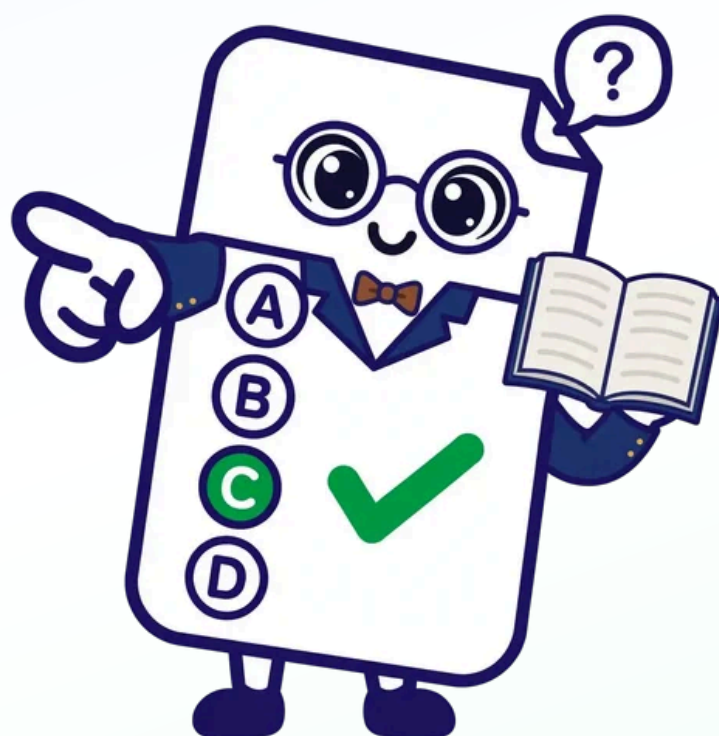




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100 MCQs across one paper, each drawn in the same subject split as the real Subject Specialist Chemistry Test paper:

- Chemistry: 80 MCQs per paper
- English: 5 MCQs per paper
- General Knowledge: 5 MCQs per paper
- Pakistan Studies: 4 MCQs per paper
- Pakistan Current Affairs: 3 MCQs per paper
- Islamic Studies: 2 MCQs per paper
- Computer Science and IT: 1 MCQs per paper



MODEL PAPER 1 OF 1

Subject Specialist Chemistry Test

100 MCQs · 120 minutes · answer key at the back

**Chemistry**

80 MCQs

1. Which enzyme is involved in the fermentation of glucose:

- ☐ A Zymase
- ☐ B Invertase
- ☐ C Urease
- ☐ D Diastase

2. Continuous adsorption spectrum is obtained from:

- ☐ A excited atoms
- ☐ B Excited molecules
- ☐ C Ground state molecules
- ☐ D Ground state atoms

3. Which one of the following is a coinage metal

- ☐ A Pd
- ☐ B Cu
- ☐ C Cd
- ☐ D Hg

4. A salt AB ionizes as $AB = A^+ + B^-$. The solubility product for the salt AB is 4.0×10^{-4} . The molar solubility of the salt is:

- ☐ A 4.0×10^{-4} M
- ☐ B 2.0×10^{-2} M
- ☐ C 8.0×10^{-4} M
- ☐ D 2.0×10^{-4} M

5. Which of the following tests is applied to differentiate between ethanal and propanal?

- ☐ A Aldol condensation
- ☐ B Cannizzaro's reaction
- ☐ C Iodoform test
- ☐ D Lucas test

6. What is the concentration moles/liter of nitric acid solution having PH of 4?

- ☐ A 0.0001 mol/L
- ☐ B -4
- ☐ C 10^{-4} mol/L
- ☐ D 10^{-10}

7. The net heat change in a chemical reaction is same whether it takes place in one step or several steps. This law is known as:

- ☐ A First law of thermodynamics
- ☐ B Henry's law
- ☐ C Hess's law
- ☐ D Joule's law

