

NEET CHEMISTRY 2018-19 - Chennai

Periodic Test : 13

Test ID : 025

Number of questions: 150

Test date: 02.04.2019

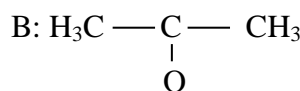
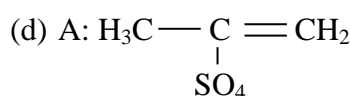
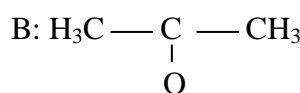
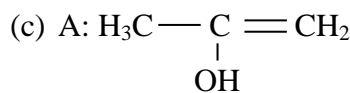
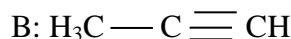
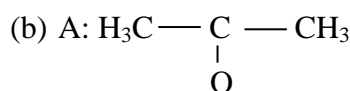
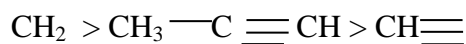
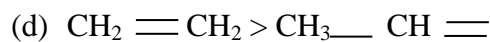
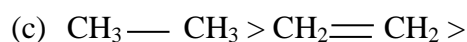
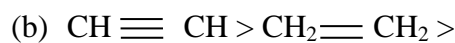
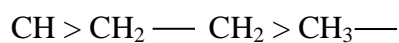
Name: _____

Time: 3HRS

ID No: _____

Negative Marks : 4 marks for correct attempt & 1 mark deducted for every wrong attempt.

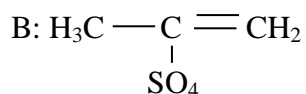
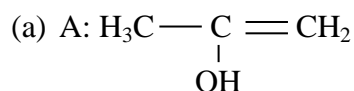
1. Which one is the correct order of acidity?



2. Predict the correct intermediate and product in the following reaction



Intermediate (A) \longrightarrow Product (B)
 HgSO_4



3. With respect to the conformers of ethane, which of the following statements is true?

(a) Bond angle changes but bond length remains same

(b) Both bond angle and bond length change.

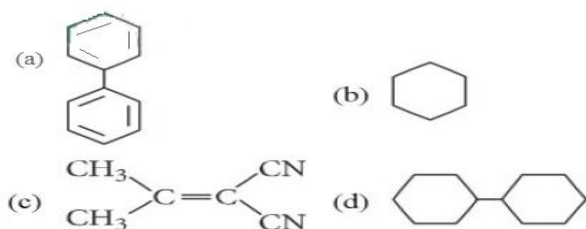
(c) Both bond angle and bond length remain same

(d) Bond angle remains same but bond length changes

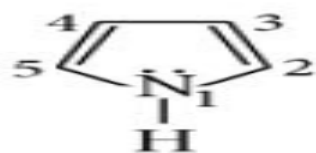
4. Which of the following can be used as the halide component for Friedel-Crafts reaction?

- (a) Chlorobenzene,
- (b) Bromobenzene
- (c) Chloroethane
- (d) Isopropyl chloride

5. In which of the following molecules all atoms are coplanar?

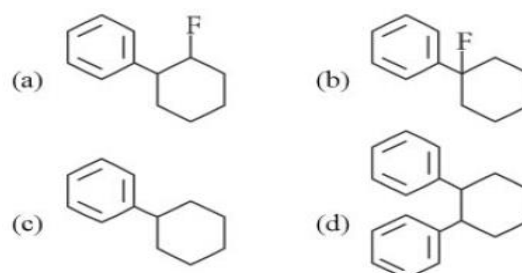
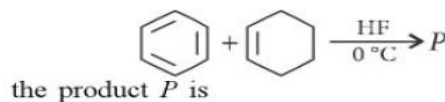


6. In pyrrole the electron density is maximum on

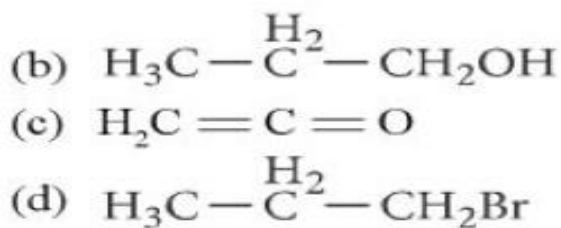
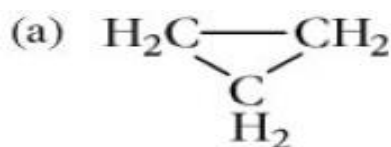


- (a) 2 and 3
- (b) 3 and 4
- (c) 2 and 4
- (d) 2 and 5

7. Which of the following compounds shall not produce propene by reaction with HBr followed by elimination or direct only elimination reaction?



