members of the truss by graphic statics ?
a) howe truss
b) king post truss
c) fink truss
d) warren truss
Ans: c

11. For a non-concurrent force system to be in equilibrium
a) only the closure of force polygon is sufficient
b) only the closure of funicular polygon is sufficient
c) both force polygon and funicular polygon must close
d) none of the above
Ans: c

12. A cube on a smooth horizontal surface
a) cannot be in stable equilibrium
b) cannot be in neutral equilibrium
c) cannot be in unstable equilibrium
d) can be in any of these states
Ans: d

13. The following is in unstable equilibrium
a) a uniform solid cone resting on a generator on a smooth horizontal plane
b) a uniform solid cone resting on its base on a horizontal plane
c) a solid cube resting on one edge

d) a satellite encircling the earth
Ans: c

14. A block in the shape of a parallelopiped of sides lm x 2m x 3m lies on the surface. Which of the faces gives maximum stable block ?
a) 1 m x 2 m
b) 2 m x 3 m
c) 1 m x 3m
d) equally stable on all faces
Ans: b

15. A uniform pyramid and a uniform prism of same height lie with their base on the surface. Which is more stable ?
a) pyramid
b) prism
c) both equally stable
d) none of the above
Ans: a

16. Minimum potential energy of a system will be in the position of
a) stable equilibrium
b) unstable equilibrium
c) neutral equilibrium
d) all of the above
Ans: a

17. A rigid body is in a stable equilibrium if the application of any force

a) can raise the CG of the body but can not lower it
b) tends to lower the CG of the body
c) neither raises nor lowers the CG of the body
d) none of above
Ans: a

18. Which of the following represents the state of neutral equilibrium ?

a) a cube resting on one edge
b) a smooth cylinder lying on a curved surface
c) a smooth cylinder lying on a convex surface
d) none of the above
Ans: d

19. If a set of given forces are such that their free vectors build a closed polygon, then

a) the resultant force and resultant couple are always zero
b) the resultant force is zero but resultant couple is not zero
c) the resultant force is zero but resultant couple may not be zero
d) the resultant force and resultant couple both may not be zero

20. The bending moment in an arch is proportional to

a) vertical ordinate of funicular polygon
b) vertical ordinate of the arch
c) intercept between the arch axis and the funicular polygon
d) none of these
Ans: c

21. The member forces in a statically in determinate truss

a) can be obtained by graphic statics
b) cannot be obtained by graphic statics
c) may be obtained by graphic statics
d) can be obtained by graphic statics by trial and error
Ans: b

22. An ordinate in a funicular polygon represents

a) shear force
b) resultant force
c) bending moment

d) equilibrium
Ans: c

23. The pole distance is measured in
a) distance scale
b) force scale
c) mass scale
d) time scale
Ans: b

24. The number of funicular polygons which can be drawn to pass through two specified points in the space diagram are
a) zero
b) 1
c) 2
d) infinity
Ans: d

Ans: c

25. Two circular discs of same weight and thickness are made from metals having different densities. Which disc will have the larger rotational inertia about its central axis ?
a) disc with larger density
b) disc with smaller density
c) both discs will have same rotational inertia
d) none of the above
Ans: b

31. The total kinetic energy of a hoop of mass 2 kg and radius 4 m sliding with linear velocity 8 m/sec and angular velocity 5 radian/sec is
a) 64 J
b) 400 J
c) 464 J
d) 89 J
Ans: c

32. A symmetrical body is rotating about its axis of symmetry, its moment of inertia about the axis of rotation being 2 kg -m2 and its rate of rotation 2 revolutions/see. The angular momentum of the body in kg-m2/sec is

a) 4
b) 6 7i
c) 8TC
d) 8
Ans: c

33. The angular speed of a car while taking a circular turn of radius 100m at 36 km/hour, is

a) 0.1 radian/sec
b) 1 radian/sec
c) 100 radian/sec
d) 1000 radian/sec
Ans: a

34. The torque produced by a force depends on

i) the magnitude of the force
ii) the direction of the force
iii) the'point of application of the force relative to origin The correct answer is
a) only (i)
b) both (i) and (ii)
c) both (i) and (iii)
d) all (i), (ii) and (iii)
Ans: d

