

**Topic : General Organic Chemistry**
**Type of Questions**

Single choice Objective ('-1' negative marking) Q.1 to Q.15

(3 marks, 3 min.)

M.M., Min.

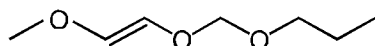
[45, 45]

Subjective Questions ('-1' negative marking) Q.16

(4 marks, 5 min.)

[4, 5]

1. How many lone pairs of electrons are there in the given compound ?



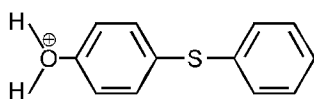
(A) 4

(B) 2

(C) 8

(D) 6

2. How many lone pairs of electrons are there in the given compound ?



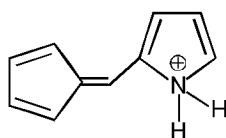
(A) 4

(B) 3

(C) 8

(D) 6

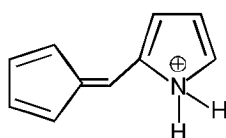
3. What is the hybridisation of positively charged nitrogen atom ?



(A) sp

(B) sp<sup>2</sup>(C) sp<sup>3</sup>

(D) None of these

 4. How many sp<sup>2</sup> hybridised atoms are there in the given cation ?


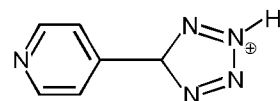
(A) 8

(B) 9

(C) 10

(D) 12

5. How many lone pairs are present in the given cation ?

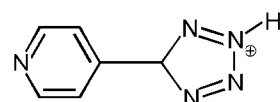


(A) 3

(B) 4

(C) 5

(D) 6

 6. How many N atoms are sp<sup>2</sup> hybridised in the given cation ?


(A) 3

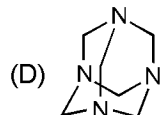
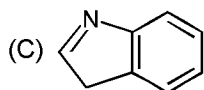
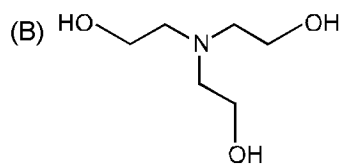
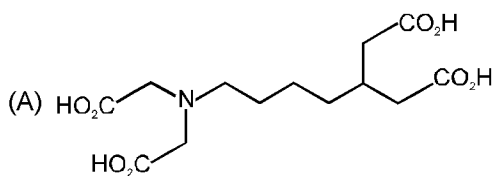
(B) 4

(C) 5

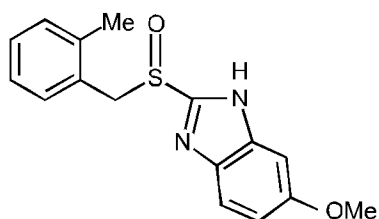
(D) 6



7. In which of the following molecules is the nitrogen atom  $sp^2$  hybridised ?



8. Geometry around how many carbon atoms is tetrahedral in the given structure ?



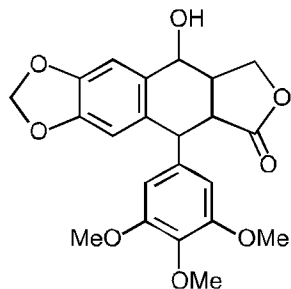
(A) 4

(B) 2

(C) 3

(D) 5

9. How many  $sp^3$  hybridised carbon atoms are there in the given anti-cancer compound (podophyllotoxin) ?



the anti-cancer compound  
podophyllotoxin

(A) 6

(B) 7

(C) 9

(D) 8

10. Bond order of C–C bond in benzene is :

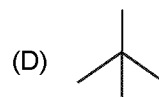
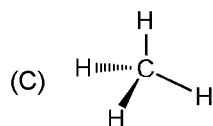
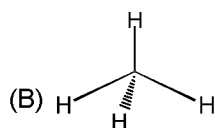
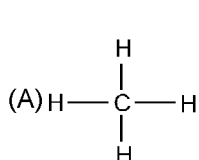
(A) 1

