TOPIC : Work and Energy Friction and Circular motion

1. A body of mass 1 kg is thrown upwards with a velocity 20 m/s. It momentarily comes to rest after attaining a height of 18 m. How much energy is lost due to air friction ($g = 10\ m/s^2$) :-
(1) 20 J (2) 30 J (3) 40 J (4) 10 J

2. A particle of mass 100g is thrown vertically upwards with a speed of 5m/s. The work done by the force of gravity during the time the particle goes up is :-
(1) –1.25 J (2) 1.25 J (3) 0.5 J (4) –0.5 J

3. A man starts walking from a point on the surface of earth (assumed smooth) and reaches diagonally opposite point.
What is the work done by him :-
(1) Zero (2) Positive
(3) Negative (4) Nothing can be said

4. A particle moves from a point $\left(-2\hat{i}+5\hat{j}\right)$ to $\left(4\hat{j}+3\hat{k}\right)$ when a force of $\left(4\hat{i}+3\hat{j}\right)$ N is applied. how much work has been done by the force :-
(1) 2 J (2) 8 J (3) 11 J (4) 5 J

5. A variable force, given by the 2-dimensional vector $\vec{F}=\left(3x^2\hat{i}+4\hat{j}\right)$, acts on a particle. The force is in newton and x is in metre. What is the change in the kinetic energy of the particle as it moves from the point with coordinates (2, 3) to (3, 0) (The coordinates are in metres) :-
(1) –7 J (2) Zero (3) +7 J (4) +19 J

6. A spring of spring constant 5×10^3 N/m is stretched initially by 5cm from the unstretched position. Then the work required to stretch it further by another 5cm is :-
(1) 6.25 N-m (2) 12.50 N-m
(3) 18.75 N-m (4) 25.00 N-m

7. A spring 40 mm long is stretched by the application of a force. If 10 N force required to stretch the spring through 1 mm, then work done in stretching the spring through 40 mm is :-
(1) 84 J (2) 68 J (3) 23 J (4) 8 J

8. The potential energy function for the force between two atoms in a diatomic molecule is approximately given by $U(x)=\frac{a}{x^{12}}-\frac{b}{x^6}$, where a and b are constants and x is the distance between the atoms. If tghe dissociation energy of the molecule is $D = [U(x=\infty) - U_{\text{at equilibrium}}]$, D is :-
(1) $\frac{b^2}{6a}$ (2) $\frac{b^2}{2a}$ (3) $\frac{b^2}{12a}$ (4) $\frac{b^2}{4a}$

9. A uniform chain of length 2m is kept on a table such that a length of 60cm hangs freely from the edge of the table. The total mass of the chain is 4kg. What is the work done in pulling the entire chain on the table :-
(1) 7.2 J (2) 3.6 J (3) 120 J (4) 1200 J

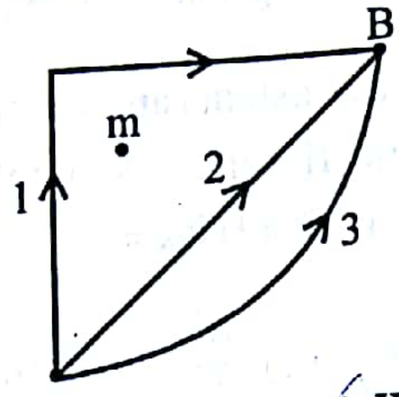
10. Two bodies A and B have masses 20 kg and 5 kg respectively. Each one is acted upon by a force of 4 kg wt. If they acquire the same kinetic energy in times t_A and t_B, then the ratio $\frac{t_A}{t_B}$ is :-
(1) 1/2 (2) 2
(3) 2/5 (4) 5/6

11. A spherical ball of mass 20 kg is stationary at the top of a hill of height 100 m. It slides down a smooth surface to the ground, then climbs up another hill of height 30 m and finally slides down to a horizontal base at a height of 20 m above the ground. The velocity attained by the ball is :-
(1) 10 m/s (2) $10\sqrt{30}$ m/s
(3) 40 m/s (4) 20 m/s

12. A bullet of mass 0.05 kg moving with a speed of 80 ms^{-1} enters a wooden block and is stopped after a distance of 0.40 m. The average resistive force exerted by the block on the bullet is :-
(1) 300 N
(2) 20 N
(3) 400 N
(4) 40 N

13. If the momentum of a body is increased by 100%, then the percentage increase in the kinetic energy is:-
(1) 150% (2) 200% (3) 225% (4) 300%

14. If W_1, W_2 and W_3 represent the work done in moving a particle from A to B along three different paths 1, 2 and 3 respectively (as shown) in the gravitational field of a point mass m, find the correct relation between W_1, W_2 and W_3 :-