8. Which of the following does not react with water?

- ☐ A Li
- ☐ B Na
- ☐ C Mg
- ☐ D Be

9. The formula of 2, 4, 6-tribromo phenol is

- (A) A
- (B) B
- (C) C
- (D) D

10. Crystal having orthorhombic crystal system is:

- (A) PbCrO_4
- (B) BaSO_4
- (C) ZnO
- (D) NaOH

11. The electronic configuration for degenerate orbitals is explained by:

- (A) Aufbau Principle
- (B) $n+l$ Rule
- (C) Hund's Rule
- (D) Pauli's Exclusion Principle

12. Identify greenhouse gases:

- (A) CH_4 and O_2
- (B) CO_2 and H_2O Vapours
- (C) NO_2 and H_2O Vapours
- (D) CH_4 and O_3

13. Which of the following structure has a bond formed by an overlap of sp^2 hybrid orbital with that of sp^2 hybrid orbital?

- (A) $\text{HC}=\text{CH}$
- (B) $\text{H}_2\text{C}=\text{CH}_2$
- (C) $\text{H}_2\text{C}=\text{C}=\text{CH}_2$
- (D) $\text{CH}_2=\text{CHCH}_3$

14. Rate of chemical reaction depends upon:

- (A) Number of fruitful collisions per second
- (B) Number of molecules taking part in a chemical reaction
- (C) Number of total collisions per second
- (D) All of the above

15. Sublimation is used to purify:

- (A) Ammonium sulphate
- (B) Sodium chloride
- (C) Benzoic acid
- (D) Lead carbonate

16. Which of the following alkynes is acidic in nature?

- (A) 1-Butyne
- (B) 2-Butyne
- (C) 2-Pentyne
- (D) 3-Hexyne

17. $\text{N}_2 + 3\text{H}_2 \rightarrow 2\text{NH}_3$ In the above reaction, the limiting reagent is:

- (A) N_2
- (B) H_2
- (C) Ammonia
- (D) None of the above

18. What is common when carboxylic acid is reacted with base or with alcohol?

- (A) Catalyst
- (B) Formation of ester
- (C) Formation of salt
- (D) Formation of water

19. The highest temperature a substance can exist as _ is called its critical temperature.

- (A) Solid.
- (B) Liquid.
- (C) Gas
- (D) Isotope

20. Osmotic pressure of a solution is _ property.

- (A) Obligative.
- (B) Fractional.
- (C) Colligative
- (D) Automated.

21. The compound which cannot be hydrolyzed by water is

- (A) $\text{CH}_3\text{-CH}_2\text{-C-Br}$
- (B) $\text{CH}_3\text{-C-O-C-CH}_3$
- (C) $\text{CH}_3\text{-CH}_2\text{-C-NH}_2$
- (D) None of the above

22. Which of the following have reducing effect:

- (A) Cathode rays
- (B) X rays
- (C) Anode rays
- (D) All of the above

23. Which one of the following compounds is an additional polymer?

- (A) Polyvinyl chloride
- (B) Nylon
- (C) Carbohydrate
- (D) Polyester

24. If we take some water at 0°C and start heating it, we find that in the temperature range of 0°C to 4°C :

- (A) It expands on heating
- (B) It contracts on heating
- (C) Both
- (D) None

25. The stability in the following structure is due to the:

- (A) Disulphide bridges
- (B) Weak Van Der Waal's forces
- (C) Presence of unpaired electron in the structure.
- (D) Hydrogen bonding between NH group of one peptide and CO group of another peptide.

26. The ring test is shown by compounds having:

- (A) Sulphate radical
- (B) Chloride radical
- (C) Nitrate radical
- (D) None of the above

27. The outer electronic configuration of Cu^+ ion is $4s^03d^{10}$ with this configuration the aqueous solution of copper (I) compound is:

- (A) Blue
- (B) Greenish blue
- (C) Bluish green
- (D) Colourless

28. The K_c has following units for the reaction $H_2(g) + I_2(g) \rightleftharpoons 2HI(g)$

- (A) $\text{mol}^3\text{dm}^{-6}$
- (B) moldm^{-3}
- (C) $\text{mol}^{-3}\text{dm}^6$
- (D) No unit

