

PRACTICE PAPERS CHEMISTRY OLYMPIADS

STAGE – 2

Paper – 9 Part – A

TIME: 1HR 30MIN

MAX MARKS: 180

- Attempt all the Questions.
- All questions carry +3 for right answer and -1 for wrong answer.
- Use of Calculator is allowed.

PERIODIC TABLE OF THE ELEMENTS

1 1A																		18 8A					
1 H 1.008	2 2A												13 3A	14 4A	15 5A	16 6A	17 7A	2 He 4.003					
3 Li 6.941	4 Be 9.012											5 B 10.81	6 C 12.01	7 N 14.01	8 O 16.00	9 F 19.00	10 Ne 20.18						
11 Na 22.99	12 Mg 24.31	3 3B	4 4B	5 5B	6 6B	7 7B	8 8B	9 8B	10 8B	11 1B	12 2B	13 Al 26.98	14 Si 28.09	15 P 30.97	16 S 32.07	17 Cl 35.45	18 Ar 39.95						
19 K 39.10	20 Ca 40.08	21 Sc 44.96	22 Ti 47.88	23 V 50.94	24 Cr 52.00	25 Mn 54.94	26 Fe 55.85	27 Co 58.93	28 Ni 58.69	29 Cu 63.55	30 Zn 65.39	31 Ga 69.72	32 Ge 72.61	33 As 74.92	34 Se 78.97	35 Br 79.90	36 Kr 83.80						
37 Rb 85.47	38 Sr 87.62	39 Y 88.91	40 Zr 91.22	41 Nb 92.91	42 Mo 95.95	43 Tc (98)	44 Ru 101.1	45 Rh 102.9	46 Pd 106.4	47 Ag 107.9	48 Cd 112.4	49 In 114.8	50 Sn 118.7	51 Sb 121.8	52 Te 127.6	53 I 126.9	54 Xe 131.3						
55 Cs 132.9	56 Ba 137.3	57 La 138.9	72 Hf 178.5	73 Ta 180.9	74 W 183.8	75 Re 186.2	76 Os 190.2	77 Ir 192.2	78 Pt 195.1	79 Au 197.0	80 Hg 200.6	81 Tl 204.4	82 Pb 207.2	83 Bi 209.0	84 Po (209)	85 At (210)	86 Rn (222)						
87 Fr (223)	88 Ra (226)	89 Ac (227)	104 Rf (261)	105 Db (262)	106 Sg (263)	107 Bh (262)	108 Hs (265)	109 Mt (266)	110 Ds (281)	111 Rg (272)	112 Cn (285)	113 Nh (286)	114 Fl (289)	115 Mc (289)	116 Lv (293)	117 Ts (294)	118 Og (294)						
58 Ce 140.1	59 Pr 140.9	60 Nd 144.2	61 Pm (145)	62 Sm 150.4	63 Eu 152.0	64 Gd 157.3	65 Tb 158.9	66 Dy 162.5	67 Ho 164.9	68 Er 167.3	69 Tm 168.9	70 Yb 173.0	71 Lu 175.0										
90 Th 232.0	91 Pa 231.0	92 U 238.0	93 Np (237)	94 Pu (244)	95 Am (243)	96 Cm (247)	97 Bk (247)	98 Cf (251)	99 Es (252)	100 Fm (257)	101 Md (258)	102 No (259)	103 Lr (262)										

Name:

Correct Questions =

Wrong Questions =

Unattempt Questions =

Marks =

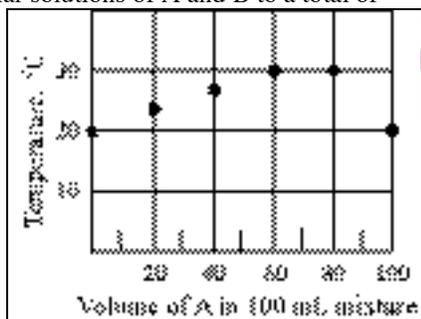
- Which oxide produces an acidic solution when mixed with water?
(A) Al_2O_3 (B) CaO (C) CO (D) SO_2
- Which gas should not be collected over water due to its high solubility in water?
(A) H_2 (B) N_2 (C) NH_3 (D) CH_4
- Which procedure(s) will allow a student to differentiate between solid sodium sulfate and solid sodium sulfite?