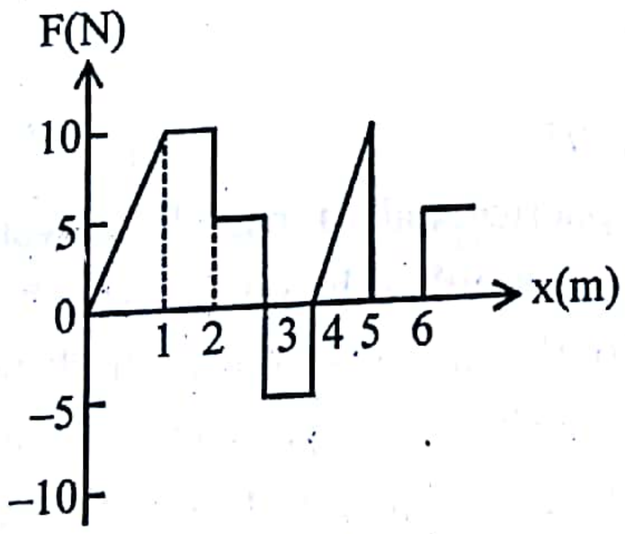


(1) $W_1 > W_2 > W_3$ (2) $W_1 = W_2 = W_3$
(3) $W_1 < W_2 < W_3$ (4) $W_2 > W_1 > W_3$

15. A body of mass 10 kg is displaced from point A(2, 1, 3) to point B(3, 3, 4) under the effect of a force of magnitude 20 N in the direction of $6\hat{i} + 8\hat{j}$. Calculate W.D. by the force :-

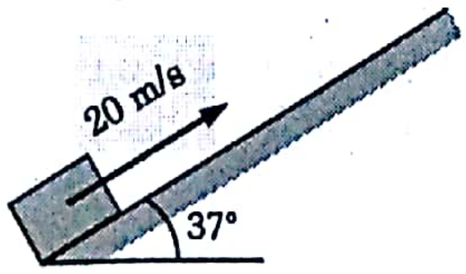
(1) 22 J (2) $20\sqrt{6}$ J (3) 44 J (4) Zero

16. The relationship between the force F and position x of a body is as shown in figure. The work done in displacing the body from x = 1 m to x = 5 m will be :-



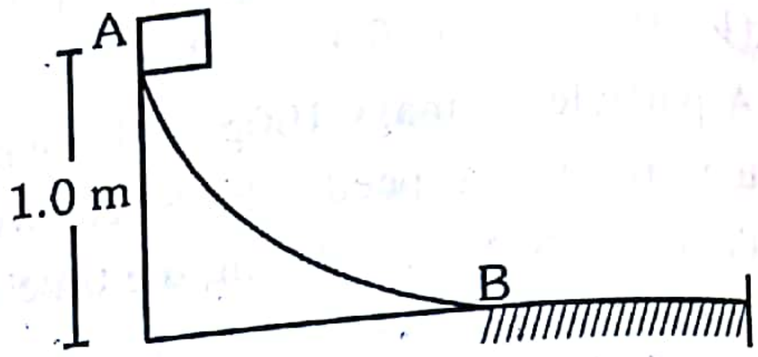
(1) 30 J (2) 15 J (3) 25 J (4) 20 J

17. A box of mass m = 10 kg is projected up an inclined plane from its foot with a speed of 20 m/s as shown in the figure. The coefficient of friction μ between the box and the plane is 0.5. Find the distance travelled by the box on the plane before it stops for the first time



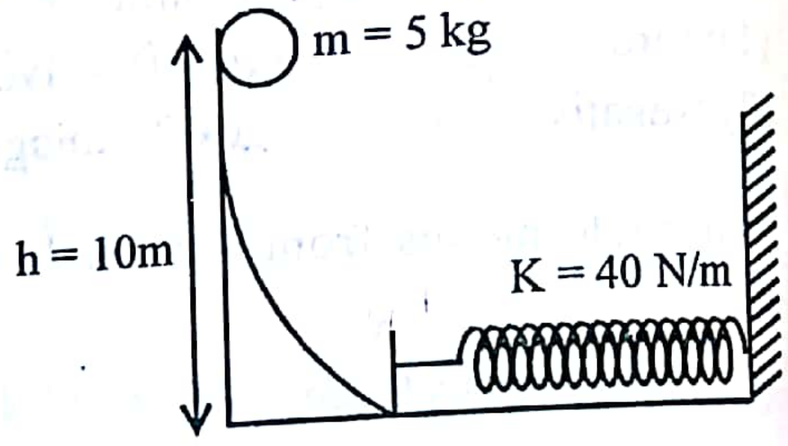
(1) 10m (2) 15m (3) 20m (4) 30m

18. A block weighing 10 N travels down a smooth curved track AB joined to a rough horizontal surface. The rough surface has a friction coefficient of 0.20 with the block. If the block starts slipping on the track from a point 1.0 m above the horizontal surface, then it would move a distance S on the rough surface. Calculate the value of S [$g = 10\ m/s^2$] :-



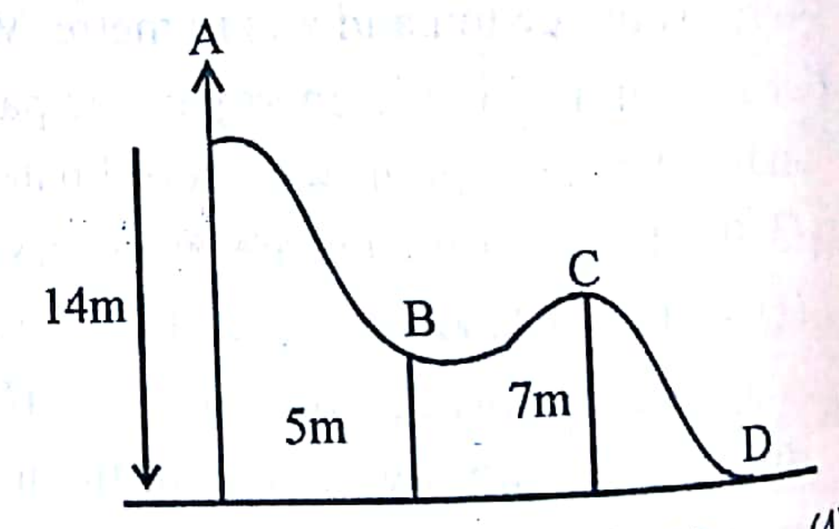
(1) 5m (2) 6m (3) 10m (4) 4m

19. If a body is released from a height and collide with a spring find maximum compersion in the spring :-



(1) 25 m (2) 5 m (3) $\sqrt{5}$ m (4) $5\sqrt{5}$

20. From figure, shows the vertical section of frictionless surface. A block of mass of 2kg is released from rest from a position A find its kinetic energy as its reaches position C :-



