Question Booklet No.	Question Booklet Series : **A**

AUAT — 2024

B. Sc. Honours in Chemistry (U12)

(TEST BASED ON MCQ)

Full Marks : 100	Duration : 2 Hours

Roll No. of the Candidate : _____

Date of Examination : _____

Name of Examination Centre : _____

Signature of the Candidate : _____

Signature of the Invigilator on Verification

IMPORTANT INSTRUCTIONS

Candidates should read the below instructions carefully and follow them accordingly.

1. The Question Booklet has paper seal pasted on it. Please do **NOT** open the Question Booklet until you are asked to do so by the Invigilator.

2. The candidates must check immediately after breaking the seal that the Question Booklet contains **100 Multiple Choice Questions** in two parts (Part—I and Part—II).

3. Answer of questions of Part—I and Part—II both will have to be given on the **OMR Answer Sheet** provided for this purpose. Fill up the necessary fields that are intended for you by writing and/or shading appropriately. Otherwise the **OMR Answer Sheet *cannot*** be evaluated and will liable to be rejected. Question numbers progress from **1** to **100** continuously with alternative answers being shown as [A], [B], [C] and [D] for each question. Record your response by completely darkening the corresponding bubble. While responding, you should consider the best alternative answer and shade only one bubble with **black/blue ball point pen only**. For each correct response you will be awarded **1** mark. There will be negative marking for wrong responses. For each wrong response, **–0·25** mark will be awarded. Multiple responses against one **MCQ** will be treated as a wrong response.

4. On leaving the examination hall, candidates must submit the **OMR Answer Sheet**. They are allowed to keep the Question Booklet with them.

5. **OMR Answer Sheet** will be processed by electronic means. Any untoward/irrelevant remarks, folding or putting stray notes on the answer sheet, any damage to the answer sheet will lead to the rejection of the same and the sole liability shall remain with the candidate.

6. Rough Work may be done at the end of the Question Booklet.

7. No candidate will be allowed to leave the examination hall before completion of the examination.

8. Use of any Electronic device like Mobile, Programmable Calculator etc. is strictly prohibited.

DO NOT OPEN THE SEAL UNTIL INSTRUCTED TO DO SO

PART—I
(Core Subject)

1. How many carbon atoms are there in 4×10^{-3} mole of sucrose?

Î ìy¡à ì \ ¹ 4×10^{-3} ë³à ìº A¡t¡P¡[º A¡à¤> Š¹³åo "àìá?

[A] $2{\cdot}891\times10^{22}$

[B] $2{\cdot}891\times10^{23}$

[C] $3{\cdot}891\times10^{22}$

[D] $3{\cdot}891\times10^{23}$

2. A bright line having wavelength 450 nm is seen in an atomic emission spectrum. How much does the energy of an electron decrease as this photon is emitted?

Šå¹³åo[¤A¡ [>K³> ¤oåºåìt¡ 450 nm t¡¹UÎfìQ¸¹ &A¡[i¡ l¡^º ë¹Jà ëfJà ™åÚ¡ú &Ò ëó¡à i¡> [>Kt¡ Ò*Úà¹ Îàì= Îàì= &A¡[i¡ ÒìºA¡i¡ì>¹ Å[v¡¡ A¡t¡ Òà Î ŠàÚ?

[A] $3{\cdot}251\times10^{-19}$ J

[B] $4{\cdot}417\times10^{-19}$ J

[C] $3{\cdot}417\times10^{-18}$ J

[D] $4{\cdot}251\times10^{-19}$ J

3. Bohr model can explain

ë¤à¹ ³ì l¡º ¤¸åJ¸à A¡¹ìt¡ Šàì¹

[A] the spectrum of hydrogen atom only

[B] spectrum of an atom or ion containing one electron only

[C] the spectrum of hydrogen molecule

[D] the spectrum of any atom

4. The set of quantum numbers representing an imopossible arrangement is

&A¡[i¡ "Î´¤ [¤>¸àìÎ¹ Š[t¡[>[<âAi¡à¹å ëA¡àÚâ¡i¡à³ Î}J¸à¹ ëÎi¡ Òº –

[A] $n=3,\ l=2,\ m=-2,\ m_s=+\frac{1}{2}$

[B] $n=4,\ l=0,\ m=0,\ m_s=+\frac{1}{2}$

[C] $n=3,\ l=2,\ m=-3,\ m_s=+\frac{1}{2}$

[D] $n=5,\ l=3,\ m=0,\ m_s=-\frac{1}{2}$

5. Electromagnetic radiation with maximum wavelength is

Î¤à[<A¡ t¡¹UÎfQ¸Î Ò t¡[I¡;₩¡´A¡åÚ [¤[A¡¹o Òº

[A] ultraviolet rays

[B] radiowave

[C] X-ray

[D] γ-ray

6. The principal quantum number of an atom is related to the

&A¡[i¡ Š¹³åo¹ ³J¸ ëA¡àÚâ¡i¡à³ Î}J¸à-¹ Îàì= Î´Š[A¡t¡

[A] size of the orbit

[B] spin angular momentum

[C] orbital angular momentum

[D] orientation of orbital in space

7. Which of the following is smallest in size?

[>ì₩¡¹ ëA¡à>[i¡ "àA¡àì¹ Û¡‰t¡³?

[A] N^{3-}

[B] O^{2-}

[C] I^{-}

[D] Na^{+}

8. Which one of the following has the highest basic character?

[>³[º[Jt¡P¡[º¹ ³ì‹, ëA¡à>[i¡¹ Îì¤àZW¡ Û¡à¹âÚ W¡[¹y ¹ìÚìá?

