

ANSWER KEY (+1) MEDICAL (25.12.2019)

PHYSICS

Q.No.	Answer	Q.No.	Answer
1	B	21	A
2	C	22	D
3	B	23	D
4	B	24	D
5	A	25	C
6	C	26	A
7	C	27	D
8	D	28	B
9	B	29	C
10	D	30	B
11	Cancel	31	B
12	B	32	D
13	D	33	A
14	D	34	B
15	D	35	D
16	B	36	C
17	C	37	C
18	B	38	B
19	A	39	D
20	A,D	40	D

CHEMISTRY

Q.No.	Answer	Q.No.	Answer
1	D	21	D
2	B,C,BC	22	D
3	B	23	C
4	B	24	D
5	B	25	A
6	C	26	C
7	A	27	B
8	A	28	C
9	C	29	A
10	B	30	D
11	D	31	A
12	C	32	A
13	A	33	B
14	C	34	A
15	D	35	C
16	B	36	B
17	A	37	C
18	A	38	B
19	A	39	D
20	C	40	C

+1**Grand Test Medical (Answer Key)****CHEMISTRY**

1. D

2. B

Sol. Size decreases with increase in positive charge.

3. B

Sol. $\Delta H^\circ = \Delta H_f^\circ(\text{Product}) - \Delta H_f^\circ(\text{Reactant})$

4. B

Sol. q is same for A and B, but of opposite sign. Entropy of $A \uparrow$ while that of $B \downarrow$. As A is placed at low temperature so its increase in entropy will be more.

5. B

Sol. $C(\text{gr}) + 3H_2(\text{g}) \longrightarrow CH_4(\text{g})$
 $-74.81 = 716.68 + 4 \times 217.97 - 4x$
 $\Rightarrow x = 415.84$

6. C 7. A

8. A

Sol. (a) Boiling of egg increases entropy. Due to denaturation of protein its compact tertiary structure changes into random chain.

(b) This process will involve sublimation energy and bond enthalpy.

(c) In Neutralisation of weak acid, heat released will be less than 57.3 kJ.

9. C 10. B 11. D

12. C

Sol. For an isothermal process, $\Delta T = 0$

$$\Rightarrow \Delta H, \Delta U = 0$$

$$\Rightarrow q = -w$$

13. A

Sol. Work is a path function

14. C

15. D

Sol. $Q = -220 \text{ kJ}$ $\Delta U = -230 \text{ kJ}$
 $W = -10 \text{ kJ}$

16. B

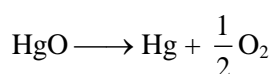
Sol. $\Delta G = \Delta H - T\Delta S$, $\Delta G < 0$ always for $\Delta H < 0$ & $\Delta S > 0$

17. A 18. A

19. A

Sol. (i) = F, (ii) = O, (iii) = S, (iv) = Cl

20. C

Sol. $Hg + \frac{1}{2}O_2 \longrightarrow HgO (-58.5)$ 

$$\Delta G^\circ = +58.5$$

$$\Delta H^\circ = +90.8$$

Hence, HgO decomposes more easily at a lower temperature than other oxides, its decomposition will require lowest energy.

21. D

Sol. $\Delta H = \left[-750 - \frac{1}{2} \times \frac{8.314 \times 300}{1000} \right] \times 2 = -1502.494 \text{ kJ}$

22. D

Sol. $W = -2.303 \times 10 \times 1 \log \frac{10}{1} \times 101.3 = -2.3 \text{ kJ}$

$$[W = -q] \text{ so } q = +2.3 \text{ kJ}$$

23. C

Sol. Ratio of two extensive property is intensive.

24. D

Sol. Condensation is exothermic it will increase entropy of surrounding. As temperature of surrounding is less so increase in ΔS will be more.

25. A

Sol. Only solid are involved on both side so change in entropy is very less.

26. C

27. B

Sol. R.E. = $29 \times 2 - 56 = 2 \text{ kcal/mole}$

28. C

29. A

30. D

Sol. Ge (IV) is more stable than Ge(II). Therefore Ge (II) compounds are powerful reducing agent. Pb(IV) is less stable than Pb(II). Therefore, Pb(IV) compounds are powerful oxidising agents. This is due to inert pair effect, due to which the +2 oxidation state becomes more stable as we move down the group

31. A

32. A

33. B

34. A

35. C

Sol. Successive I.E. are higher $M^{+3} > M^{+2} > M^{+}$; ionic mobility $Rb_{aq}^+ > K_{aq}^+ > Na_{aq}^+ > Li_{aq}^+$.

36. B

Sol. Melting is endothermic $\Delta H = +$; $q = +$; On melting volume of ice decreases $w = +$; heat is absorbed $\Delta U = +$

37. C

Sol. Heat is a path function.

38. B

Sol. $\Delta U = q + w$
 $-12 = 7.5 + w$
 $\Rightarrow w = -19.5 \text{ kJ}$

39. D

Sol. $\Delta G = \Delta H - T\Delta S$; If $\Delta H > 0$ and $\Delta G < 0 \Rightarrow \Delta S > 0$

40. C