- | |
|--|
| <p>I. Make solutions of each and look for a precipitate when added to 0.10 M $\text{Ba}(\text{NO}_3)_2$.</p> <p>II. Add crystals of each to 0.10 M HCl and watch for bubbles.</p> <p>III. Make solutions of each and test with a pH indicator.</p> |
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- (A) I only (B) III only
(C) I and II only (D) II and III only
- A student gets fingerprints on a cuvette before using it to determine the concentration of a colored species using its known extinction coefficient. What is the effect on the absorbance and reported concentration?

absorbance	reported concentration
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- (A) increased too low
(B) increased too high
(C) decreased too low
(D) decreased too high
- Chemicals A and B each initially at 20°C react exothermically. A graph of the final temperature reached by mixing equimolar solutions of A and B to a total of 100 mL is given to the right. According to this graph, in what mole ratio do A and B react?

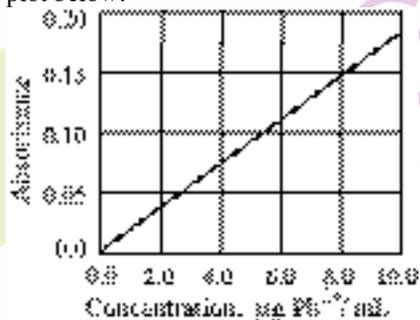


- (A) 2:1 (B) 3:1 (C) 4:1 (D) 3:2

- What color does the strontium ion produce in a flame test?
(A) red (B) blue (C) green (D) yellow
- What is the mass percent of oxygen in the compound $\text{UO}_2(\text{C}_2\text{H}_3\text{O}_2)_2 \cdot \text{NH}_4\text{C}_2\text{H}_3\text{O}_2 \cdot 6\text{H}_2\text{O}$?
(A) 5.58% (B) 16.8% (C) 22.3% (D) 39.1%

Formula Weight, g	
$\text{UO}_2(\text{C}_2\text{H}_3\text{O}_2)_2 \cdot \text{NH}_4\text{C}_2\text{H}_3\text{O}_2 \cdot 6\text{H}_2\text{O}$	573

- A 25.0 mL sample of waste water is obtained to analyze for Pb^{2+} ions. This sample is evaporated to dryness and redissolved in 2.0 mL of H_2O , mixed with 2.0 mL of a buffer solution and 2.0 mL of a solution of dithizone then diluted to 10.0 mL. The absorbance of the colored Pb^{2+} -dithizone complex is compared with the Beer-Lambert plot below.



The absorbance of a portion of the final solution is 0.13. What is the concentration of Pb^{2+} ions in the waste water in ppm?

- (A) 2.9 (B) 7.2 (C) 18 (D) 36
- Reductic acid contains 52.63% carbon, 5.30% hydrogen, and 42.07% oxygen. Its empirical formula is the same as its molecular formula. What is the number of carbon atoms in a molecule of this acid?
(A) 4 (B) 5 (C) 6 (D) 8
 - Sulfur trioxide, SO_3 , is made by oxidizing sulfur dioxide, SO_2 , according to the equation, $2\text{SO}_2 + \text{O}_2 \rightarrow 2\text{SO}_3$. If a 16.0 g sample of SO_2 yields 18.0 g of SO_3 , what is the percent yield?
(A) 70.0% (B) 80.0% (C) 90.0% (D) 100.0%

11. A 1.0 g sample of which substance contains the largest number of molecules?
 (A) HN_3 (B) N_2H_4 (C) H_2O_2 (D) HCl
12. What is the maximum mass of PbI_2 that can be precipitated by mixing 25.0 mL of 0.100 M $\text{Pb}(\text{NO}_3)_2$ with 35.0 mL of 0.100 M NaI ?