29. Which one of the following compounds will give iodoform test on treatment with aqueous iodine?

- (A) 3-pentanone
- (B) Propanone
- (C) Propanal
- (D) Butanal

30. When NH_3 gas is exposed to HCl , white fumes are formed which are chemically:

- (A) NH_4^+
- (B) NH_4Cl
- (C) HCl fumes
- (D) Cl

31. The study of heat changes accompanying a chemical reaction is known as:

- (A) Thermo-chemistry
- (B) Thermodynamics
- (C) Electro chemistry
- (D) Chemical kinetics

32. Red lead is:

- (A) PbO
- (B) Pb_3O_4
- (C) Pb_2O_4
- (D) Pb_2O_5

33. The following structure is of a:

- (A) Secondary alcohol
- (B) Primary alcohol
- (C) Tertiary alcohol
- (D) Carboxylic acid

34. In the structure of $NaCl$, each Na^+ is surrounded by $__ Cl^-$ ions.

- (A) Four
- (B) Eight
- (C) Five
- (D) Six

35. The shape of an orbital is determined by which quantum number?

- (A) n
- (B) l
- (C) m
- (D) s

36. The basic principle of green chemistry is/are:

- (A) To prevent waste creation
- (B) To maximize the atom economy
- (C) To create less hazardous synthetic chemical
- (D) All of the above

37. Carbon atom in carbonyl is:

- (A) sp hybridized
- (B) sp^2 hybridized
- (C) sp^3 hybridized
- (D) None of the above

38. Rate of any reaction depends upon:

- (A) Temperature
- (B) Concentration
- (C) Pressure
- (D) Rate constant
- (E) All of the above

39. Which one is the separating technique:

- (A) Deliquescence
- (B) Fluorescence
- (C) Phosphorescence
- (D) Solvent extraction

40. Which product is obtained when methyl magnesium chloride react with ammonia:

- (A) Methane
- (B) Methyl amine
- (C) Ethyl amine
- (D) Methyl chloride

41. Calculate the number of moles of NaCl in 75.0g of table salt.

- (A) 0.643
- (B) 0.779
- (C) 28.0
- (D) 1.28

42. Which one of the following is strongest acid?

- (A) FCH_2COOH
- (B) CH_3COOH
- (C) ClCH_2COOH
- (D) $\text{C}_6\text{H}_5\text{CH}_2\text{COOH}$

43. All gases below are monoatomic except:

- (A) H
- (B) He
- (C) Ne
- (D) Xe

44. The vapor pressure lines for pure as well as solutions of different concentrations are shown. Which line represents pure water?

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

45. Which type of isomerism is being exhibited by $\text{FCH}_2 = \text{CHF}_2$?

- (A) Chain isomerism
- (B) Structural isomerism
- (C) Geometrical isomerism
- (D) Position isomerism

46. Which one is a strong oxidizing agent?

- (A) Mn^{+4}
- (B) Mn^{-1}
- (C) Mn^{+6}
- (D) All of the above

47. What is the trade name of tetrafluoroethylene polymer?

- (A) Polystyrene
- (B) Bakelite
- (C) Nylon
- (D) Teflon

48. The compound with highest boiling point is:

- (A) Acetic acid
- (B) Water
- (C) Ethyl alcohol
- (D) Diethyl ether

49. Select the correct Zwitter ionic structures of an amino acid:

- (A) A
- (B) B
- (C) C
- (D) D

50. Choose the correct Statement:

- (A) The most direct and accurate method for determining atomic masses uses mass spectrometry.
- (B) An indirect but precise method for determining molecular masses is through mass spectrometry.
- (C) Collision between electrons and atoms produces negative ions by the absorption of electrons by atoms or molecules.
- (D) The first significant application of mass spectrometry was demonstrating the detection of isotopes of Argon.