(1) 140 (2) 180 (3) 120 (4) 2

21. A force of 5 N, making an angle θ with horizontal, acting on an object displaces it 0.4m along the horizontal direction. If the object gains kinetic energy of 1J, the horizontal component of the force is :-

(1) 1.5 N (2) 2.5 N
(3) 3.5 N (4) 4.5 N

22. The potential energy of a particle of mass 1 kg free to move along the x-axis is given by $U(x)=\left(\frac{x^2}{2}-x\right)$ joules. If total mechanical energy of the particle is 2 J, then find its maximum speed :-

(1) $\sqrt{5}$m/s (2) $\sqrt{7}$m/s (3) 5 m/s (4) 10 m/s

23. 300 J of work is done in sliding a 2 kg block up an inclined plane of height 10m. The work done against friction is :- (take g = 10 m/s^2)

(1) zero (2) 100 J
(3) 200 J (4) 300 J

24. The maximum force of static friction upto which body does not move is called –

(1) normal reaction
(2) sliding friction
(3) limiting friction
(4) rolling friction

25. A block of mass m is placed on a rough floor of a lift. The coefficient of friction between the block and the floor is μ. When the lift falls freely, the block is pulled horizontally on the floor by a force F. The force of friction acting on the block is –

(1) F (2) μmg
(3) 2μmg (4) zero

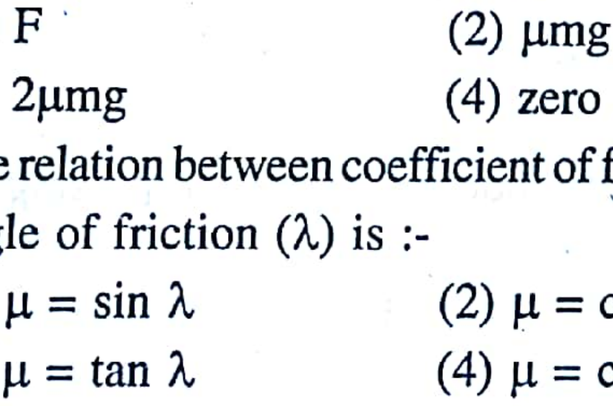
26. The relation between coefficient of friction (μ) and angle of friction (λ) is :-

(1) $\mu = \sin\lambda$ (2) $\mu = \cos\lambda$
(3) $\mu = \tan\lambda$ (4) $\mu = \cot\lambda$

27. A block sliding with a velocity of 10 m/s on a rough horizontal surface comes to rest after covering a distance of 50 m. If g = 10 m/s^2, then the coefficient of dynamic friction between the block and the surface is :-

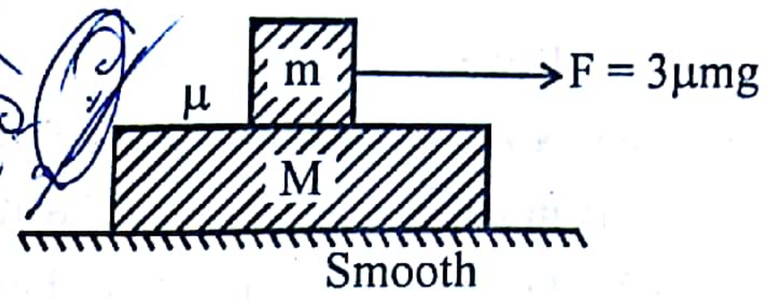
(1) 0.1 (2) 0.4 (3) 0.8 (4) 1

28. If the block shown in figure does not move the maximum value of F is :-



(1) 20 N (2) 10 N
(3) 15 N (4) 12 N

29. For the system shown in figure the coefficient of friction between both the blocks is μ. If a force 3μmg is applied to the block of mass m, the acceleration of lower block of mass M is :-



(1) $\frac{\mu mg}{M}$ (2) $\frac{\mu mg}{(M+m)}$

(3) $\frac{3\mu mg}{M}$ (4) $\frac{2\mu mg}{(M+m)}$

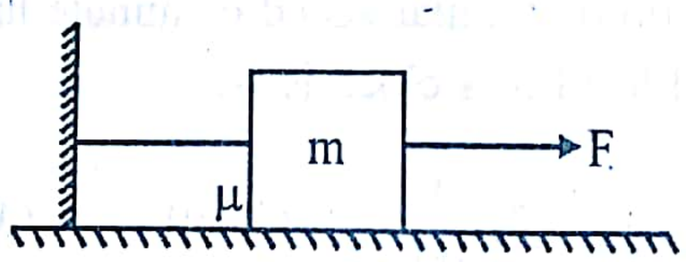
30. A block is released from rest from the top of a rough inclined plane of angle 37° and length 9m. If $\mu = 0.5$, the time taken by the block to slide down the plane is :-