Molar Mass, $\text{g}\cdot\text{mol}^{-1}$	
PbI_2	461

 (A) 0.807 g (B) 1.15 g (C) 1.61 g (D) 2.30 g
13. Which statement is not a principle (postulate) of kinetic molecular theory?
 (A) The molecules of a gas are in rapid random motion.
 (B) The molecules of an ideal gas exhibit no attractive forces.
 (C) The collisions of gaseous molecules with one another and the walls of their container are elastic.
 (D) Equal volumes of gases at the same temperature and pressure contain equal numbers of molecules.
14. When a sample of an ideal gas is heated from 25°C to 50°C the average kinetic energy of the molecules increases. Which ratio gives the correct relationship between the average kinetic energies at the higher temperature to the lower temperature?
 (A) 2 : 1 (B) $\sqrt{2} : \sqrt{1}$
 (C) 323 : 298 (D) $\sqrt{323} : \sqrt{298}$
15. A partially filled tank of propane contains both a liquid and a gas phase. Which of these statements about the contents of the two phases are correct?

I. The two phases have the same potential energy but different kinetic energies. II. The two phases have the same molar masses but different densities.	
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 (A) I only (B) II only
 (C) Both I and II (D) Neither I nor II
16. Which property or properties of metals can be accounted for by the electron sea model?

I. electrical conductivity	II. malleability
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 (A) I only (B) II only
 (C) Both I and II (D) Neither I nor II
17. In a crystal of a typical metallic element, an atom has how many nearest neighbors?
 (A) 4 (B) 6 (C) 12 (D) 16
18. Which aqueous solution has the highest osmotic pressure at 25°C ? (Assume all ionic compounds ionize completely in solution.)
 (A) 0.1 M $\text{Al}_2(\text{SO}_4)_3$ (B) 0.1 M Na_2CO_3
 (C) 0.2 M KMnO_4 (D) 0.3 M $\text{C}_6\text{H}_{12}\text{O}_6$
19. Which statement is correct at 25°C and 1 atm pressure?
 (A) ΔG°_f for $\text{Hg}(\text{l}) = 0 \text{ kJ}\cdot\text{mol}^{-1}$
 (B) ΔH°_f for $\text{I}_2(\text{g}) = 0 \text{ kJ}\cdot\text{mol}^{-1}$
 (C) ΔH°_f for $\text{H}_2\text{O}(\text{l}) = 0 \text{ kJ}\cdot\text{mol}^{-1}$
 (D) S° for $\text{O}_2(\text{g}) = 0 \text{ J}\cdot\text{mol}^{-1}\cdot\text{K}^{-1}$
20. What is the relationship among the magnitudes of the enthalpies of combustion (ΔH_{comb}), fusion (ΔH_{fus}) and vaporization (ΔH_{vap}) for a hydrocarbon such as hexane, C_6H_{14} ?
 (A) $\Delta H_{\text{fus}} < \Delta H_{\text{comb}} < \Delta H_{\text{vap}}$
 (B) $\Delta H_{\text{vap}} < \Delta H_{\text{fus}} < \Delta H_{\text{comb}}$
 (C) $\Delta H_{\text{comb}} < \Delta H_{\text{vap}} < \Delta H_{\text{fus}}$
 (D) $\Delta H_{\text{fus}} < \Delta H_{\text{vap}} < \Delta H_{\text{comb}}$
21. Which choice represents the signs for ΔS and ΔH for the sublimation of a compound that is occurring at constant temperature?
 (A) $\Delta S < 0, \Delta H < 0$ (B) $\Delta S < 0, \Delta H > 0$
 (C) $\Delta S > 0, \Delta H > 0$ (D) $\Delta S > 0, \Delta H < 0$
22. Determine ΔH_{rxn} for this reaction in $\text{kJ}\cdot\text{mol}^{-1}$

$$2\text{NH}_3(\text{g}) + \frac{5}{2}\text{O}_2(\text{g}) \rightarrow 2\text{NO}(\text{g}) + 3\text{H}_2\text{O}(\text{g}).$$

$\Delta H^\circ_f, \text{kJ}\cdot\text{mol}^{-1}$	
$\text{H}_2\text{O}(\text{g})$	-241.8
$\text{NH}_3(\text{g})$	-46.1
$\text{NO}(\text{g})$	90.3