35. The ratio of the speed of a rolling cylinder to the speed of sliding cylinder is

a) less than 1
b) equal to 1
c) between 1 and 2
d) greater than 2
Ans: a

36. A sphere and a cylinder having the same mass and radii start from rest and roll down the same inclined plane. Which body gets to the bottom first ?

a) sphere with greater rotational energy at bottom than cylinder
b) sphere with lesser rotational energy at bottom than cylinder
c) cylinder with greater rotational energy at bottom than sphere
d) both reach the bottom simultaneously with equal rotational energy at bottom
Ans: b

37. Williot-Mohr diagram is used to determine deflection in
a) trusses only
b) beam only
c) rigid frames only
d) any type of structure
Ans: a

38. A hoop of radius 3 m weighs 100 kg. It rolls along a horizontal floor so that at its centre of mass has a speed of 200 mm/sec, . The work required to stop the hoop is
a) 2 J
b) 4 J
c) 6 J
d) 8 J
Ans: b

39. A solid cylinder of mass M and radius R rolls down an inclined plane without slipping. The acceleration of center of mass of rolling cylinder is
a) (1/3) g sinB
b) (2/3) g cos 9
c) (2/3) g sin 0
d) g sin 9
where ‘g’ is acceleration due to gravity and 0 is inclination of plane with horizontal.
Ans: c

40. A solid sphere of mass M and radius R rolls down a plane inclined at 0 with the horizontal. The acceleration of sphere is
a) (1/3) g sin0
b) (2/5) g sin 0
c) (3/7) g sin 0

d) (5/7) g sinθ
where g is acceleration due to gravity
Ans: d

41. A cylinder will slip on an inclined plane of inclination θ if the coefficient of static friction between plane and cylinder is
a) less than (1/3) tan θ
b) less than (2/3) tan θ
c) less than (1/3) sin 6
d) less than (2/3) sin 6
Ans: a

42. Rate of change of angular momentum is equal to
a) force
b) torque
c) linear momentum
d) impulse
Ans: b

43. If the angular distance, θ = 2t3 – 3t2, the angular acceleration at t = 1 sec. is
a) 1 rad/sec2
b) 4 rad/sec2
c) 6 rad/sec2
d) 12 rad/sec2
Ans: c

44. A circular disc rotates at n rpm. The angular velocity of a circular ring of same mass and radius as the disc and to have the same angular momentum is
a) n rpm
b) n/2 rpm
c) n/4 rpm
d) 2n rpm
Ans: b

45. A particle moves in a straight line and its position is defined by the equation x = 6 t2 – t3 where t is expressed in seconds and x in meters. The maximum velocity during the motion is

a) 6 m/sec
b) 12 m/sec
c) 24 m/sec
d) 48 m/sec
Ans: b

46. A flywheel of moment of inertia 20 kg-m" is acted upon by a tangential force of 5 N at 2 m from its axis, for 3 seconds. The increase in angular velocity in radian persecond is
a) 1/2
b) 3/2 ‘
c) 2
d) 3
Ans: b

47. A disc of mass 4 kg, radius 0.5m and moment of inertia 3 kg-m2 rolls on a horizontal surface so that its center moves with speed 5 m/see. Kinetic energy of the disc is
a) 50 J
b) 150 J
c) 200 J
d) 400 J
Ans: c

48. When a circular wheel rolls on a straight track, then the shape of body centrode and space centrode respectively are
a) straight line and parabola
b) straight line and circle
c) circle and straight line
d) circle and parabola
Ans: c

49. Select the correct statement
a) The body centrode rolls on the space centrode.
b) The space centrode rolls on the body centrode.
c) Both body and space centrodes may role on each other.
d) The body centrode never touches space centrode.
Ans: a