(1) 3 s (2) 6 s (3) 10 s (4) 0.5 s

31. A block of mass m is placed at rest on a rough inclined plane of angle θ. If coefficient of friction between the block and the inclined plane is μ, then the total force exerted by the inclined plane on the block is :-

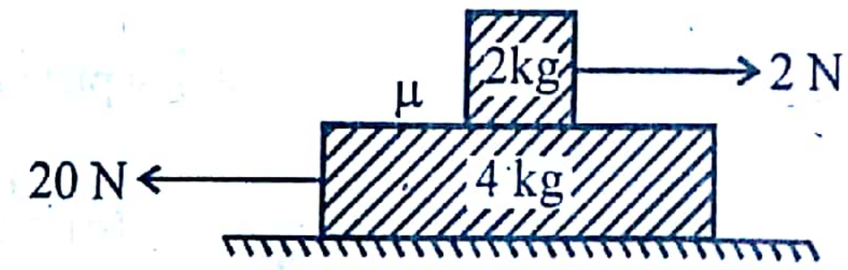
(1) mg (2) μmg cosθ
(3) mg sinθ (4) μmg tanθ

32. A block of mass m is placed on a rough (μ) horizontal surface as shown in figure. If the block is pulled by a force F = μmg/2, the tension in the string is :-



(1) zero (2) μmg (3) $\frac{mg}{\mu}$ (4) 2μmg

33. In the arrangement shown in figure the coefficient of friction between both the blocks is $\frac{1}{2}$. The force of friction acting between both the blocks is :-



(1) 8 N (2) 10 N (3) 6 N (4) 4 N

34. When a particle moves in a circle with uniform speed –

(1) its velocity and acceleration are both constant

(2) its velocity is constant but the acceleration changes

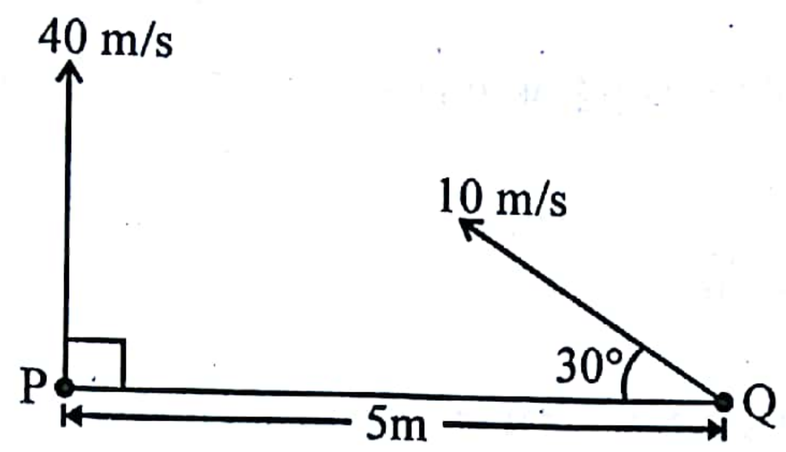
(3) its acceleration is constant but the velocity changes

(4) its velocity and acceleration both change.

35. A particle is moving along a circular path with uniform speed. What is the angle between instantaneous velocity and acceleration?

(1) 0° (2) 45° (3) 90° (4) 180°

36. What is the angular velocity of particle P w.r.t. the particle Q in the arrangement shown in figure?



(1) 3 rad/s (2) 7 rad/s

(3) 10 rad/s (4) 15 rad/s

37. The tangential component of acceleration of a particle in circular motion is due to –

(1) speed of the particle

(2) change in direction of velocity

(3) change in magnitude of velocity

(4) rate of change of acceleration

38. The ratio of angular speed of minute hand and second hand of a clock is :-

(1) 60 (2) $\frac{1}{60}$ (3) 30 (4) $\frac{1}{30}$

39. A rough horizontal plate rotates with angular speed ω about a vertical axis. A particle of mass m lies on the plate at a distance $\frac{5a}{4}$ from this axis. The coefficient of friction between the plate and the particle is $\frac{1}{3}$. The largest value of ω^2 for which the particle remains at rest on the revolving plate is :-

(1) $\frac{g}{3a}$ (2) $\frac{4g}{5a}$ (3) $\frac{4g}{9a}$ (4) $\frac{4g}{15a}$

40. A string of length 2m can withstand a maximum tension of 16000 N. A particle of mass 2 kg is tied to one end of the string and rotated in a horizontal circle. What is the maximum number of rotations per second the particle can make so that the string does not break? [$\pi^2 = g$]

(1) 10 (2) 20

(3) 30 (4) 40

41. A particle of mass m starts to slide down from the top of a fixed smooth sphere. What is the acceleration of the particle when it leaves contact with the sphere?

(1) $\frac{2g}{3}$ (2) $\frac{\sqrt{5}g}{3}$

(3) g (4) $\frac{g}{3}$

42. A particle of mass 2 kg is rotating on a vertical circular path of radius 4 m with critical speeds. What is the kinetic energy of the particle when it is moving vertically downwards?