(B) 2

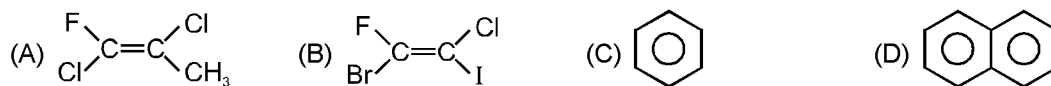
(C) 1.5

(D) two of above

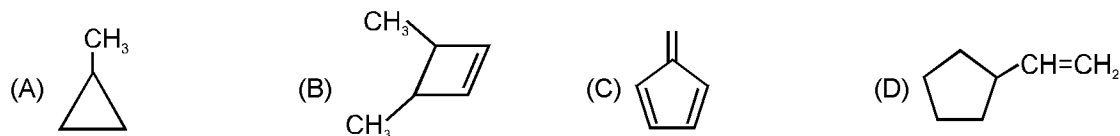
11. Which of the following is correct three dimensional representation of  $CH_4$  ?



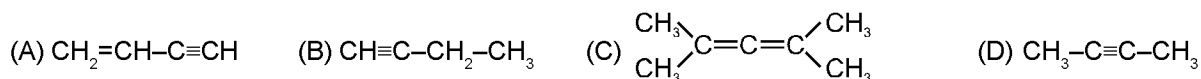
12. In which of the following all atoms do not present in the same plane ?

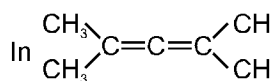


13. In which of the following all carbon atoms are present in the same plane ?



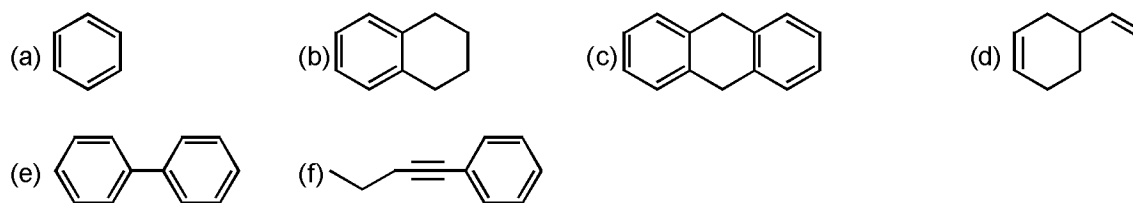
14. In which of the following are all C atoms linearly arranged ?



15. In  How many carbon atoms are linearly arranged ?

- (A) 1 (B) 8 (C) 3 (D) 7

16. A maximum of how many (i) atoms (ii) carbon atoms must lie in same plane in each of the following molecule?



No. of  $\text{sp}^2-\text{sp}^2$

$\sigma$ -bonds

No. of  $\text{sp}^2-\text{sp}$

$\sigma$ -bonds



# Answer Key

## DPP No. # 10

- |     |     |                 |     |                 |     |                 |      |                |     |
|-----|-----|-----------------|-----|-----------------|-----|-----------------|------|----------------|-----|
| 1.  | (D) | 2.              | (B) | 3.              | (C) | 4.              | (C)  | 5.             | (B) |
| 6.  | (C) | 7.              | (C) | 8.              | (C) | 9.              | (C)  | 10.            | (C) |
| 11. | (C) | 12.             | (A) | 13.             | (C) | 14.             | (D)  | 15.            | (C) |
| 16. | (a) | (i) 12, (ii) 6. | (b) | (i) 12, (ii) 8. | (c) | (i) 12, (ii) 8. | (d). | (i) 6, (ii) 4. |     |
|     | (e) | (i) 14, (ii) 8. | (f) | (i) 14, (ii) 9. |     |                 |      |                |     |