50. At the instantaneous center, the velocity of the moving lamina at any instant is

a) zero
b) maximum
c) minimum
d) varying
Ans: a

51. Instantaneous center is at infinity when the angular velocity is

a) constant
b) zero
c) maximum
d) minimum
Ans: b

53. A 2 m long ladder rests against a wall and makes an angle of 30° with the horizontal floor. Where will be the instantaneous center of rotation when the ladder starts slipping ?
i) 1.0 in from the wall
ii) 1.732 m from the wall
iii) 1.0 m above the floor
iv) 1.732 m above the floor The correct answer is

a) (i) and (iii)
b) (i) and (iv)
c) (ii) and (iii)
d) (ii) and (iv)
Ans: d

54. For a given velocity of a projectile, the range is maximum when the angle of projection is

a) 30°
b) 45°
c) 90°
d) 0°
Ans: b

55. The angle of projection at which the horizontal range and maximum height of a projectile are equal to

a) 36°

b) 45°
c) 56°
d) 76°
Ans: d

56. The maximum value of the horizontal range for a projectile projected with a velocity of 98 m/sec is
a) 98 m
b) 490 m
c) 980 m
d) 1960 m
Ans: c

57. A stone is thrown vertically upwards with a vertical velocity of 49 m/sec. It returns to the ground in
a) 5 sec
b) 8 sec
c) 10 sec
d) 20 sec
Ans: c

58. A projectile has maximum range of 40 m on a horizontal plane. If angle of projection is a and the time of flight is 1 second, then sin a must be about
a) 1/4
b) 1/3
c) 1/2
d) 1/5
Assume g = 10 m/sec2
Ans: a

60. If the direction of projection bisects the angle between the vertical and the inclined plane, then the range of projectile on the inclined plane is
a) zero
b) maximum
c) minimum
d) unpredictable
Ans: b

61. If a projectile is fired with an initial velocity of 10 m/sec at an angle of 60° to the horizontal, its horizontal and vertical velocity at the highest point of trajectory are

a) 0 and 5 m/sec
b) 5 m/sec and 0
c) 5 V3 m/sec and 0
d) 5 and 5V3 m/sec
Ans: b

62. The angle of projection at which the horizontal range and maximum height of a projectile are equal to

a) 45°
b) tan-1 (2)
c) tan-‘ (4)
d) tan”1 (1/4)
Ans: c

64. A stone is thrown up a slope of inclination 60° to the horizontal. At what angle to the slope must the stone be thrown so as to land as far as possible from the point of projection ?

a) 15°
b) 30°
c) 45°
d) 75°
Ans: a

66. In a simple harmonic motion, the position of equilibrium is always

a) stable
b) unstable
c) neutral
d) none of the above
Ans: a

67. If A is the amplitude of particle executing simple harmonic motion, then the total energy E of the particle is

a) proportional to A
b) proportional to A2
c) proportional to 1/A2

d) independent of A
Ans: b

68. The time period of a simple pendulum depends on
i) mass of suspended particle
ii) length of the pendulum
iii) acceleration due to gravity The correct answer is
a) only (i)
b) both (ii) and (iii)
c) both (i) and (iii)
d) all are correct
Ans: b

69. A particle of mass 2 kg executes simple harmonic motion of frequency 6/71 Hz and amplitude 0.25 m. Its maximum kinetic energy is
a) 4.5 J
b) 9.0 J
c) 12.0 J
d) 18.0 J
Ans: b

70. The maximum displacement of a particle executing S.H.M. corresponds to
a) zero potential energy and maximum kinetic energy
b) zero kinetic energy and maximum potential energy
c) maximum kinetic energy and maxi-mum potential energy
d) minimum kinetic energy and minimum potential energy
Ans: b

71. It is observed that in a certain sinusoidal oscillation, the amplitude is linearly dependent on the frequency f. If the maximum velocity during the oscillation is V, then V must be proportional to
a) f
b) 1/f
c) 1/f2
d) f2
Ans: d

72. A simple pendulum of length 1 has an energy E when its amplitude is A. If its amplitude is increased to 2 A, the energy becomes

a) E
b) E/2
c) 2E
d) 4E
Ans: d

73. If the kinetic energy and potential energy of a simple harmonic oscillator of amplitude A are both equal to half the total energy, then the displacement is equal to

a) A
b) A/2
c) A/V2
d) AV2
Ans: c

74. The ratio of kinetic energy and potential energy of a simple harmonic oscillator, at a displacement equal to half its amplitude is given by

a) 1:2
b) 1:1
c) 2:1
d) 3:1
Ans: d

75. A simple pendulum of length / has an energy E, when its amplitude is A. If the length of pendulum is doubled, the energy will be

a) E
b) E/2
c) 2E
d) 4E
Ans: b

76. Time period and length of a seconds pendulum respectively are

a) 1 sec and 99.4 cm
b) 1 sec and 92.7 cm
c) 2 sec and 99.4 cm

d) 2 sec and 92.7 cm
Ans: c

77. One end of an elastic string of natural length / and modulus X is kept fixed while to the other end is attached a particle of mass m which is hanging freely under gravity. The particle is pulled down vertically through a distance x, held at rest and then released.
The motion is
a) a simple harmonic motion
b) a rectilinear motion with constant speed
c) a damped oscillatory motion
d) none of the above
Ans: a