(1) 60 J (2) 40 J

(3) 120 J (4) 200 J

43. A string of length ℓ is fixed at one end and carries a mass M at the other end. The string makes $\frac{2}{\pi}$ rev./s around the vertical axis passing through the fixed end. The tension in the string is –

(1) 8 Mℓ (2) 16 Mℓ

(3) 20 Mℓ (4) 4 Mℓ

44. A stone of mass 4 kg tied to a string of length 3m is rotating in a vertical circle. When the stone is moving vertically upward its speed is 6m/s. The tension in the string at this position is :-

(1) 48N (2) 36N

(3) 12N (4) 60N

45. In a circular motion of a particle, the tangential acceleration is given by $a_t = 9\ m/s^2$. The radius of circle is 4m. Initially particle was at rest. Time after which acceleration of the particle makes an angle of 45° with centripetal acceleration is –

(1) $\frac{1}{3}$sec (2) $\frac{2}{3}$sec

(3) 1 sec (4) $\frac{4}{3}$sec

Topic : Periodicity, Group, Period block identification, Long form of periodic table, Z_{eff}, Atomic radius, Ionisation potential, Electron affinity, Chemical equilibrium

46. Total number of elements in 10^{th} period would be ?
(1) 32 (2) 50 (3) 60 (4) 72

47. Group, period & Block of an element with configuration
$1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^{10}\ 4s^2\ 4p^6\ 4d^{10}\ 4f^{14}\ 5s^2\ 5p^6\ 5d^1\ 6s^2$
(1) IIIB, 6, f-block (2) 12, 6, d-block
(3) IIIA, 6, f-block (4) 12, 6, f-block

48. According to slater's rule order of effective nuclear charge for last electron in case of Li, Na and K is:-
(1) Li > Na > K (2) Na > Li > K
(3) K > Na > Li (4) Li < Na = K

49. In 3d series, minimum and maximum radius would be of respectively :-
(1) Ni, Zn (2) Zn, Sc
(3) Ni, Sc (4) Sc, Ni

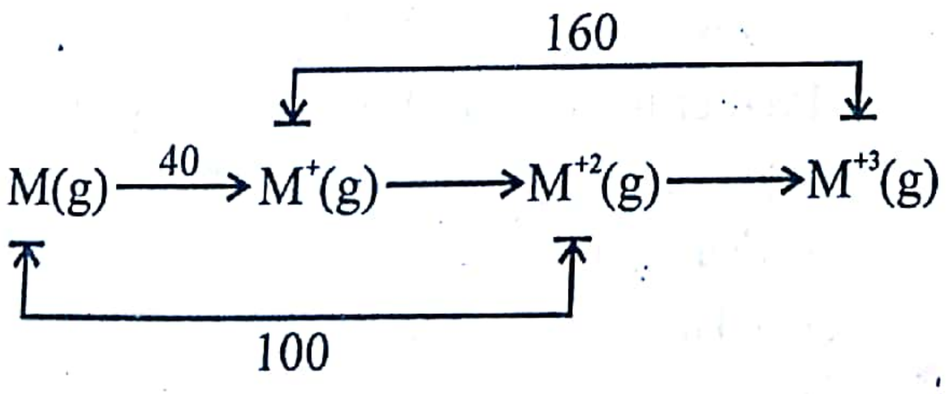
50. Radius of which of the following elements is almost similar, but not due to Lanthanoid contraction :-
(1) Mo, W (2) Al, Ga
(3) Sn, Pb (4) In, Tℓ

51. In which of the following compound, distance between two nuclei is maximum ?
(1) Cs F (2) Cs I (3) KI (4) Li I

52. Decreasing order of size of ion is :-
(1) $Se^{2-} > Br^- > K^+ > Na^+ > Li^+$
(2) $P^{3-} > Se^{2-} > Br^- > K^+ > Li^+$
(3) $N^{3-} > O^{2-} > Na^+ > F^-$
(4) $N^{3-} > Br^- > I^- > Se^{2-}$

53. Select the correct order of IP_1 :-
(1) Li > Be > B > C (2) Li < Be < B < C
(3) Li < B < Be < C (4) Li < B < C < Be

54.



With respect to M(g)
In above reaction process values of IP_3, IP_2, IP_1 respectively are :-
(1) 40, 60, 100 (2) 40, 100, 160
(3) 40, 60, 60 (4) 100, 60, 40

55. Select the correct order of first IP :-
(1) Al > Ga (2) Na > Mg
(3) Cd < Hg (4) N > Ne

56. In a period minimum and maximum IP would be of respectively :-
(1) Alkali metals, Halogens
(2) Alkali metal, Nobel gas
(3) Noble gas, Alkali metal
(4) None

57. IE_1, IE_2 and IE_3 of an element are 10eV, 15eV, 45eV respectively, the most stable oxidation state of the element will be :-
(1) +1 (2) +2 (3) +3 (4) +4

58. The metallic character would be maximum for :-
(1) Be (2) Mg (3) Ca (4) Sr

59. Which of the following does not affect IP :-
(1) Atomic mass (2) Avogadro number
(3) No. of neutrons (4) All of above

60. For an atom, IP is always an :-
(1) Exothermic process (2) Endothermic process
(3) Both (4) None

61. In periodic table, the element with highest IP is:-
(1) He (2) Na (3) K (4) O

62. Select the correct order of radius :-
(1) N > Ne (2) P > As (3) Cl > F (4) Na > K

63. Which of the following is most reducing in nature:-
(1) Na (2) K (3) Rb (4) Cs

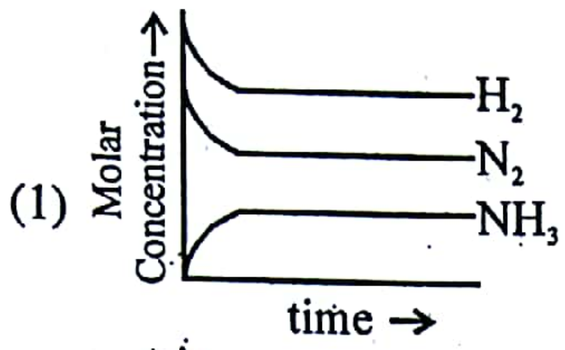
64. Al and Ga have similar atomic Radius but still IP of Al < IP of Ga, because of :-
(1) Lanthanoid contraction
(2) Transition contraction
(3) Both
(4) None