8. In the given reaction



9. The compound that will react most readily with gaseous bromine has the formula

- (a) C_3H_6
- (b) C_2H_2
- (c) C_4H_{10}
- (d) C_2H_4

10. The correct statement regarding the comparison of staggered and eclipsed conformations of ethane is

(a) the eclipsed conformation of ethane more stable than staggered conformation even though the eclipsed conformation has torsional strain

(b) the staggered conformation of ethane is more stable than eclipsed conformation, because staggered conformation has no torsional strain

(c) the staggered conformation of ethane is less stable than eclipsed conformation because staggered conformation has torsional strain

(d) the eclipsed conformation of ethane is more stable than staggered conformation because eclipsed conformation has no torsional strain.

11. Considered the nitration of benzene using mixed conc. H_2SO_4 and HNO_3 If a large amount of KHSO_4 is added to the mixture, the rate of nitration will be

(a) unchanged

(b) doubled

(c) faster

(d) slower

12. The pair of electrons in the given carbanion $\text{CH}_3\text{C}\equiv\text{C}^-$ is present in which of the Following orbitals?

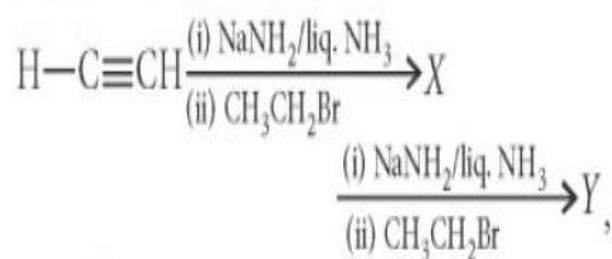
(a) sp^2

(b) sp

(c) 2p

(d) sp^3

13. In the reaction



X and Y are

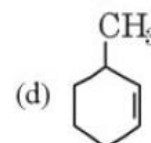
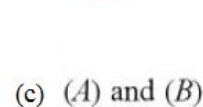
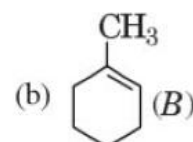
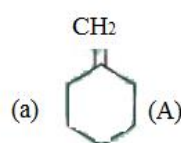
(a) X = 2-Butyne, Y = 2-Hexyne

(b) X = 1-Butyne, Y = 2-Hexyne

(c) X = 1-Butyne, Y = 3-Hexyne

(d) X = 2-Butyne, Y = 3-Hexyne

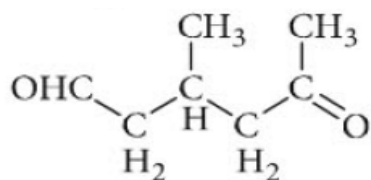
14. In the reaction with HCl, alkene reacts in accordance with the markovnikov's rule to give a product 1-chloro-1 methylcyclohexane the possible alkene is



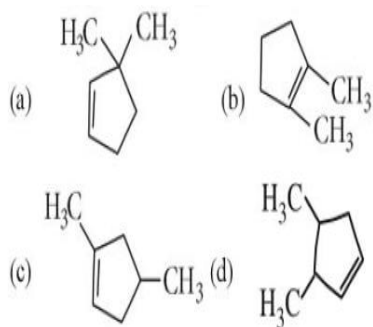
15. 2,3-Dimethyl-2-butene can be prepared by heating which of the following compounds with a strong acid?

