NEET CHEMISTRY 2018-19 - Chennai

Periodic Test : 20 **Test ID :** 032

Number of questions: 50 **Test date: 09.04.2019**

Name: _____ **Time**: 2HRS

ID No: _____

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

1. Whatis the maximum number of orbitals that can be identified with the following quantum numbers?
   n=3, l=1, m_l=o
   a) 1
   b) 2
   c) 3
   d) 4

2. Calucate the energy in joule corresponding to light of wavelength 45 nm:
   (planck's constant h = 6.63 x 10^{-34} js;
   speed of light c = 3x10^{8} ms^{-1})
   (a) 6.67 x 10^{15}
   (b) 6.67 x 10^{11}
   (c) 4.42 x 10^{-15}
   (d) 4.42 x 10^{-18}

3. Which of the following does not contain number of neutrons equal to that of $^{40}_{18}$Ar?
   (a) $^{41}_{19}$K (b) $^{43}_{21}$Sc (c) $^{40}_{21}$Sc (d) $^{42}_{20}$Ca

4. which of the following pairs will have same chemical properties
   (a) $^{14}_{6}$C and $^{15}_{7}$N (b) O^{2-} and F^{-}
   (c) $^{40}_{18}$Ar and $^{40}_{19}$K (d) $^{35}_{17}$Cl and $^{37}_{17}$Cl

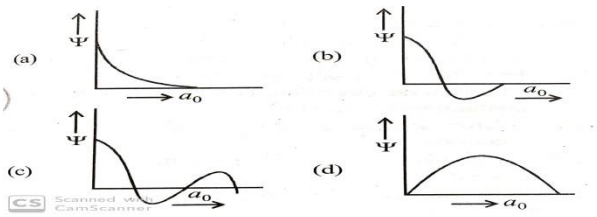
5. The work function of a photoelectric material is 3.3 eV, its threshold frequently will be
   (a) 8 × 10^{14} Hz
   (b) 5 x 10^{33} Hz
   (c) 8 x 10^{10} Hz
   (d) 4 x 10^{11} Hz

6. The Heisenberg uncertainity principle will be most significant for which of the following object?
   (a) object A of mass 9.11 x 10^{-30} kg
   (b) Object B of mass 9.11 x 10^{-28} g
   (c) Object C of mass 9.11 x 10^{-24} mg
   (d) Object D of mass 9.11 x 10^{-28} kg

7. Which one of the following set of quantum numbers is not possible for 4p electron?
   a) n = 4 ,l = 1, m = -1, m_s = + ½
   b) n = 4 ,l = 1 , m = 0 , m_s = + ½
   c) n = 4 , l = 1 , m = -1 , m_s = -1/2
   d) n=4, l=1, m=-1, m_s= -1/2

8. what is the correct orbital designation of an electron with the quantum number, n= 4, l=3, m= -2, s= ½?
   a) 3s
   b) 4f
   c) 5p
   d) 6s

9. Which of the following graph correspond to one node



10. The energies E_1 and E_2 of two radiations are 25eV and 50 eV, respectively. The relation between their wavelengths i.e., λ_1 and λ_2 will be :
    a) $\lambda_1 = \lambda_2$
    b) $\lambda_1 = 2\lambda_2$
    c) $\lambda_1 = 4\lambda_2$
    d) $\lambda_1 = 1/2\ \lambda_2$

11. Elements of which group of anions most readily?
    a) oxygen family
    b) nitrogen family
    c) halogens
    d) alakali metals

12. An element has electronic configuration $1s^2 2s^2 2p^6 3s^2 p^4$
    a) period= 3^{rd} , block =p,group =16
    b) period= 5^{th}, block= s, group= 1
    c) period =3^{rd} , block= p,group=10
    d) period=4^{th} , block=d,group=12

13. The correct order of radii is
    a) N<Be<B
    b) $F^- < O^{2-} < N^{3-}$
    c) N<Li<K
    d) $Fe^{3+} < Fe^{2+} < Fe^{4+}$

14. When an electron is removed froman atom, its energy
    a) Increases
    b) Decreases
    c) Remains the same
    d) None of these

15. In the ions P^{3-}, S^{2-} and Cl^-, the increasing order of size is
    a) Cl^-, S^{2-}, P^{3-}
    b) P^{3-}, S^{2-}, Cl^-
    c) S^{2-}, Cl^-, P^{3-}
    d) S^{2-}, P^{3-}, Cl^-