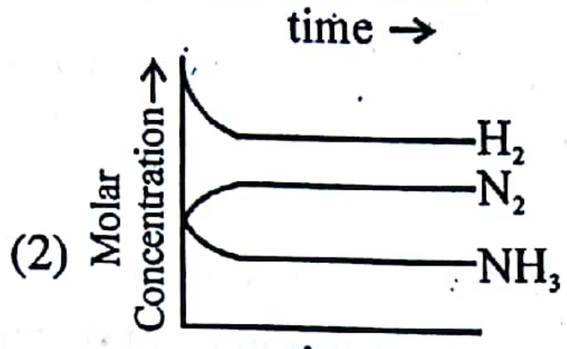
65. Select the Exothermic process :-
(1) $Li(g) + e^- \longrightarrow Li^-(g)$
(2) $Ne(g) + e^- \longrightarrow Ne^-(g)$
(3) $N(g) + e^- \longrightarrow N^-(g)$
(4) $Be(g) + e^- \longrightarrow Be^-(g)$

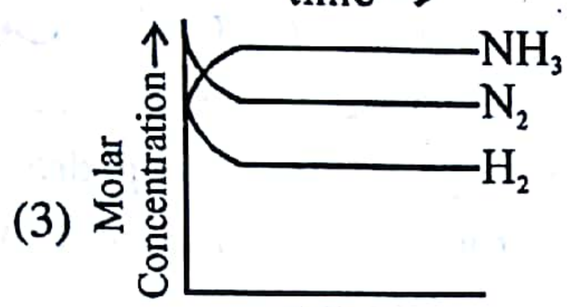
66. In 2^{nd} period minimum EA is of :-
(1) Nitrogen (2) Oxygen
(3) Neon (4) Beryllium

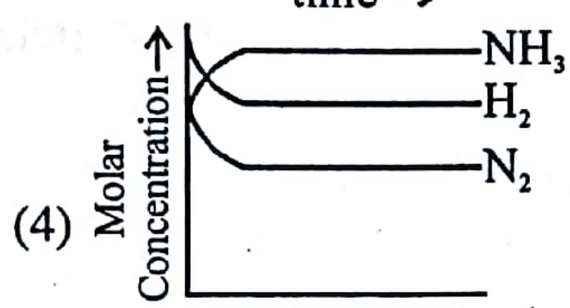
67. Li and Mg show similar properties because of :-
(1) $r_{Li} > r_{Mg}$
(2) Both are bridge elements
(3) $IP_{Li} < IP_{Mg}$
(4) Diagonal Relationship

68. For the formation of ammonia by the reaction $N_2 + 3H_2 \rightleftharpoons 2NH_3$ in the Haber's process, the attainment of equilibrium is correctly predicted by the curve :-

(1) 

(2) 

(3) 

(4) 

69. For the reaction $CO(g) + Cl_2(g) \rightleftharpoons COCl_2(g)$ the value of $\frac{K_c}{K_p}$ is equal to :-

(1) $\sqrt{RT}$ (2) RT (3) $\frac{1}{RT}$ (4) 1.0

70. For the reaction $H_2(g) + I_2(g) \rightleftharpoons 2HI(g)$, the equilibrium constant changes with :-

(1) Total pressure
(2) Catalyst
(3) Concentration of H_2 and I_2
(4) Temperature

71. Consider the reactions :-

(i) $2CO(g) + 2H_2O(g) \rightleftharpoons 2CO_2(g) + 2H_2(g)$; Eqm. Constant = K_1

(ii) $CH_4(g) + H_2O(g) \rightleftharpoons CO(g) + 3H_2(g)$; Eqm. Constant = K_2

(iii) $CH_4(g) + 2H_2O(g) \rightleftharpoons CO_2(g) + 4H_2(g)$; Eqm. Constant = K_3

Which of the following relation is correct ?

(1) $K_3 = \frac{K_1}{K_2}$ (2) $K_3 = \frac{K_1^2}{K_2^2}$

(3) $K_3 = K_1K_2$ (4) $K_3 = \sqrt{K_1} \cdot K_2$

72. In the presence of excess of anhydrous $SrCl_2$, the amount of water taken up is governed by $K_p = 10^{12}$ atm^{-4} for the following reaction is 273K

$SrCl_2 . 2H_2O(s) + 4H_2O(g) \rightleftharpoons SrCl_2 . 6H_2O(s)$

What is equilibrium vapour pressure (in torr) of water in a closed vessel that contains $SrCl_2 . 2H_2O(s)$?

