



# CHEMISTRY

## BOOKS - MHTCET PREVIOUS YEAR PAPERS AND PRACTICE PAPERS

### MHTCET 2012

#### Chemistry

1. The hybridization state of C atom in butendiotic acid is

A.  $sp^2$

B.  $sp^3$

C. Both (a ) and (b )

D.  $sp$

**Answer: A**



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2. Which of the following is not a isomer of pentane ?

A. n- pentane

B. 2, 2 - dimethyl propane

C. 2, 3- dimethyl butane

D. 2 - methyl butane

**Answer: C**



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**3.** The oxidation number of C atom in  $CH_2Cl_2$  and  $CCl_4$  are respectively

A.  $-2$  and  $4$

B.  $0$  and  $-4$

C.  $0$  and  $4$

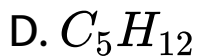
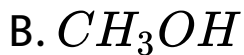
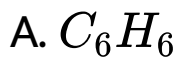
D.  $2$  and  $4$

**Answer: C**



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**4.** Which of the following dissolves in ionic solvents ?

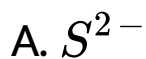


**Answer: B**



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5. The conjugate acid of  $HS^-$  is



B.  $H_2S$

C. Both (a ) and (b )

D. None of these

**Answer: B**



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**6. Which of the following is not an iron ore ?**

A. Malachite

B. Haematite

C. Siderite

D. Limonite

**Answer: A**



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7. The molar concentration of chloride ions in the resulting solution of 300 mL of 3.0 M NaCl and 200 mL of 4.0 M  $BaCl_2$  will be

A. 1.7 M

B. 1.8 M

C. 5.0 M

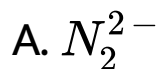
D. 3.5 M

**Answer: C**

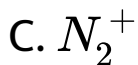
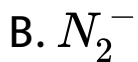


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**8.** Which of the following has least bond energy ?





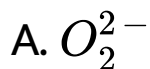


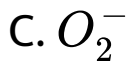
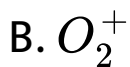
**Answer: D**



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**9. Which of the following species has highest bond energy ?**





**Answer: A**



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**10.** Which of the following compound is not aromatic ?

A. 1, 3 - cyclobutene

B. Pyridine

C. Furane

D. Thiophene

**Answer: A**



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**11.** Which of the following compound is used as a refrigerant ?

A.  $CCl_4$

B.  $CCl_2F_2$

C.  $CF_4$

D. Acetone

**Answer: B**

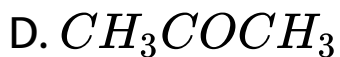
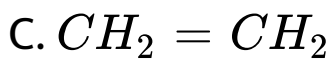


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**12. Which of the following is a weak acid ?**

A.  $C_6H_6$

B.  $CH_3COOH$



**Answer: A**



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**13.** LPG mainly consist of the following

A. methane

B. hydrogen

C. acetylene

D. butane

**Answer: D**



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**14.** The nature of 2, 4, 6 - trinitrophenol is

A. neutral

B. basic

C. acidic

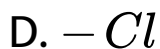
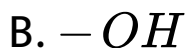
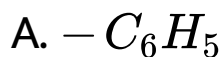
D. weak basic

**Answer: C**



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**15.** Which of the following group is sharp ortho and para directive ?



**Answer: B**



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**16.** By which of the following process hydrocarbons are found from petroleum ?

- A. Combustion
- B. Fractional distillation
- C. Addition
- D. All of the above



**Answer: B**



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**17. Which of the following statement is false ?**

A. 40 % solution HCHO is known as

formalin

B. HCHO is least reactive in its homologous

series

C. The boiling point of iso - vareldehyde

less than n - varelaldehyde (4 )

D. The boiling point of ketones are higher

than that of aldehydes

**Answer: B**



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**18. Which of the following is least hydrolysed ?**

A.  $BeCl_2$

B.  $MgCl_2$

C.  $CaCl_2$

D.  $BaCl_2$

**Answer: A**



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**19.** The laughing gas is

A.  $N_2O_4$

B.  $NO$

C.  $N_2O$

D.  $N_2O_5$

**Answer: C**



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20. The hydrogen ion concentration of a solution is  $3.98 \times 10^{-6}$  mole per liter. The pH value of this solution will be

A. 6.0

B. 5.8

C. 5.4

D. 5.9

**Answer: C**



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**21.** The reaction of sodium acetate and sodalime gives

A. butane

B. ethane

C. methane

D. propane

**Answer: C**



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22. Which of the following acids does not contain  $-COOH$  group ?

A. Carbamic acid

B. Barbituric acid

C. Lactic acid

D. Succinic acid

**Answer: B**



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**23.** Which of the following compound of xenon does not exist ?