16. Which one has least ionisation potential?
    a) Ne
    b) N
    c) O
    d) F

17. In the process, $Cl(g) + e^- \xrightarrow{\Delta H} Cl^-(g)$; ΔH is
    a) Positive
    b) Negative
    c) Zero
    d) Unpredictable

18. which form coloured salts?
    a) Non – metals
    b) Metals
    c) p-block elements
    d) transitional elements

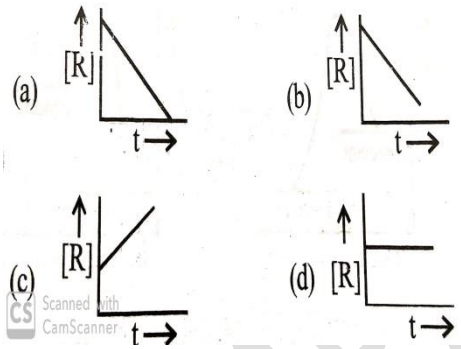
19. which of the following metals requires the radiation of highest frequency to cause the emission of electrons?
    a) Na
    b) Mg
    c) K
    d) Ca

20. In which of the following process highest energy is absorbed
    a) $Cu \longrightarrow Cu^+$
    b) $Br \longrightarrow Br^-$
    c) $I \longrightarrow I^-$
    d) $Li \longrightarrow Li^+$

21. a reaction proceeds by first order, 75% of this reaction was completed in 32 min. the time required for 50% completion is
    a) 8 min
    b) 16 min
    c) 20 min
    d) 24 min

22. A substance 'A' decomposes by a first order reaction starting initially with [A] =2.00M and after 200 min, [A] becomes 0.15M. For this reaction $t_{1/2}$ is
    a) 53.72 min
    b) 50.49 min
    c) 48.45 min
    d) 46.45 min

23. The plot that represents the zeo order reaction is:



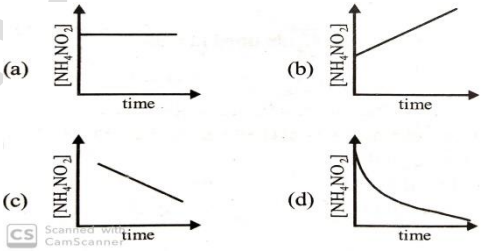
24. In the Haber process for the manufacture of ammonia the following catalyst is used
    a) Platinized asbestos
    b) Iron with molybdenum
    c) Copper oxide
    d) Alumina

25. For an endothermic reaction ,where ΔH represents the enthalpy of reaction in KJ/mol, the minimum value for the energy activation will be
    a) Less than ΔH
    b) More than ΔH
    c) Equal to ΔH
    d) Zero

26. According to which theory activation energy and proper orientation of the molecules together determined the criteria for an effective collision?
    a) Arrhenius theory
    b) Activated complex theory
    c) collision theory
    d) Both (a) and (c)

27. For a reaction, activation energy (E_a)= 0 and rate constant (k)=$3.2\times10^{6}\ s^{-1}$ at 300K. what is the value of the rate constant at 310K?
    a) $3.2\times10^{-12}s^{-1}$
    b) $3.2\times10^{6}s^{-1}$
    c) $6.4\times10^{12}s^{-1}$
    d) $6.4\times10^{6}s^{-1}$

28. Decomposition of NH4NO2(aq) into N2(g) and 2H2O(l) is first order reaction. Which of the following graph is correct?



29. During decomposition of an activated complex

    (i) energy is always released

    (ii) energy is always obsorbed

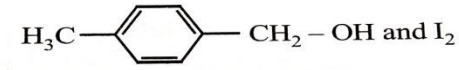
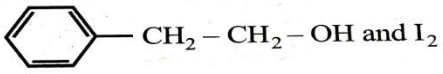
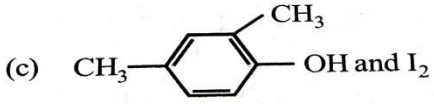
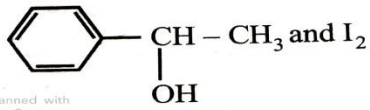
    (iii) energy doesn't change