78. A particle is executing simple harmonic motion in a line 1.0 m long. If the time of one complete vibration is 1 sec, then the maximum velocity of the particle is
a) 1.00 m/sec
b) 1.57 m/sec
c) 3.14 m/sec
d) 6.28 m/sec
Ans: c

79. The potential energy of a particle falling through a straight shaft drilled through the earth (assumed homogenous and spherical) is proportional to
a) log r
b) r
c) r2
d) 1/r
where r is the distance of the particle from centre of the earth
Ans: c

80. Joule is the unit of
a) power
b) impulse
c) work
d) momentum
Ans: c

Applied Mechanics and Graphic Statics Objective Type Questions pdf ::

81. One Newton is equivalent to

a) 105 dyne
b) 106 dyne.
c) 107 dyne
d) 981 dyne
Ans: a

82. A quantity whose dimensions are M2L2 T3 could be the product of

a) force and pressure
b) mass and power
c) energy and velocity
d) force and velocity
Ans: b

83. The dimensions of Gravitational Universal constant 'G' are

a) M-'L2r2
b) M-'L3r2
c) M-2L3T2
d) M'L3T2
Ans: b

84. If y is force and x is velocity, then dimensions of —=r are dx2

a) M'^T'
b) M'L-'T0
c) M'L-'T1
d) M2L'T3
Ans: b

85. One Joule is equivalent to

a) 9.81 Newton – metre
b) 1 Newton – metre
c) 1 kg wt – metre
d) 1 dyne – metre
Ans: b

86. The dimensions of centrifugal force are

a) M1 L2 T2

b) M'L'T1

c) M'L'T2

d) M'L-'T2

Ans: c

87. A quantity measured in the C.G.S system of units has dimensions M"2L3 T3/2. What numerical factor would be required to convert the quantity to SI units ?

a) 1

b) 100

c) 1/100

d) 1/10000

Ans: a

88. The unit of rotational inertia of a body in C.G.S system is

a) cm4

b) kg-cm2

c) gm-cm2

d) gm-cm3

Ans: c

89. The ratio of unit of force in gravitational system to that in absolute system is

a) 1

b) g

c) 1/g

d) none of the above

where 'g' is acceleration due to gravity

Ans: b

91. In SI units, the units of force and energy are respectively

a) Newton and watt

b) Dyne and erg

c) Newton and joule

d) kg-wt and joule

Ans: c

92. The dimensions of power are.
a) M'L2T2
b) M'L'T3
c) M'L'r2
d) M'L-'T*
Ans: b

93. Impulse can be obtained from a
a) force-displacement diagram
b) force-time diagram
c) velocity-time diagram
d) velocity-displacement diagram
Ans: b

94. One Newton is equivalent to
a) 1 kg-wt
b) 9.81 kg-wt
c) 981 dyne
d) 1/9.81 kg-wt
Ans: d

95. Which of the following is a scalar quantity?
a) energy
b) momentum
c) torque
d) impulse
Ans: a

97. A heavy ladder resting on floor and against a vertical wall may not be in equilibrium if
a) floor is smooth and wall is rough
b) floor is rough and wall is rough
c) both floor and wall are rough
d) both floor and wall are smooth
Ans: d

98. Coefficient of friction depends on
a) nature of surfaces only
b) area of contact only
c) both (a) and (b)

d) none of the above
Ans: a

100. A rope is wrapped twice around a rough pole with a coefficient of friction 'A . It is subjected to a force Fj at one end and a gradually increasing force F2 is applied at the other end till the rope just starts slip-ping. At this instant the ratio of F2 to Fi is
a) 1
b) e2*
c) e4*
d) e*72
Ans: b