(1) 0.001 torr (2) 10^3 torr
(3) 0.76 torr (4) 1.31 torr

73. If D_T and D_0 are the theoretical and observed vapour densities at a difinite temperature and α be the degree of dissociation of a substance. Then, α in the terms of D_0, D_T and n (number of moles of products formed from 1 mole reactant) is calculated by the formula :-

(1) $\alpha = \frac{D_0 - D_T}{(1-n)D_T}$ (2) $\alpha = \frac{D_T - D_0}{(n-1)D_T}$

(3) $\alpha = \frac{D_T - D_0}{(n-1)D_0}$ (4) $\alpha = \frac{D - D_T}{(n-1)D_T}$

74. Value of K_p in the reaction

$MgCO_{3(s)} \rightleftharpoons MgO_{(s)} + CO_{2(g)}$

(1) $K_p = P_{CO_2}$ (2) $K_P = P_{CO_2} \times P_{MgO}$

(3) $K_P = [KO_2]$ (4) $K_P = P_{MgCO_3}$

75. $AB_3(g)$ is dissociates as $AB_3(g) \rightleftharpoons AB_2(g) + \frac{1}{2}B_2(g$

When the initial pressure of AB_2 is 800 torr and t total pressure developed at equilibrium is 900 to What fraction of $AB_3(g)$ is dissociated ?

(1) 10% (2) 20%
(3) 25% (4) 30%

76. Some inert gas is added at constant volume to t following reaction at equilibrium :-

$NH_4HS(s) \rightleftharpoons NH_3(g) + H_2S(g)$

Predict the effect of adding the inert gas :

(1) The equilibrium shifts in the forward direct
(2) The equilibrium shifts in the backward direct
(3) The equilibrium remains unaffected
(4) The value of K_p is increased

77. For which of the following reactions is prod formation favoured by low pressure and h temperature ?

(1) $H_2(g) + I_2(g) \rightleftharpoons 2HI(g)$; $\Delta H° = -9.4$

(2) $CO_2(g) + C(s) \rightleftharpoons 2CO(g)$; $\Delta H° = 172$

(3) $CO(g) + 2H_2(g) \rightleftharpoons CH_3OH$; $\Delta H° = -21$

(4) $3O_2(g) \rightleftharpoons 2O_3(g)$; $\Delta H° = 285$

78. $H_{2(g)} + I_2 \rightleftharpoons 2HI_{(g)}$
In this reaction when pressure increases then direction reaction
(1) Not change (2) forward
(3) backward (4) None

79. An equilibrium mixture of the reaction $2H_2S_{(g)} \rightleftharpoons 2H_{2(g)} + S_{2(g)}$ had 0.5 mole H_2S, 0.10 mole H_2 and 0.4 mole S_2 in one litre vessel. The value of equilibrium constant (K_c) in mol litre^{-1} is :-
(1) 0.004 (2) 0.008
(3) 0.016 (4) 0.160

80. For the reaction $N_{2(g)} + 3H_{2(g)} \rightleftharpoons 2NH_{3(g)}$, the correct expression of equilibrium constant (K) is:-

(1) $K = \frac{[NH_3]^2}{[N_2][H_2]^3}$ (2) $K = \frac{[N_2][H_2]^3}{[NH_3]^2}$

(3) $K = \frac{2[NH_3]}{[N_2]\times 3[H_2]}$ (4) $K = \frac{[N_2]\times 3[H_2]}{2[NH_3]}$

81. 2 mole of PCl_5 were heated in a closed vessel of 2 litre capacity. At equilibrium, 40% of PCl_5 is dissociated into PCl_3 and Cl_2. The value of equilibrium constant is :-
(1) 0.266 (2) 0.53 (3) 2.66 (4) 5.3

82. When 3 mole of A and 1 mole of B are mixed in 1 litre vessel the following reaction takes place $A_{(g)} + B_{(g)} \rightleftharpoons 2C_{(g)}$. 1.5 mole of C are formed. The equilibrium constant for the reaction is :-
(1) 0.12 (2) 0.25 (3) 0.50 (4) 4.0

83. Le-Chaterlier's principle is applicable only to a :-
(1) System in equilibrium
(2) Irreversible reaction
(3) Homogeneous reaction
(4) Heterogeneous reaction

84. If K_c is the equilibrium constant for the formation of NH_3, the dissociation constant of ammonia under the same temperature will be :-
(1) K_c (2) $\sqrt{K_c}$ (3) K_c^2 (4) $1/K_c$

85. In the following reversible reaction :
$2SO_2 + O_2 \rightleftharpoons 2SO_3 + \text{Heat}$
Most suitable condition for the higher production of SO_3 is :-
(1) High temperature and high pressure
(2) High temperature and low pressure
(3) Low temperature and high pressure
(4) Low temperature and low pressure

86. For $N_2 + 3H_2 \rightleftharpoons 2NH_3$ equilibrium constant is K, then equilibrium constant for $2N_2 + 6H_2 \rightleftharpoons 4NH_3$ is :-
(1) $\sqrt{K}$ (2) K^2
(3) K/2 (4) $\sqrt{K+1}$

87. A quantity of PCl_5 was heated in a 10 litre vessel at 250°C; $PCl_{5(g)} \rightleftharpoons PCl_{3(g)} + Cl_{2(g)}$. At equilibrium the vessel contains 0.1 mole of PCl_5, 0.20 mole of PCl_3 and 0.2 mole of Cl_2. The equilibrium constant of the reaction is :-
(1) 0.02 (2) 0.05
(3) 0.04 (4) 0.025

88. The reaction quotient (Q) for the reaction

$N_{2(g)} + 3H_{2(g)} \rightleftharpoons 2NH_{3(g)}$ is given by $Q = \frac{[NH_3]^2}{[N_2][H_2]^3}$.