 (A) -105.4 (B) -226.3 (C) -452.6 (D) -637.0
23. The enthalpy of fusion for $\text{NaF}(\text{s})$ at its melting point (992°C) is $29.3 \text{ kJ}\cdot\text{mol}^{-1}$. What is the value of $\Delta S_{\text{fus}}^\circ$ in $\text{J}\cdot\text{mol}^{-1}\cdot\text{K}^{-1}$?
 (A) 43.2 (B) 33.9 (C) 29.5 (D) 23.2
24. For the reaction at 25°C ,

$$\text{C}_2\text{H}_4(\text{g}) + \text{H}_2(\text{g}) \rightleftharpoons \text{C}_2\text{H}_6(\text{g}) \quad K_p = 5.67 \times 10^7$$

 What is ΔG° for this reaction in $\text{kJ}\cdot\text{mol}^{-1}$?
 (A) -0.436 (B) -3.71 (C) -19.2 (D) -44.2

25. What is the rate law for a reaction, $A + 2B \rightarrow C$, based on the rate data?

[A] ₀ , mol·L ⁻¹	[B] ₀ , mol·L ⁻¹	Initial Rate, mol·L ⁻¹ ·min ⁻¹
0.20	0.10	300
0.40	0.30	3600
0.80	0.30	14400

- (A) Rate = $k[A][B]$ (B) Rate = $k[A][B]^2$
 (C) Rate = $k[A]^2[B]$ (D) Rate = $k[A]^2[B]^3$
26. For the irreversible reaction; $A \rightarrow B$, which graph gives a straight line for a reaction that is second order in A?
- (A) [A] vs. time (B) $1/[A]$ vs. time
 (C) $[A]^2$ vs. time (D) $1/[A]^2$ vs. time
27. A sample of a radioactive element that contains 1.0×10^3 nuclei decays to 6.2×10^1 nuclei in 10. minutes. What is its specific decay constant?
- (A) 6.2 min^{-1} (B) 1.2 min^{-1}
 (C) 0.28 min^{-1} (D) 0.062 min^{-1}
28. The oxidation of SO_2 to H_2SO_4 in acid rain is thought to occur by the following mechanism.
- $\text{SO}_2(\text{aq}) + 2\text{H}_2\text{O}(\text{l}) \rightarrow \text{HSO}_3^-(\text{aq}) + \text{H}_3\text{O}^+(\text{aq})$
 $2\text{HSO}_3^-(\text{aq}) + \text{O}_2(\text{aq}) \rightarrow \text{S}_2\text{O}_7^{2-}(\text{aq}) + \text{H}_2\text{O}(\text{l})$
 $\text{S}_2\text{O}_7^{2-}(\text{aq}) + 3\text{H}_2\text{O}(\text{l}) \rightarrow 2\text{SO}_4^{2-}(\text{aq}) + 2\text{H}_3\text{O}^+(\text{aq})$
- Which species in this mechanism can be given the following designations?
- | reactant | catalyst | intermediate |
|--|--|---|
| (A) $\text{SO}_2(\text{aq})$ | $\text{H}_2\text{O}(\text{l})$ | $\text{HSO}_3^-(\text{aq}), \text{H}_3\text{O}^+(\text{aq})$ |
| (B) $\text{SO}_2(\text{aq})$ | $\text{HSO}_3^-(\text{aq})$ | $\text{S}_2\text{O}_7^{2-}(\text{aq})$ |
| (C) $\text{SO}_2(\text{aq}), \text{H}_2\text{O}(\text{l})$ | $\text{S}_2\text{O}_7^{2-}(\text{aq})$ | $\text{HSO}_3^-(\text{aq})$ |
| (D) $\text{SO}_2(\text{aq}), \text{H}_2\text{O}(\text{l})$ | none | $\text{HSO}_3^-(\text{aq}), \text{S}_2\text{O}_7^{2-}(\text{aq})$ |

29. For the reaction; $\text{H}_2(\text{g}) + \text{I}_2(\text{g}) \rightarrow 2\text{HI}(\text{g})$, the rate law is Rate = $k[\text{H}_2][\text{I}_2]$. Which of the mechanisms given is consistent with this rate law?

I.	II.
$\text{I}_2 \rightleftharpoons \text{I} + \text{I}$ (fast)	$\text{I}_2 \rightleftharpoons \text{I} + \text{I}$ (slow)
$\text{H}_2 + \text{I} + \text{I} \rightarrow 2\text{HI}$ (slow)	$\text{H}_2 + \text{I} + \text{I} \rightarrow 2\text{HI}$ (fast)

- (A) I only (B) II only
 (C) Either I or II (D) Neither I nor II

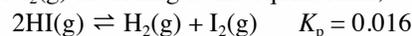
30. The rate of a reaction at 100°C is four times the rate at 50°C . What is its activation energy?