51. Which of the following does not show variable valency?

- (A) Mn
- (B) Fe
- (C) Zn
- (D) Cr

52. Which of the following is not a nucleophile?

- (A) NH_3
- (B) OH^-
- (C) CN^-
- (D) Br_2

53. Which is not correct about the manufacture of ammonia by Haber - Process? The break opening of the nitrogen triple bond ($\text{N} \equiv \text{N}$) to form N_2H_2 in first step of the reaction is taken as:

- (A) Very difficult step
- (B) Highly unstable product
- (C) Highly endothermic
- (D) None of the above

54. Chemically nail polish remover is:

- (A) Acetone
- (B) Acetic acid
- (C) Ethanol
- (D) Ether

55. AlBr_3 which is used in the alkylation of benzene possesses the properties of:

- (A) A catalyst
- (B) A Lewis acid
- (C) An electron deficient specie
- (D) All of the above

56. If 42J heat is transferred to the system during expansion, what is the change in internal energy when work done is 32J?

- (A) 74 J
- (B) 10 J
- (C) 116 J
- (D) 106 J

57. The atomic masses of elements depend upon:

- ☐ A Atomic number
- ☐ B Number of electrons
- ☐ C Number of isotopes & their abundance
- ☐ D None of the above

58. Reaction of alcohols with sodium metal gives:

- ☐ A Helium gas
- ☐ B Hydrogen gas
- ☐ C Carbon dioxide
- ☐ D Carbon monoxide

59. Choose the correct statement:

- ☐ A Diamond is the hardest and graphite is softest
- ☐ B Graphite is the hardest while lamp black is softest
- ☐ C Coal is the hardest and coke is softest
- ☐ D Diamond is the hardest and coke is softest

60. The atomic number of scandium is 21. What is its ground state electronic configuration?

- ☐ A $1s2s22p63s23p63d3$
- ☐ B $1s22s22p63s23p63d14s2$
- ☐ C $1s22s22p63s23p63d34s2$
- ☐ D $1s22s22p63s23p63d34p1$

61. Rain water becomes acidic, when the pH-value of rain water becomes _

- ☐ A Greater than 6
- ☐ B Greater than 6.5
- ☐ C Less than 5.6
- ☐ D Less than 5

62. In which of the following compounds carbon is sp hybridized?

- ☐ A C_2H_6
- ☐ B C_3H_6
- ☐ C C_4H_6
- ☐ D C_4H_8

63. The minimum amount of energy required by the colliding particles for effective collisions is called:

- ☐ A Activation energy
- ☐ B Lattice energy
- ☐ C Bond energy
- ☐ D Hydration energy

64. Which is the best drying agent in desiccators?

- ☐ A KOH
- ☐ B Gypsum
- ☐ C $CaCl_2$
- ☐ D Silica sand

65. Which is the most stable hydrocarbon?

- ☐ A cis-2-butene
- ☐ B Isobutylene
- ☐ C trans-2-butene
- ☐ D 1-butene

66. A gas at STP contains only 6.023×10^{23} atoms and is monoatomic it will occupy

- (A) 1.2L
- (B) 22.4L
- (C) 30.5L
- (D) 44.8L

67. Which compound show the highest boiling point?

- (A) $(\text{CH}_4 - \text{CH}_2)_3 \text{N}$
- (B) $\text{C}_2\text{H}_3\text{OH}$
- (C) $\text{C}_2\text{H}_3 - \text{O} - \text{C}_2\text{H}_3$
- (D) CH_3COOH

68. The value of S.T.P for 1 mole of any ideal gas is:

- (A) 273.16 K and 1 atm
- (B) 0°C & 1 mm Hg
- (C) 273.16°C & 1 atm
- (D) 0 K & 1 atm

69. Water has a vapor pressure of 23.75 at 25°C what is the vapor pressure of a solution sucrose if its mole fraction is 0.25?