101. A ladder of weight 'w' rests against a smooth vertical wall, and rests on rough horizontal ground, the coefficient of friction between the ladder and the ground being 1/4. The maximum angle of inclination of the ladder to the vertical, if a man of weight 'w' is to walk to the top of it safely, is tan'1 x, where x is
a) 1/4
b) 1/3
c) 3
d) 4
Ans: b

102. If a body is lying on a plane whose inclination with the horizontal is less than the angle of friction, then
i) a force is required to move the body upwards
ii) a force is required to move the body downward
iii) the body will not be in equilibrium The correct answer is
a) only (i)
b) only (ii)
c) both (i) and (ii)
d) both (i) and (iii)
Ans: c

103. Intrinisic equation of catenary is given by
a) S = C tan q>
b) S = C cos cp

c) S = C sin cp
d) S = C cot <p
where C is some constant.
Ans: a

104. The shape of a suspended cable for a uniformly distributed load over it is
a) circular
b) parabolic
c) catenary
d) cubic parabola
Ans: b

105. Cartesian form of the equation of catenary is
a) y = c cosh x/c
b) y = c sinh x/c
c) y = c tan x/c
d) y = c sin”1 x/c
Ans: a

106. A cable loaded with 10 kN/m of span is stretched between supports in the same horizontal line 100 m apart. If the central dip is 10 m, then the maximum and minimum pull in the cable respectively are
a) 1346.3 kN and 1500 kN
b) 1436.2 kN and 1250 kN
c) 1346.3 kN and 1250 kN
d) 1436.2 kN and 1500 kN
Ans: c

107. Minimum pull in a suspended cable with supports at two ends is equal to
a) horizontal thrust
b) support reactions
c) resultant of horizontal thrust and support reaction
d) half the weight of the cable
Ans: a

108. A light rope is loaded with many equal weights at equal horizontal intervals. The points of suspension on the rope lie on a

a) parabola
b) catenary
c) cycloid
d) ellipse
Ans: a

109. The maximum pull in a cable, carrying a uniformly distributed load and supported at two ends which are at the same level, is at
a) supports
b) quarter span
c) mid span
d) none of the above
Ans: a

111. A ball moving on a smooth horizontal table hits a rough vertical wall, the coefficient of restitution between ball and wall being 1/3. The ball rebounds at the same angle. The fraction of its kinetic energy lost is
a) 1/3
b) 2/3
c) 1/9
d) 8/9
Ans: d

113. A particle is dropped from a height of 3 m on a horizontal floor, which has a coefficient of restitution with the ball of 1/2. The height to which the ball will rebound after striking the floor is
a) 0.5 m
b) 0.75 m
c) 1.0 m
d) 1.5 m
Ans: b

114. A ball is dropped from a height of 16 m on a horizontal floor. If it rebounds to a height of 9 m after striking the floor, the coefficient of restitution between ball and floor is
a) 1/4
b) 2/3

c) 3/4
d) 4/3
Ans: c

115. Two balls of masses 3 kg and 6 kg are moving with velocities of 4 m/sec and 1 m/sec respectively, towards each other along the line of their centers. After impact the 3 kg ball comes to rest. This can happen only if the coefficient of restitution between the balls is
a) 2/3
b) 1/5
c) 3/5
d) 1/3
Ans: b

117. When a body slides down an inclined surface, the acceleration of the body is given by
a) g
b) gsinG
c) g cos 6
d) g tan 6
Ans: b

118. A body is dropped from a height of 100 m and at the same time another body is projected vertically upward with a velocity of 10 m/sec. The two particles will
a) never meet
b) meet after 1 sec
c) meet after 5 sec
d) meet after 10 sec
Ans: d

119. A shell travelling with a horizontal velocity of 100 m/sec explodes and splits into two parts, one of mass 10 kg and the other of 15 kg. The 15 kg mass drops vertically downward with initial velocity of 100 m/sec and the 10 kg mass begins to travel at an angle to the horizontal of tan”1 x, where x is
a) 3/4
b) 4/5
c) 5/3

d) 3/5
Ans: d

120. A car goes round a curve of radius 100 m at 25 m/sec. The angle to the horizontal at which the road must be banked to prevent sideways friction on the car wheels is tan”1 x, where x is (Assume g = 10 m/sec2)
a) 3/8
b) 1/2
c) 9/5
d) 5/8
Ans: d