A.  $XeF_6$



**Answer: C**



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24. The solution of  $BiCl_3$  in dil. HCl when diluted with water, white precipitate is formed which is



A. Bismuth oxychloride

B. Bismuth oxide

C. Bismuth hydroxide

D. None of the above

**Answer: A**



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**25. The strongest acid is**

A. acetic acid

B. trichloroacetic acid

C. dichloroacetic acid

D. monochloroacetic acid

**Answer: B**



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**26.** The false statement regarding alkane is

A. this does not perform polymerization  
reaction

B. this does not gives elimination reaction

C. it does not disappear the colour of

dilute  $KMnO_4$  solution

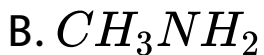
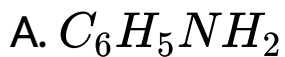
D. it does not decolourise bromine water

**Answer: B**



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**27.** Which of the following is the strongest base ?



**Answer: B**



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**28.** Which of the following aromatic compound gives sulphonation reaction very easily ?

A. Chlorobenzene

B. Nitrobenzene

C. Toluene

D. Benzene

**Answer: C**



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**29.** The geometry of  $I_3^-$  is

A. triangular

B. linear

C. tetrahedral

D. T - shape

**Answer: B**



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**30.** The volume concentration of hydrogen peroxide having 6.8 % concentration will be

A. 5

B. 11.2

C. 22.4

D. 20

**Answer: C**



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**31.** Which of the following on combustion gives maximum energy ?

A. Ethane

B. Propane

C. Methane

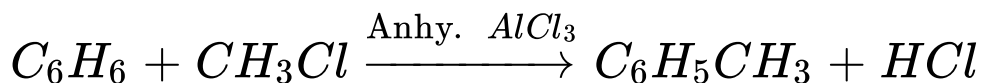
D. Butane

**Answer: D**



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**32.**



the name of the above reaction is



A. Gattermann

B. Reimer - Tiemann

C. Friedel - craft

D. Cannizzaro

**Answer: C**



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**33.** The oxidation state of Cr in  $K_2Cr_2O_7$  is

A. +4

B. + 3

C. + 6

D. + 5

**Answer: C**



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**34.** The natural rubber is the polymer of

A. 1, 3 - butadiene

B. polyamide

C. isoprene

D. None of these

**Answer: C**



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**35. Nylone - 66 is**

A. polyester

B. polyamide

C. polyacrylate

D. None of these

**Answer: B**



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**36.** The tetraethyl lead mixed in petrol works as

A. cooling agent

B. anti - knocking agent

C. bleaching agent

D. None of these

**Answer: B**



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**37.** The alkaline hydrolysis of ester is known as

A. dehydrogenation

B. dehydration

C. esterification

D. saponification

**Answer: D**



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**38.** The degree of ionization of 0.4 M acetic acid will be ( $K_a = 1.8 \times 10^{-5}$ )

A.  $6.71 \times 10^{-3}$

B.  $1.6 \times 10^{-3}$

C.  $0.4 \times 1.8 \times 10^{-5}$

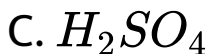
D.  $1.8 \times 10^{-5}$

**Answer: A**



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**39.** Haber process is used for the production of which of the following ?



**Answer: A**



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**40.** The minimum numbers of carbon atoms in ketones which will show chain isomerism will be

A. 7

B. 4

C. 6

D. 5

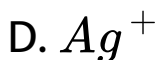


**Answer: D**



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**41.** Which of the following species shows the maximum magnetic moment ?



**Answer: C**



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**42. C - H bond length is least in**

A. acetylene

B. methane

C. ethylene

D. ethane

**Answer: A**



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**43.** The number of possible structural isomers of  $C_4H_{10}O$  is

A. 7

B. 8

C. 6

D. 5

**Answer: A**



44. Which of the following organic compounds could not be dried by anhydrous  $CaCl_2$  ?

- A. Ethanol
- B. Benzene
- C. Chloroform
- D. Ethyl acetate

**Answer: A**



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45. Which of the following compound forms white precipitate with bromine water ?

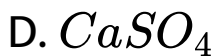
- A. Nitrobenzene
- B. Phenol
- C. Benzene
- D. All of the above

**Answer: B**



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46. Gypsum is



**Answer: B**



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47.  $[Cu(NH_3)_4]^{2+}$  show the following hybridization

A.  $dsp^2$

B.  $sp^3d$

C.  $dsp^3$

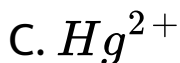
D.  $sp^3$

**Answer: A**



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48. A solution contains  $Cl^-$ ,  $I^-$  and  $SO_4^{3-}$  ions in it. Which of the following ion is capable to precipitate all of the above when added in this solution ?



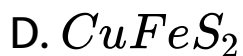
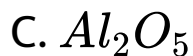
**Answer: B**



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49. Fool's gold is



**Answer: B**



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50. The number of alkanyl groups possible from  $C_4H_7$  are

A. 7

B. 5

C. 3

D. 8

**Answer: B**



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