The reaction will proceed from right to left if :-
(1) Q = 0 (2) $Q = K_c$
(3) $Q < K_c$ (4) $Q > K_c$

89. The equilibrium constant (K_p) for the decomposition of gaseous H_2O; $H_2O_{(g)} \rightleftharpoons H_{2(g)} + \frac{1}{2}O_{2(g)}$ is related to degree of dissociation (α) at a total pressure P, given by :-

(1) $K_p = \frac{\alpha^3 p^{1/2}}{(1+\alpha)(2+\alpha)^{1/2}}$

(2) $K_p = \frac{\alpha^3 p^{3/2}}{(1-\alpha)(2+\alpha)^{1/2}}$

(3) $K_p = \frac{\alpha^{3/2} p^2}{(1-\alpha)(2+\alpha)^{1/2}}$

(4) $K_p = \frac{\alpha^{3/2} p^{1/2}}{(1-\alpha)(2+\alpha)^{1/2}}$

90. If α is the fraction of HI dissociated at equilibrium in the reaction, $2HI \rightleftharpoons H_2 + I_2$, then starting with 2 mole on of HI, the total number of moles of reactants and products at equilibrium are :-
(1) 1 (2) 2
(3) $1 + \alpha$ (4) $2 + 2\alpha$

TOPIC : Frog, Super class :- Tetrapoda (Amphibia, Reptilia, Aves, Mammalia), Animal diversity, Excretory system and Plant diversity (Upto monera).

91. In male frog vasa efferentia enters the kidney and opens in to :-
(1) ureter
(2) urinogenital tract
(3) bidder's canal
(4) cloaca

92. Read the following statements and find out the incorrect one
(1) In male frog cloaca is used to pass faecal matter, urine and sperm to outside
(2) there is no functional connection in ovaries and kidneys in female frog
(3) A mature female frog can lay 2500 to 3000 eggs at a time
(4) In frog fertilization is external and development is direct through the larval stage called tadpole

93. Which of the following is not the economic importance of frog
(1) They eat insects and protect crops
(2) frog maintains ecological balance as they are important part of food web
(3) In some countries muscular legs of frog are used ad food by the man
(4) Use the water for external fertilization.

94. RBCs of frog are
(1) Biconcave, circular and nucleated
(2) Biconcave, oval and non nucleated
(3) Biconvex, circular and non nucleated
(4) Biconvex, oval and nucleated

95. Read the following statements and find out incorrect statement
(1) In frog external ear is absent
(2) Ear is an organ of hearing and balancing
(3) In males testis are adhered to the upper part of kidney by a double fold of peritoneum called mesothelium
(4) vasa efferentia are 10-12 in number that arise from testes

96. In frog the tongue is attached
(1) Posteriorly (2) Laterally
(3) Anteriorly (4) Absent

97. Male frogs can croak more loudly than the females as they have
(1) Larger size
(2) Larger larynx
(3) Vocal sacs
(4) Stronger muscles

98. Skin of frog does not possess
(1) Scales (2) Mucous glands
(3) Chromatophores (4) Epidermis

99. Tadpole of frog is
(1) Carnivorous
(2) Carnivorous and cannibal
(3) Herbivorous
(4) Sanguivorous

100. Sinus venosus occurs on
(1) Dorsal side of heart and contain mixed blood
(2) Ventral side of heart and contain deoxygenated blood
(3) Dorsal side of heart and contain deoxygenated blood
(4) Ventral side of heart and contain mixed blood

101. Pulmonary veins of frog open into
(1) Sinus venosus
(2) Right auricle
(3) Left auricle
(4) Truncus arteriosus

102. Read the following statement (A to D) :-
(A) Ammonia is the least toxic and requires less amount of water for its elimination
(B) Ammonia is the most toxic and requires maximum amount of water for its elimination
(C) Uric acid is least toxic and require less amount of water for its elimination.
(D) Uric acid is most toxic and require maximum amount of water for its elimination.
Choose the correct answer :-
(1) A & C correct (2) B & D correct
(3) A & D correct (4) B & C correct

ALLEN CAREER INSTITUTE KOTA (RAJASTHAN)™

NURTURE COURSE (PHASE : MNS)

01-10-2017

TARGET : PRE-MEDICAL 2019

TEST PATTERN : NEET(UG) ANSWERKEY TEST TYPE : MINOR

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Ans.	1	1	1	4	3	3	4	4	2	2	3	3	4	2	3	2	3	1	2	1
Que.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Ans.	2	1	2	3	4	3	1	1	1	1	1	1	1	4	3	2	3	2	4	1
Que.	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Ans.	2	3	2	1	2	4	1	4	3	2	2	1	3	4	3	2	2	4	4	2
Que.	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Ans.	1	3	4	2	1	3	4	1	2	4	4	3	3	1	3	3	2	1	3	1
Que.	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
Ans.	1	4	1	4	3	2	3	4	4	2	3	4	4	4	3	3	3	1	3	3
Que.	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
Ans.	3	4	4	3	1	4	3	4	2	2	3	2	1	3	1	3	3	4	2	2
Que.	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
Ans.	3	1	4	1	2	4	2	3	3	3	4	2	3	1	3	2	1	1	4	2
Que.	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
Ans.	3	1	3	1	3	3	3	2	4	2	3	1	2	2	4	4	2	4	1	3
Que.	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
Ans.	2	1	2	1	2	2	1	4	3	4	2	3	3	2	3	2	2	4	4	3

P.T.O.