    (iv) reactants may be formed

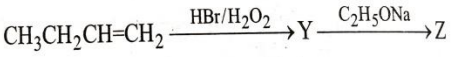
    a) (i),(ii) and (iii)
    b) (i) and (iv)
    c) (ii) and (iii)
    d) (ii),(iii) and (iv)

30. The rate constant for the decomposition of a certain substance is $2.80 \times 10^{-3}\ M^{-1}\ s^{-1}$ at 30°c and $1.38 \times 10^{-2}\ M^{-1}\ s^{-1}$ at 50°c . The arrhenius parameters (A) of the reaction is ($R = 8.314 \times 10^{-3}$ kJ $mol^{-1}\ K^{-1}$)
    a) $8.68 \times 10^{8} M^{-1} s^{-1}$
    b) $2.16 \times 10^{7} M^{-1} s^{-1}$
    c) $4.34 \times 10^{8} M^{-1} s^{-1}$
    d) $3.34 \times 10^{8} M^{-1} s^{-1}$

31. Compound A, $C_8H_{10}O$, is found to react with NaOI(produced by reaction Y with NaOH) and yields a yellow precipitate with characteristics smell.A and Y are respectively.

(a) 
(b) 
(c) 
(d) 

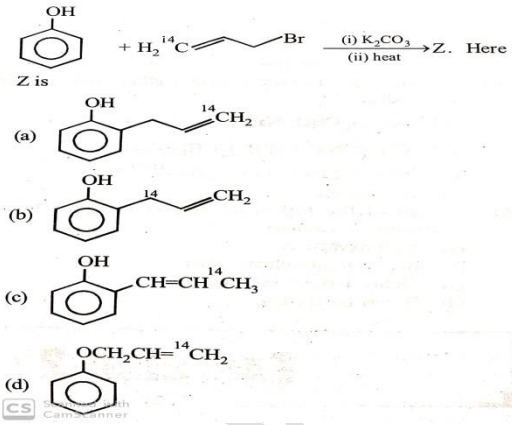
32. Identify z in the sequence of reaction



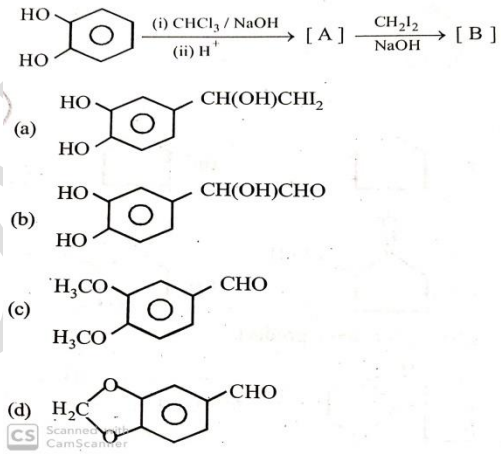
(a) $CH_3—(CH_2)_3—O—CH_2CH_3$
(b) $(CH_3)_2CH_2—O—CH_2CH_3$
(c) $CH_3(CH_2)_4—O—CH_3$
(d) $CH_3CH_2—CH(CH_3)—O—CH_2CH_3$

33. Acid catalyst hydration of alkenes except ethene leads to the formation of
    a) primary alcohol
    b) secondary or tertiary alcohol
    c) mixture of primary and secondary alcohols
    d) mixture of secondary and tertiary alcohols

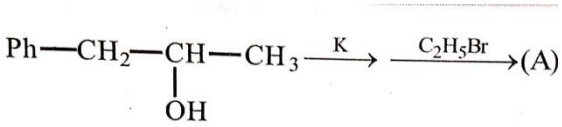
34.



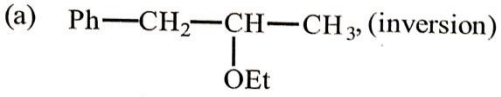
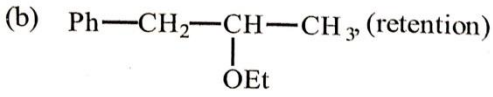
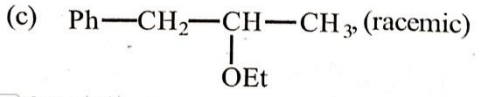
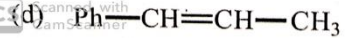
35. Identify the product [B] in the following reaction



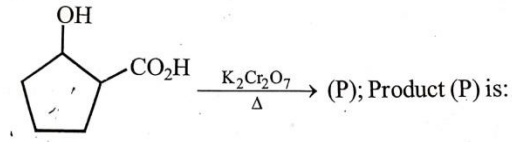
36.