- (a) $(\text{CH}_3)_3\text{CCH}=\text{CH}_2$
 (b) $(\text{CH}_3)_2\text{C}=\text{CHCH}_2\text{CH}_3$
 (c) $(\text{CH}_3)_2\text{CHCH}_2\text{CH}=\text{CH}_2$
 (d) $(\text{CH}_3)_2\text{CH}-\underset{\text{CH}_3}{\text{CH}}-\text{CH}=\text{CH}_2$

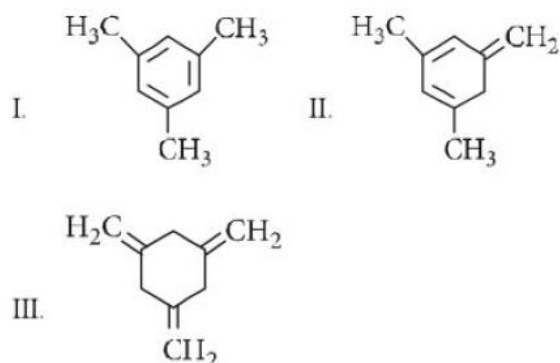
16. A single compound of the structure



Is obtainable from ozonolysis of which of the following cyclic compounds?



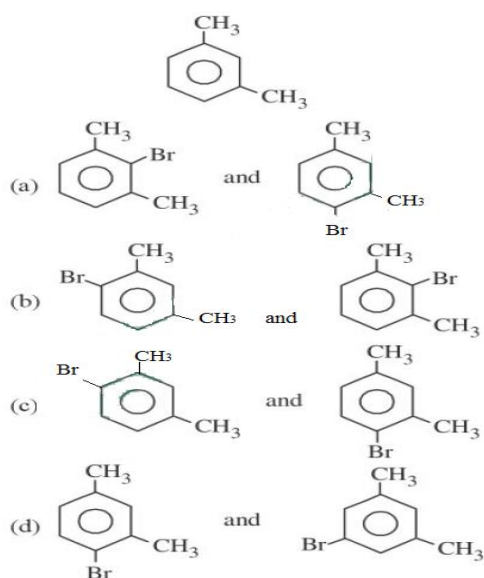
17. 17. Given



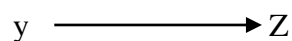
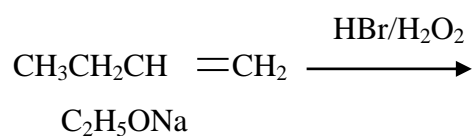
The enthalpy of hydrogenation of these compounds will be in the order as

- (a) II > III > I
 (b) II > I > III
 (c) I > II > III
 (d) III > II > I

18. What products are formed when the following compound is treated with Br_2 in the presence of FeBr_3 ?



19. Identify Z in the sequence of reactions



- (a) $\text{CH}_3-(\text{CH}_2)_3-\text{O}-\text{CH}_2\text{CH}_3$
 (b) $(\text{CH}_3)_2\text{CH}-\text{O}-\text{CH}_2\text{CH}_3$
 (c) $(\text{CH}_3)_2(\text{CH}_2)_4-\text{O}-\text{CH}_3$
 (d) $\text{CH}_3\text{CH}_2-\text{CH}(\text{CH}_3)-\text{O}-\text{CH}_2\text{CH}_3$

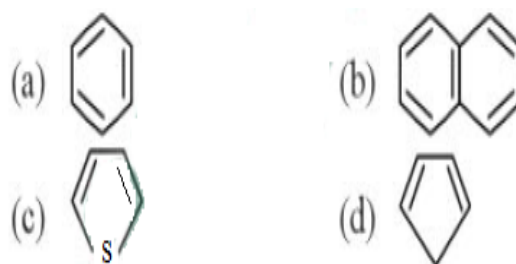
20. Which of the following organic compounds has same hybridization as its combustion Product (CO_2)?

- (a) Ethane
 (b) Ethyne
 (c) Ethene
 (d) Ethanol

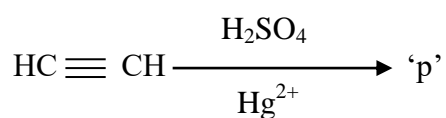
21. Which of the following compounds will not undergo Friedal-Craft's reaction easily?

