NEET MICRO TEST 7 (17.11.2024) **20x4=80 MARKS**

Botany: Cell cycle & Cell division, **Zoology:** Locomotion & Movement
Chemistry: Redox reactions, **Physics:** Gravitation

Solution

1. Answer: **(2)**
2. Answer: **(3)**
3. Answer: **(1)**
4. Answer: **(2)**
5. Answer: **(4)**
6. Answer: **(4)**
7. Answer: **(4)**
8. Answer: **(2)**
9. Answer: **(4)**
10. Answer: **(3)**

11. Answer: **(2)**
Addition of H_2, so it is a reduction.

12. Answer: **(2)**
In ClO_4^-, Cl is in +7 state
In ClO_3^-, Cl is in +5 state
In ClO_2^-, Cl is in +3 state
In HCl, Cl is in −1 state

13. Answer: **(4)**
Oxidation state of F changes from 0 to −1 only

14. Answer: **(3)**
$2MnO_{4(aq)}^- + 6I_{(aq)}^- \rightarrow 4H_2O \rightarrow 3I_{2(s)} + 2MnO_2 + 8OH^-$

15. Answer: **(3)**
20 x 0.1 x 5 = 2 x 25 x 0.2

16. Answer: **(4)**
Using energy conservation

$$\frac{-GMm}{R}+\frac{1}{2}m\left(\sqrt{gR}\right)^2=\frac{-GMm}{\left(\frac{R}{2}\right)}+K$$

$$\Rightarrow K=\frac{GMm}{R}+\frac{mgR}{2}=mgR+\frac{mgR}{2}$$

$$\Rightarrow \left[K=\frac{3mgR}{2}\right]$$

17. Answer: **(2)**

$$V_P=-\frac{GM}{R}-\frac{G2M}{3R}$$

$$V_P=\frac{-5GM}{3R}$$

18. Answer: **(1)**

$$v_e=\sqrt{\frac{8\pi G\rho R^2}{3}}$$

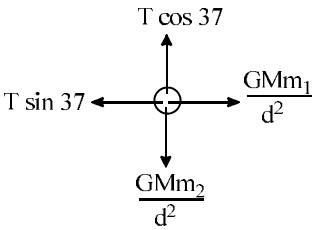
$$\frac{v_e}{v'_e}=\sqrt{\frac{\rho R^2}{\frac{\rho}{2}(2R)^2}}$$

$$\Rightarrow v'_e=\sqrt{2}v_e$$

19. Answer: **(2)**
Since angular momentum is conserved
$mv_1d_1 = mv_2d_2$

$$\Rightarrow \left[v_2=\frac{v_1d_1}{d_2}\right]$$

20. Answer: **(3)**



we know $T\cos 37=\frac{GMm_2}{d^2}$

$$T\sin 37=\frac{GMm_1}{d^2}$$

$$\Rightarrow \frac{m_2}{m_1}=\frac{\cos 37}{\sin 37}=\frac{4}{3}$$

$$\Rightarrow \frac{m_1}{m_2}=\frac{3}{4}$$