- (A) $1152 \text{ kJ}\cdot\text{mol}^{-1}$ (B) $80.1 \text{ kJ}\cdot\text{mol}^{-1}$
 (C) $54.0 \text{ kJ}\cdot\text{mol}^{-1}$ (D) $27.8 \text{ kJ}\cdot\text{mol}^{-1}$

31. The equilibrium system, $\text{N}_2\text{O}_4(\text{g}) \rightleftharpoons 2\text{NO}_2(\text{g})$, has $K_p = 11$. For which equilibrium system is $K_p = 0.091$?

- (A) $2\text{NO}_2(\text{g}) \rightleftharpoons \text{N}_2\text{O}_4(\text{g})$ (B) $\text{NO}_2(\text{g}) \rightleftharpoons 1/2\text{N}_2\text{O}_4(\text{g})$
 (C) $2\text{N}_2\text{O}_4(\text{g}) \rightleftharpoons 4\text{NO}_2(\text{g})$ (D) $1/2\text{N}_2\text{O}_4(\text{g}) \rightleftharpoons \text{NO}_2(\text{g})$

32. A 1.0 L evacuated tank is charged with $\text{HI}(\text{g})$ to a pressure of 1.0 atm at 793K. Some of the $\text{HI}(\text{g})$ forms $\text{H}_2(\text{g})$ and $\text{I}_2(\text{g})$ according to the equilibrium;



What is the pressure (in atm) of HI at equilibrium?

- (A) 0.11 (B) 0.13 (C) 0.80 (D) 1.6

33. A solution of 0.10 M NaZ has a $\text{pH} = 8.90$. What is the K_a of HZ ?

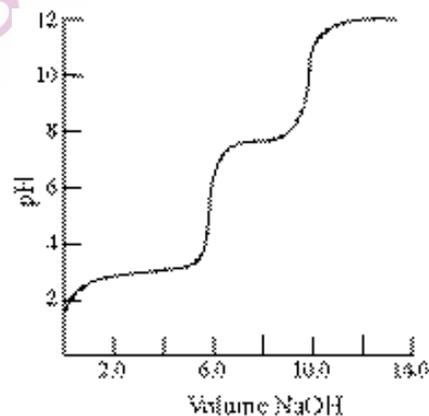
- (A) 1.6×10^{-4} (B) 1.6×10^{-5}
 (C) 6.3×10^{-10} (D) 6.3×10^{-11}

34. What is the pH of a solution made by adding 0.41g of $\text{NaC}_2\text{H}_3\text{O}_2$ to 100. mL of 0.10 M $\text{HC}_2\text{H}_3\text{O}_2$?

Molar mass, $\text{g}\cdot\text{mol}^{-1}$	
$\text{NaC}_2\text{H}_3\text{O}_2$	82.0
K_a	
$\text{HC}_2\text{H}_3\text{O}_2$	1.8×10^{-5}

- (A) 4.44 (B) 4.70 (C) 5.05 (D) 8.95

35. The curve represents the titration of



- (A) a diprotic acid.
 (B) two monoprotic acids with the same K_a s but different concentrations.
 (C) two monoprotic acids with different K_a s but the same concentrations.
 (D) two monoprotic acids with different K_a s and different concentrations.

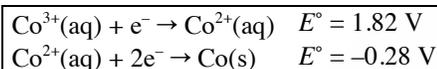
36. Which silver compound is the most soluble in water?

- (A) AgCl $K_{\text{sp}} = 1.8 \times 10^{-10}$
 (B) Ag_2CO_3 $K_{\text{sp}} = 8.5 \times 10^{-12}$
 (C) AgBr $K_{\text{sp}} = 5.4 \times 10^{-13}$
 (D) Ag_3PO_4 $K_{\text{sp}} = 8.9 \times 10^{-17}$

37. When connected to a Standard Hydrogen Electrode (SHE) electrons flow from an unknown half cell to the SHE. Which statement is correct?