- (a) Nitrobenzene
 (b) Toluene
 (c) Curmuene
 (d) Xylene

22. Which of the following chemical system is non aromatic?



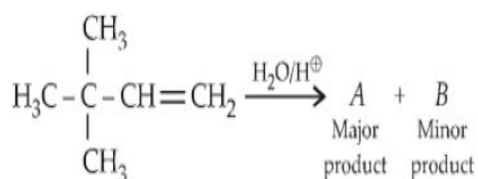
23. in the following reaction:



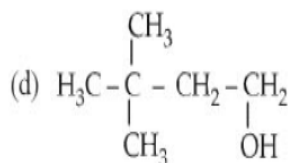
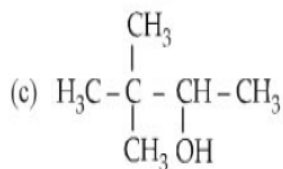
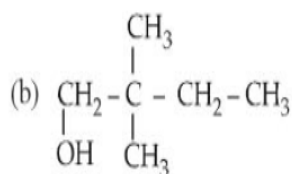
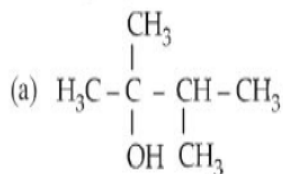
'P' will not give

- (a) Tollen's reagent test
 (b) Brady's reagent test
 (c) Victor Meyer test
 (d) Iodoform test

24. In the following reaction:



The major product is



25. Which of the following acids does not exhibit optical isomerism?

- (a) Maleic acid
- (b) α -amino acids
- (c) Lactic acid
- (d) Tartaric acid

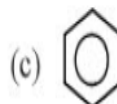
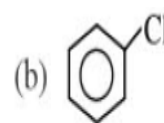
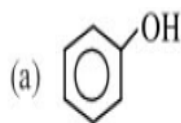
26. When acetylene is passed through dil. H_2SO_4 in the presence of HgSO_4 the compound formed is

- (a) acetic acid
- (b) ketone
- (c) ether
- (d) acetaldehyde

27. In Friedel - Crafts is alkylation, besides AlCl_3 ; the other reactants are

- (a) $\text{C}_6\text{H}_6 + \text{CH}_3\text{Cl}$
- (b) $\text{C}_6\text{H}_6 + \text{CH}_4$
- (c) $\text{C}_6\text{H}_6 + \text{NH}_3$
- (d) $\text{C}_6\text{H}_6 + \text{CH}_3\text{COCl}$

28. Which of the following compounds will be most easily attacked by an electrophile?



29. Which one of these is not compatible with arenes?

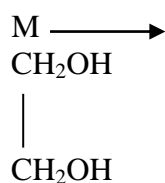
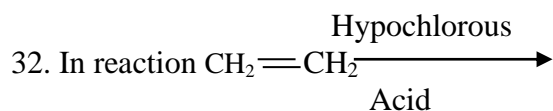
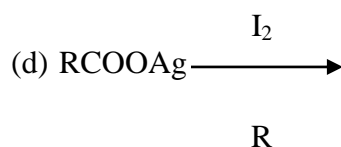
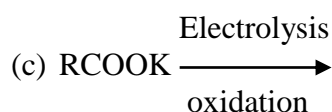
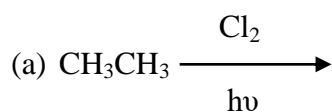
- (a) Electrophilic additions
- (b) Delocalisation of π electrons
- (c) Greater stability
- (d) Resonance

30. 2-Bromopentane is heated with potassium ethoxide in ethanol. the major product

Obtained is

- (a) trans-2-pentene
- (b) 1-pentene
- (c) 2-ethoxy pentane
- (d) 2-cis -pentene

31. Which of the following reaction is expected to readily give a hydrocarbon product in good yields?



Where M = Molecule and R = Reagent M and R are

- (a) $\text{CH}_3\text{CH}_2\text{OH}$ and HCl
 (b) $\text{CH}_2=\text{CH}_2$ and heat
 (c) $\text{CH}_3\text{CH}_2\text{Cl}$ and NaOH
 (d) CH_2Cl and CH_2OH and aqNaHCO_3

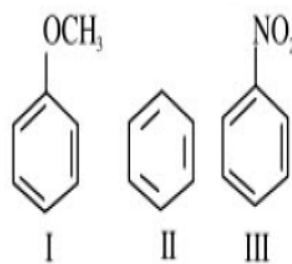
33. The cylindrical shape of an alkyne is due to

- (a) two sigma C — C and one π C — C bonds
 (b) one sigma C — C and two π C — C bonds
 (c) three sigma C — C bonds
 (d) three π C — C bonds

34. In the commercial gasolines the type of hydrocarbons which are more desirable is

- (a) linear unsaturated hydrocarbon
 (b) toluene
 (c) branched hydrocarbon
 (d) Straight-chain hydrocarbon.

