



## Alpha Waves Coaching Centre

www.alphawavescoaching.com



NEET, JEE, CA, TUITION  
ERODE - 12, CONTACT: 9500939789

## NEET MICRO TEST 4 (14.11.2024)

20 x 4 = 80 MARKS

**Botany:** Morphology of flowering plants, **Zoology:** Breathing & Exchange of Gases**Chemistry:** Chemical Bonding & Molecular Structure, **Physics:** Laws of Motion**Solution**

1. Answer: (4)

2. Answer: (1)

3. Answer: (3)

4. Answer: (3)

5. Answer: (1)

6. Answer: (1)

7. Answer: (4)

8. Answer: (2)

9. Answer: (4)

10. Answer: (3)

11. Answer: (1)

$\text{CH}_3 - \text{CH} = \text{CH} - \text{C} \equiv \text{CH}$   
has  $10\sigma$  and  $3\pi$  bonds.

12. Answer: (1)

$\text{CH}_4 > \ddot{\text{N}}\text{H}_3 > \text{H}_2\ddot{\text{O}}$  [Bond angle order]

$\therefore$  According to VSEPR theory

Bond angle  $\propto \frac{1}{\text{no. of lp of } e^-}$

13. Answer: (3)

$\text{O}_2 \rightarrow \text{O}_2^+$

B.O = 2    B.O = 2.5

Bond strength  $\propto$  Bond order

14. Answer: (4)

Molecular orbital which has nodal plane perpendicular to the bonding axis is  $\sigma^* 1s$

15. Answer: (2)

A)  $\text{SF}_6 \rightarrow sp^3d^2$

B)  $\text{AsF}_5 \rightarrow sp^3d$

C)  $\text{NH}_4^+ \rightarrow sp^3$

D)  $\text{BeCl}_2 \rightarrow sp$

16. Answer: (2)

$$F_{\text{thrust}} = V_{\text{rel}} \cdot \frac{dm}{dt} \quad 6000 = 1000 \frac{dm}{dt}$$

$$\frac{dm}{dt} = 60$$

17. Answer: (1)

$$T_{\text{max}} = m(g + a_{\text{max}})$$

$$300 = 20(g + a_{\text{max}})$$

$$15 = 10 + a_{\text{max}} \Rightarrow a_{\text{max}} = 5 \text{ m/s}^2$$

18. Answer: (2)

$$\text{Impulse (I)} = \int F \cdot dt = \int_0^4 (10 + 2t) dt = 56 \text{ Ns}$$

19. Answer: (1)

$$v^2 - u^2 = 2as$$

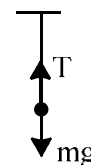
$$v^2 - 0 = 2gL$$

$$v = \sqrt{2gL}$$

At the lowest position from FBD

$$T - mg = m \left( \frac{v^2}{L} \right) \Rightarrow T = mg + \frac{mv^2}{L}$$

$$T = mg + \frac{m}{L}(2gL) \Rightarrow T = 3mg$$



20. Answer: (3)

Acceleration (a) of system =  $\frac{\text{unbalanced load}}{\text{total mass}}$

$$= \frac{10g - 8g}{(8 + 6 + 4)} = \frac{2g}{18}$$

$$a = \frac{g}{9} \text{ m/s}^2$$

From FBD of 4 kg,

$$4g - T = 4a$$

$$T = 4(g - a)$$

$$T = 4 \left( g - \frac{g}{9} \right) = \frac{4 \times 8g}{9}$$

$$T = \frac{32g}{9} = \frac{320}{9} \text{ N}$$