- (A) The unknown half cell is the anode.
 (B) Oxidation occurs at the SHE.
 (C) E°_{red} for the unknown half cell is positive.
 (D) E°_{cell} is negative.

38. Given these standard



reduction potentials, what is the standard reduction potential for $\text{Co}^{3+}(\text{aq}) + 3\text{e}^- \rightarrow \text{Co}(\text{s})$?

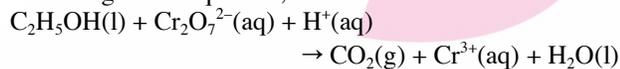
- (A) 2.10 V (B) 1.54 V
 (C) 1.26 V (D) 0.42 V

39. The cell

$\text{Al}(\text{s}) | \text{Al}^{3+}(\text{aq}, 0.001 \text{ M}) || \text{Cu}^{2+}(\text{aq}, 0.10 \text{ M}) | \text{Cu}(\text{s})$
 has a standard cell potential, $E^\circ = 2.00 \text{ V}$. What is the cell potential for this cell at the concentrations given?

- (A) 2.07 V (B) 2.03 V (C) 1.97 V (D) 1.94 V

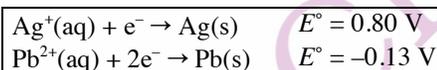
40. Ethanol reacts with dichromate ions in acid solution according to the equation;



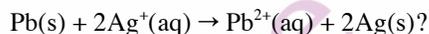
What is the coefficient for $\text{H}^+(\text{aq})$ when this equation is balanced with the smallest whole number coefficients?

- (A) 10 (B) 12 (C) 14 (D) 16

41. Given these standard



reduction potentials, what is the free energy change (in $\text{kJ}\cdot\text{mol}^{-1}$) for the reaction



- (A) -180 (B) -90 (C) 90 (D) 180

42. Chromium metal can be produced by the electrolysis of molten CrO_3 . What current in amperes operating for 100 minutes is needed to produce 104 grams of this metal?

- (A) 193 (B) 96.5 (C) 64.3 (D) 32.2

43. What is the frequency of light with a wavelength of 480 nm?

- (A) $1.60 \times 10^{-6} \text{ s}^{-1}$ (B) $6.25 \times 10^5 \text{ s}^{-1}$
 (C) $6.25 \times 10^{14} \text{ s}^{-1}$ (D) $1.44 \times 10^{20} \text{ s}^{-1}$

44. Which set of quantum numbers (n, l, m_l) is forbidden?

- (A) 3, 2, 0 (B) 3, 1, -1
 (C) 2, 0, 0 (D) 1, 1, 0

45. Which characteristic of an atomic orbital is most closely associated with the magnetic quantum number, m_l ?

- (A) size (B) shape
 (C) occupancy (D) orientation

46. Which element exhibits the successive ionization energies given in the table?

Ionization Energy, $\text{kJ}\cdot\text{mol}^{-1}$

1 st	738
2 nd	1451
3 rd	7733
4 th	10540
5 th	13628

- (A) Na (B) Mg (C) Al (D) Si

47. The energies of the 3s, 3p and 3d orbitals in a multi-electron atom increase in that order. To which factor(s) can this order be attributed?

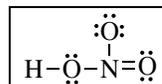
- I. the relative penetrations of these orbitals near the nucleus
 II. the relative average distance of the electron from the nucleus

- (A) I only (B) II only
 (C) Both I and II (D) Neither I nor II

48. Which element has the highest first ionization energy?

- (A) Al (B) Si (C) P (D) S

49. What is the formal charge on the nitrogen atom in HNO_3 ?



- (A) 0 (B) +1 (C) +3 (D) +5

50. Which substance has the greatest lattice energy?

- (A) CaO (B) KCl (C) MgI_2 (D) BaS

51. Given the bond energies, what is the ΔH_f° $\text{N}_2\text{H}_4(\text{g})$ in $\text{kJ}\cdot\text{mol}^{-1}$?
 $\text{N}_2(\text{g}) + 2\text{H}_2(\text{g}) \rightarrow \text{N}_2\text{H}_4(\text{g})$

Bond Energies, $\text{kJ}\cdot\text{mol}^{-1}$

$\text{N}\equiv\text{N}$	946
$\text{N}=\text{N}$	418
$\text{N}-\text{N}$	163
$\text{N}-\text{H}$	389
$\text{H}-\text{H}$	436

- (A) 156 (B) 99 (C) -99 (D) -156

52. Which species has a trigonal planar geometry?

- (A) ClF_3 (B) NCl_3 (C) CO_3^{2-} (D) I_3^-

53. Which of the molecules listed have an sp^3 hybridized central atom?

- I. PCl_3
II. COCl_2
III. SF_4

- (A) I only (B) I and III only
(C) II and III only (D) I, II and III

54. How many isomers exist for a square planar platinum compound which has four different groups attached to the platinum atom?