35. Among the following compounds the correct reaction with electrophile is



- (a) I > II > III
 (b) I = II > III
 (c) II > III > I
 (d) III < I < III

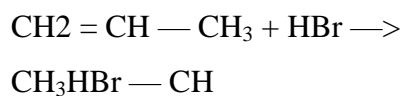
36. The most stable conformation of n-butane is

- (a) gauche
- (b) staggered
- (c) skew boat
- (d) eclipsed

37. Electrophile in the case of chlorination of benzene in the presence of FeCl_3 is

- (a) Cl
- (b) FeCl_3
- (c) Cl^+
- (d) Cl^-

38. The reaction,

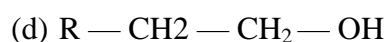
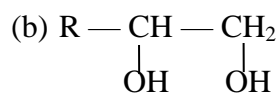
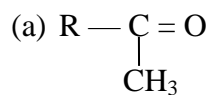


- (a) electrophilic substitution
- (b) free radical addition
- (c) nucleophilic addition
- (d) electrophilic addition.

39. Which of the following has zero dipole moment

- (a) 1-Butane
- (b) 2-Methyl-propene
- (c) cis-2-Butene
- (d) trans-2-Butene

40. The alkene $\text{R} - \text{CH} = \text{CH}_2$ reacts readily with B_2H_6 and the product on oxidation with alkaline hydrogen peroxide produces

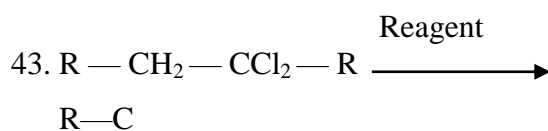


41. One of the following which does not observe the anti-Markovnikov's addition of HBr , is

- (a) pent-2-ene
- (b) propene
- (c) but-2-ene
- (d) but-1-ene

42. The reactive species in the nitration of benzene is

- (a) NO_3
- (b) HNO_3
- (c) NO_2^+
- (d) NO_2^-



The reagent is

- (a) Na
- (b) HCl in H_2O
- (c) KOH in $\text{C}_2\text{H}_5\text{OH}$
- (d) Zn in alcohol

44. Reduction of 2-butyne with sodium in liquid ammonia gives

Predominantly

- (a) cis-2-butene
- (b) no reaction
- (c) trans-2-butene
- (d) n-butane

45. A compound is treated with NaNH_2 to give sodium salt. Identify the compound.

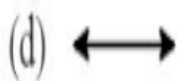
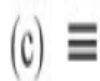
- (a) C_2H_2
- (b) C_6H_6
- (c) C_2H_6
- (d) C_2H_4

46. Reactivity of hydrogen atoms attached to different carbon atoms in alkanes has the order

- (a) tertiary > primary > secondary
- (b) primary > secondary > tertiary
- (c) both (a) and (b)
- (d) tertiary > secondary > primary.

47. Which is the correct symbol

relating the two Kekulé structures of benzene?



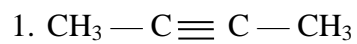
48. Select the true statement about benzene amongst the following

- (a) because of unsaturation benzene easily undergoes addition
- (b) there are two types of C — C bonds in benzene molecule
- (c) there is cyclic delocalisation of π electron in benzene
- (d) Monosubstitution of benzene gives three isomeric products.

49. Acetylenic hydrogens are acidic. Because

- (a) sigma electron density of C — H bond in acetylene is nearer to carbon which has 50% s-character
- (b) acetylene has only open hydrogen in each carbon
- (c) acetylene contains least number of by among the possible hydrocarbons having two carbons
- (d) Acetylene belongs to the class of alkynes with molecular formula $\text{C}_n\text{H}_{2n-2}$

50. Which is the most-suitable reagent among the following to distinguish compound (3) from rest of the compounds?



(a) Bromine in carbon tetrachloride

(b) Bromine in acetic acid

(c) Alk. KMnO_4

(d) Ammoniacal silver nitrate.