121. A shell of mass 100 kg travelling with a velocity of 10 m/sec breaks into two equal pieces during an explosion which provides an extra kinetic energy of 20000 Joules. If the pieces continue to move in the same direction as before, then the speed of the faster one must be
a) 20 m/sec
b) 30 m/sec
c) 40 m/sec
d) 50 m/sec
Ans: b

122. If a flywheel increases its speed from 10 rpm to 20 rpm in 10 seconds, then its angular acceleration is
a) —rad/sec 10
b) —rad/sec 20
c) —rad/sec 30
d) none of the above
Ans: c

124. Two objects moving with uniform speeds are 5 m apart after 1 second when they move towards each other and are 1 m apart when they move in the same direction. The speeds of the objects are
a) 2 m/sec and 2 m/sec
b) 3 m/sec and 2 m/sec
c) 3 m/sec and 3 m/sec
d) 4 m/sec and 6 m/sec
Ans: b

125. The angular speed of a car taking a circular turn of radius 100 m at 36 km/hr will be

a) 0.1 rad/sec
b) 1 rad/sec
c) 10 rad/sec
d) 100 rad/sec
Ans: a

126. A bullet weighing 10 gm moves with a velocity of l km/sec. Its kinetic energy is

i) 5000 N.m
ii) 5000 kg.m
iii) 5000 J The correct answer is
a) only (ii)
b) both (i) and (iii)
c) both (ii) and (iii)
d) all (i), (ii) and (iii)
Ans: b

127. A stone was thrown vertically upwards from the ground with a velocity of 50 m/sec. After 5 seconds another stone was thrown vertically upwards from the same place. If both the stones strike the ground at the same time, then the velocity with which the second stone was thrown should be (Assume g = 10 m/sec2)

a) 15 m/sec
b) 25 m/sec
c) 40 m/sec
d) 50 m/sec
Ans: b

128. The condilion for a lifting machine to be reversible is that its efficiency should be

a) less than 50%
b) more than 50%
c) more than 66.67%
d) equal to 100%
Ans: b

129. In a lifting machine a weight of 5 kN is lifted through 200 mm by an effort of 0.1 kN moving through 15 m. The

mechanical advantage and velocity ratio of the machine are respectively

a) 50 and 75
b) 75 and 50
c) 75 and 75
d) 50 and 50
Ans: a

130. In a lifting machine with efficiency 60%, an effort of 200 N is required to raise a load of 6 kN. The velocity ratio of the machine is

a) 30
b) 50
c) 60
d) 80
Ans: b

132. Free body diagram is an

a) isolated joint with only body forces acting on it
b) isolated joint with internal forces acting on it
c) isolated joint with all the forces, internal as well as external, acting on it
d) none of the above
Ans: c

133. A system of copianar forces acting on a rigid body can be reduced to

a) one force only
b) one couple only
c) one force and one couple only
d) none of the above
Ans: c

134. A system of copianar forces is in equilibrium when

a) force polygon closes
b) funicular polygon closes
c) both force polygon" and funicular polygon close
d) all the forces are concurrent
Ans: c

135. Force polygon method is applicable for

a) any copianar force system
b) a system of parallel forces only
c) concurrent copianar force system
d) non-concurrent copianar force system
Ans: c

136. The force polygon representing a set of forces in equilibrium is a

a) triangle
b) open polygon
c) closed polygon
d) parallelogram
Ans: c

137. The diagram showing the point of application and line of action of forces in their plane is called

a) vector diagram
b) space diagram
c) force diagram
d) funicular diagram
Ans: b

140. If two forces are in equilibrium, then the forces must

i) be equal in magnitude
ii) be opposite in sense
iii) act along the same line
The correct answer is
a) (i) and (ii)
b) (i) and (iii)
c) only (i)
d) (i), (ii) and (iii)
Ans: d

141. The graphical method of determining the forces in the members of a truss is based on

a) method of joint
b) method of section
c) either method
d) none of the two methods
Ans: a

APPLIED MECHANICS and GRAPHIC STATICS Questions Answers pdf free download ::

LEAVE A REPLY

Your email address will not be published. Required fields are marked *

Comment

Name *

Email *

Website

Post Comment

Search...