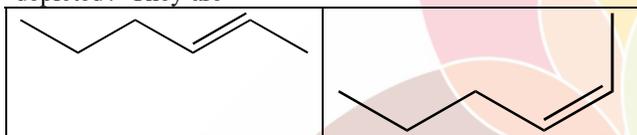
- (A) one (B) two (C) three (D) four

55. Molecules of which type(s) do not contain a $\text{C}=\text{O}$ bond?

- I. amide
II. amine
III. ether
IV. ester

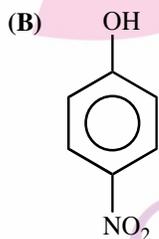
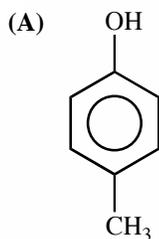
- (A) II only (B) I and IV only
(C) II and III only (D) III and IV only

56. What is the relationship between the two molecules depicted? They are



- (A) identical. (B) geometric isomers.
(C) structural isomers. (D) enantiomers.

57. For which compound is the $-\text{OH}$ group the most acidic?

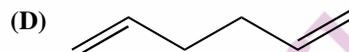
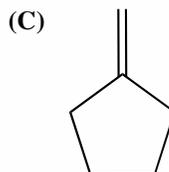
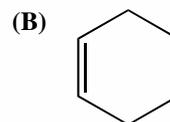
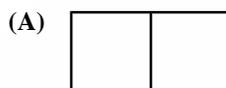


- (C) $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$ (D) $(\text{CH}_3)_3\text{COH}$

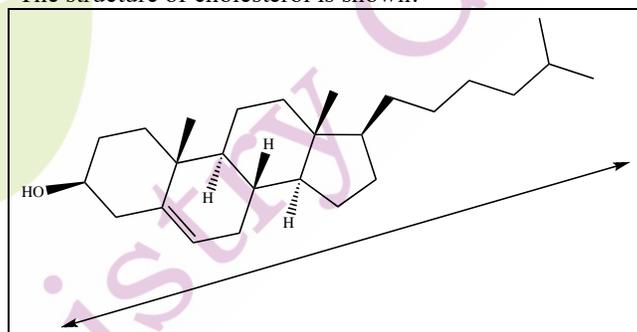
58. The most notable difference between a saturated and an unsaturated fat containing the same number of carbon atoms is that the saturated fat

- (A) melts at a higher temperature.
(B) melts at a lower temperature.
(C) releases much more energy when metabolized.
(D) releases much less energy when metabolized.

59. Which C_6H_{10} isomer is the least stable?



60. The structure of cholesterol is shown.



What is the approximate length of this molecule (as indicated by the scale bar)? ($1 \text{ \AA} = 1 \times 10^{-10} \text{ m}$)

- (A) 1.75 \AA (B) 17.5 \AA
(C) 175 \AA (D) 1750 \AA

KEY

Number	Answer	Number	Answer
1.	D	31.	A
2.	C	32.	C
3.	D	33.	B
4.	B	34.	A
5.	B	35.	D
6.	A	36.	B
7.	D	37.	A
8.	A	38.	D
9.	B	39.	B
10.	C	40.	D
11.	B	41.	A
12.	A	42.	A
13.	D	43.	C
14.	C	44.	D
15.	B	45.	D
16.	C	46.	B
17.	C	47.	A
18.	A	48.	C
19.	A	49.	B
20.	D	50.	A
21.	C	51.	B
22.	C	52.	C
23.	D	53.	A
24.	D	54.	C
25.	C	55.	C
26.	B	56.	B
27.	C	57.	B
28.	D	58.	A
29.	A	59.	A
30.	D	60.	B