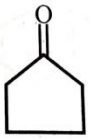
Product (A) in above reaction is:

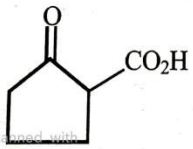
(a) 
(b) 
(c) 
(d) 

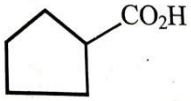
37.



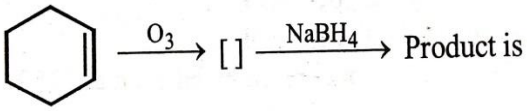
(a) 

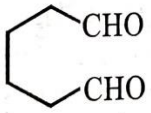
(b) 

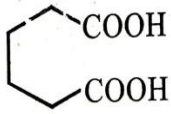
(c) 

(d) 

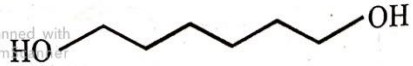
38.



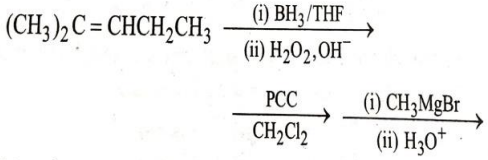
(a) 

(b) 

(c) mixture of (a) and (b)

(d) 

39. What is the product of the following sequence of reactions?



(a) 2, 4 - dimethyl - 3 - pentanol
(b) 2, 3 - dimethyl - 3 - pentanol
(c) 2, 3 - dimethyl - 2 - pentanol
(d) 2, 2 - dimethyl - 3 - pentanol

40. Ziegler – Natta catalyst is
   a) K $[PtCl_3(C_2H_4)]$
   b) $(Ph_3P)_3RhCl$
   c) $Al_2(C_2H_5)_6+TiCl_4$
   d) $Fe(C_5H_5)_2$

41. $CF_2=CF_2$ is a unit of
   a) Teflon
   b) buna-S
   c) bakelite
   d) polythene

42. Polymerization in which two or more chemically different monomers take part is called
   a) addition polymerization
   b) copolymerization
   c) chain polymerization
   d) homo polymerization

43. PVC is formed by polymerization of
   a) ethene
   b) 1-chloropropene
   c) propene
   d) 1- choloro ethene

44. Buna –N synthetic rubber is a copolymer of
   a) $H_2C=CH-CH=CH_2$ and $H_5C_6-CH=CH_2$
   b) $H_2C=CH-CN$ and $H_2C=CH-CH=CH_2$
   c) $H_2C=CH-CN$ and $H_2C=\underset{\displaystyle Cl}{\underset{|}{C}}-\underset{\displaystyle CH_3}{\underset{|}{C}}=CH_2$
   d) $H_2C=CH-\underset{\displaystyle Cl}{\underset{|}{C}}=CH_2$ and $H_2C=CH-CH=CH_2$

45. The process involving heating of rubber with sulphur is called
   a) galvanization
   b) volcanisation
   c) besimerisation
   d) sulphonation

46. Urethane is

(a) $H_2N-C\equiv N$ (b) $H_2N-\underset{\underset{O}{\|}}{C}-OH$

(c) $HO-C\equiv N$ (d) $H_2N-\underset{\underset{O}{\|}}{C}-OC_2H_5$

47. Which is used as medicine
    a) PVC
    b) Terylene
    c) Glyptal
    d) Urotropine

48. Of the following which one is classified as polyester polymer?
    a) terylene
    b) bakelite
    c) melamine
    d) nylon-66

49. Which one of the following is not a condensation polymer?
    a) Melamine
    b) Glyptal
    c) Dacron
    d) Neoprene

50. Structure of some important polymers are given. Which one represents Buna-S?

(a) $\left(-CH_2-\overset{\overset{CH_3}{|}}{C}=CH-CH_2-\right)_n$

(b) $\left(-CH_2-CH=CH-CH_2-\underset{\underset{C_6H_5}{|}}{CH}-CH_2-\right)_n$

(c) $\left(-CH_2-CH=CH-CH_2-\underset{\underset{CN}{|}}{CH}-CH_2-\right)_n$

(d) $\left(-CH_2-\overset{\overset{Cl}{|}}{C}=CH-CH_2-\right)_n$