- (A) 15.2 torr
- (B) 17.8 torr
- (C) 23.8 torr
- (D) 29.7 torr

70. The isomerism exhibits by $\text{C}_2\text{H}_{11}\text{OH}$ is:

- (A) Position isomerism
- (B) Functional group isomerism
- (C) Chain isomerism
- (D) All of above

71. HI is a stronger base. It reduces H_2SO_4 to:

- (A) S
- (B) SO_2
- (C) H_2SO_3
- (D) H_2S

72. Predict which one of the following substance is used as film forming agent in nail polish?

- (A) Nitrocellulose
- (B) Ethyl acetate
- (C) Butyl stearate
- (D) Glycerol

73. Which of the following statement explains solubility of ionic substance in water?

- (A) Water molar mass is 18.02
- (B) Water forms dative bonding
- (C) Water molecule is polar
- (D) Water has high density

74. High molecular mass compound was hydrolyzed the product was analyzed and found to be amino acid. The compound is:

- (A) Protein
- (B) Carbohydrate
- (C) Lipid
- (D) Vitamins

75. The electronic transition that is involved in the visible region is:

- (A) $\sigma - \sigma$
- (B) d - d
- (C) $\pi - \pi$
- (D) $\pi - \sigma$

76. What is the formula of Dichloro-Bis-ethylenediamine cobalt (II)?

- (A) $[\text{Co}(\text{en})_2\text{Cl}_2]$ (B) $[\text{Co}(\text{en})_2\text{Cl}_2]^{2-}$
(C) $[\text{Co}(\text{en})_2\text{Cl}_2]^{1-}$ (D) $[\text{Co}(\text{en})_2\text{Cl}_2]^{1+}$

77. Pick correct pair about the difference between E1 and E2 mechanism of tertiary butyl bromide forming an alkene.

- (A) E1 mechanism- strong base and alkyl halide, E2 mechanism- weak base and alkyl halide
(B) E1 mechanism- weak base and alkyl halide, E2 mechanism- strong base and alkyl halide
(C) E1 mechanism- strong base and alkyl halide, E2 mechanism- strong base and alkyl halide
(D) E1 mechanism- weak base and alkyl halide, E2 mechanism- weak base and alkyl halide

78. The high pressure of 200 atm in Haber's process is used for:

- (A) Better yield (B) Lower yield
(C) Lower rate (D) Cost decrease

79. 50% NaOH is used in:

- (A) Aldol condensation reaction (B) Cannizaro reaction
(C) Clemenson condensation reaction (D) Wolfkishner reaction

80. Which material possesses the highest pH?

- (A) Soft drinks (B) Bananas
(C) Milk of magnesia (D) Sea water



English

5 MCQs

81. In the following question four alternative sentences are given. Choose the CORRECT option:

- (A) The parent who I have offended often come around after a term of years and tell me that his son was right.
(B) The parent who I have offended often comes around after a term of years and tell me that his son was right.
(C) The parents whom I have offended often comes around after a term of years and tells that his son was right.
(D) The parent whom I have offended often comes around after a term of years and tells me that his son was right.

82. The armies fought bravely, but neither could defeat the other. The sentence is:

- (A) Simple (B) Compound
(C) Complex (D) Compound-Complex

83. They arrived at about midnight _.

- (A) because their flight was detained.
- (B) because their flight was delayed.
- (C) because their flight was derailed.
- (D) because their flight was diverted.

84. Read the following passage to answer the given question: Right after the Civil War, many distraught soldiers made their way West to find fame and fortune. Some could not go home because there were no homes to go to. The war had devastated them. One young man, Will Goodlad, made his fortune in the hills of Colorado. He found gold in a little river near Grand Junction. His fortune was short lived, however. In 1875, he declared bankruptcy and returned to the land of his birth- the Piedmont of South Carolina. For which side did Will fight during the War?

- (A) East
- (B) West
- (C) North
- (D) South

85. Maria _ that she could not attend classes next week.

- (A) Told his professors
- (B) Said her professors
- (C) Told her professors
- (D) Is telling her professors



General Knowledge

5 MCQs

86. Who is the author of book "Numbers Do Lie: 61 Hidden Cricket Stories"?

- (A) Wasim Akram
- (B) Sourav Ganguly
- (C) Jaideep Varma
- (D) Rahul Dravid

87. Archery is national game of which country?

- (A) Nepal
- (B) Bhutan
- (C) Myanmar
- (D) Vietnam

88. Which of the following was invented by Torricelli?

- (A) Clock
- (B) Airship
- (C) Barometer
- (D) Cotton gin

89. North Korea invaded South Korea in the year?

- (A) 1947
- (B) 1948
- (C) 1949
- (D) 1950

90. Federal Security Service is a secret agency of which country?

- (A) Russia
- (B) Australia
- (C) New Zealand
- (D) South Africa





Pakistan Studies

4 MCQs

91. Who is the penultimate viceroy of India?

- ☐ A Warren Hasting
- ☐ B Lord Wavell
- ☐ C Lord Canning
- ☐ D Lord Minto

92. All India Khilafat Committee was formed on _____?

- ☐ A 05 July 1919
- ☐ B 05 August 1919
- ☐ C 05 September 1919
- ☐ D 05 October 1919

93. Thar coal is _____ largest coal reserves of the World?

- ☐ A 5th
- ☐ B 6th
- ☐ C 7th
- ☐ D 8th

94. Tashkent Declaration was signed in 1966 by _____?

- ☐ A Z.A Bhutto & Lal Bahadur Shastri
- ☐ B Ayub Khan & Lal Bahadur Shastri
- ☐ C ZA Bhutto & Indira Gandhi
- ☐ D Ayub Khan & Indira Gandhi



Pakistan Current Affairs

3 MCQs

95. Balochistan government divided its 750km long coastal line into _____ zones to curb illegal fishing?

- ☐ A 7
- ☐ B 8
- ☐ C 9
- ☐ D None of these

96. When election tribunal of Balochistan High Court declared Deputy Speaker Qasim Khan Suri's election to the National Assembly as null & void and ordered a re-election in the NA-265?

- ☐ A September 7, 2019
- ☐ B September 11, 2019
- ☐ C September 17, 2019
- ☐ D September 27, 2019

97. Which 6 years old Pakistani girl becomes Pakistan's youngest Guinness world record holder?

- ☐ A Mehak gul
- ☐ B Liba wahaj
- ☐ C Nawazish khan
- ☐ D Sumaina khan



Islamic Studies

2 MCQs

98. Ghazwa Abwa is also known as _____?

- ☐ A Widdan
- ☐ B Ahzab
- ☐ C Mutah
- ☐ D Tabuk

99. What is Tahleel?

- ☐ A Recitation of 4th kalima
- ☐ B Recitation of 3rd kalima
- ☐ C Recitation of 1st kalima
- ☐ D Recitation of 2nd kalima

**Computer Science and IT**

1 MCQs

100. There can be many ways to insert page number in a document. Which of the following lets you insert page number in Ms Word?

- ☐ A Page number from Insert menu
- ☐ B Footnote from Insert menu
- ☐ C Page Setup from file menu
- ☐ D Both a & c

Answer key

Tap any answer to open its full explanation on TestUstad.

Model Paper 1

1	A	2	A	3	B	4	B	5	C	6	A	7	C	8	D	9	B	10	B
11	C	12	B	13	B	14	D	15	C	16	A	17	B	18	D	19	B	20	C
21	D	22	A	23	A	24	B	25	D	26	C	27	D	28	D	29	B	30	B
31	A	32	B	33	C	34	D	35	B	36	D	37	B	38	E	39	D	40	A
41	D	42	A	43	A	44	A	45	C	46	A	47	D	48	B	49	B	50	C
51	C	52	D	53	C	54	A	55	D	56	B	57	C	58	B	59	A	60	B
61	D	62	C	63	A	64	C	65	C	66	B	67	D	68	A	69	B	70	A
71	D	72	B	73	C	74	A	75	B	76	A	77	B	78	A	79	B	80	C
81	D	82	C	83	B	84	D	85	C	86	C	87	B	88	C	89	D	90	A
91	B	92	A	93	C	94	B	95	A	96	D	97	B	98	A	99	C	100	A



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