[A] SiO_2

[B] MgO

[C] Al_2O_3

[D] Na_2O

9. The correct order of first ionization energy among Be, B, C, N, O is

Be, B, C, N, O -&¹ ³ì‹, Š=³ "àÚ>àA¡¹0 Å[v¡¡¹ Î[k¡A¡ y¡³ Òº

[A] Be < B < C < O < N

[B] B < Be < C < N < O

[C] Be < B < C < N < O

[D] B < Be < C < O < N

10. Which one of the following has the highest acidic character?

[>³[º[Jt¡P¡[º¹ ³ì‹, ëA¡à>[i¡¹ Î¤à[‹A¡ "´âÚ W¡[¹y ¹ìÚìá?

[A] SO_3

[B] P_2O_5

[C] ZnO

[D] Na_2O

11. The species, which does not show paramagnetism, is

ë™ Š\à[t¡ Š¹àìW¡ï´A¡â ëƒJàÚ >à, ëÎ[i¡ Òº

[A] O_2

[B] O_2^+

[C] O_2^-

[D] H_2^+

12. The hydrogen bond is strongest in

ÒàÒìI¡àì\> ¤Þ¡> Î¤ìW¡ìÚ Å[v¡¡Åàºà Òº

[A] O — H — F

[B] O — H — H

[C] F — H — F

[D] None of the above

13. The weakest bond among the following is

[>³[º[Jt¡P¡[º¹ ³ì‹, ƒ¤ºt¡³ ¤Þ¡>[i¡ Òº

[A] ionic bond

[B] covalent bond

[C] metallic bond

[D] van der Waals' force

14. The volume of a gas at 760 mm pressure is 152 cc. If the temperature remains constant, what is its volume at a pressure of 790 mm?

760 [³[³ W¡àìš &A¡[i¡ K‚àìÎ¹ "àÚt¡> Òº 152 cc¡Ú ™[ƒ t¡àš³ày à [Ñ¹ =àìA¡, 790 [³[³ W¡àìš &¹ "àÚt¡> A¡t¡?

[A] 146·2 cc

[B] 152·3 cc

[C] 182·6 cc

[D] 152 cc

15. In which of the following entropy decreases?

[>ìW¡¹ ëA¡à>[i¡ìt¡ &>i¡[š Òà Î šàÚ?

[A] Crystallization of sucrose from solution

[B] Rusting of iron

[C] Melting of ice

[D] Vaporization of camphor

16. Entropy change of the system and the surroundings in equilibrium

Î‰³¸‰¤ÑâÚ [Î ìÐ¡³ &¤} Šâ[¹Šâ[ÅA¡t¡â¹ &>i¡[Š

[A] increases

[B] decreases

[C] is constant

[D] either increases or decreases

17. pH of 10^{-8} M HCl is

10^{-8} M HCl -&¹ pH Ò'º

[A] 8

[B] 6·9788

[C] 7·9788

[D] 1·05

18. The degree of ionization of a weak electrolyte

&A¡[i¡ ƒ¤º ÒìºA¡ìi¡âºâÒìi¡¹ "àÚ>âA¡¹ìo¹ [l¡[K

[A] decreases with dilution

[B] increases with dilution

[C] may increase or decrease with dilution

[D] is not affected by dilution

19. The correct statement is

Î[k¡A¡ ¤v¡¡¤¸[i¡ Òº

[A] CH_3COOH is a weak acid

[B] NH_4Cl gives an alkaline solution in water

[C] CH_3COONa gives an acidic solution in water

[D] NH_4OH is a strong base

20. Which of the following alkaline earth metal hydroxides is the least soluble?

[>ì‰¹ ëA¡â> Û¡â¹âÚ ³[v¡A¡â ë³'î¹º¹ ÒâÒìl¡âGâÒl¡ Î¤ì‰¡ìÚ A¡³ ‰¤oâÚ?

[A] $Be(OH)_2$

[B] $Mg(OH)_2$

[C] $Ca(OH)_2$

[D] $Ba(OH)_2$

21. Melting point is lowest for

Kº>âS¡ Î¤[>³ Òº

[A] Be

[B] Mg

[C] Ca

[D] Sr

22. The pair of compounds which cannot exist together in solution is

‰¤ìo &A¡ìy [¤ƒ¸³â> =àA¡ìt¡ Šâì¹ >à, &³> ë™ïKP¡[º¹ ë\àl¡â Òº

[A] $NaHCO_3$ and NaOH

[B] Na_2CO_3 and $NaHCO_3$

[C] Na_2CO_3 and NaOH

[D] $NaHCO_3$ and NaCl

23. Sodium metal cannot be stored under

[>ì‰¹ ëA¡â>[i¡ìt¡ ëÎà[l¡Úâ³ <àt¡ Î}¹Û¡o A¡¹à ™àì¤ >à?

[A] benzene

[B] kerosene oil

[C] alcohol

[D] toluene

24. Which of the following substances can be used for drying neutral or basic gases?

[>ì‰¡¹ ëA¡à> Šƒà=[i¡ [>¹ìŠÛ¡ ¤à Û¡à¹âÚ K¸àÎP¡[º Ç¡A¡à>à¹ \>¸ ¤¸¤Òà¹ A¡¹à ë™ìt¡ Šàì¹?

[A] $CaCO_3$

[B] Na_2CO_3

[C] $NaHCO_3$

[D] CaO

25. Three centred bond is present in

[t¡> ëA¡[ß ƒA¡ ¤Þ¡> l¡Š[Ñt¡ ¹ìÚìá

[A] BF_3

[B] B_2H_6

[C] $AlCl_3$

[D] BCl_3

26. The Lewis acid strength of boron halides follows the order

ë¤à¹> Ò¸à°àÒl¡-&¹ °ÒÎ "¸à[Îl¡ Å[v¡¡ y¡³ ">Î¹0 A¡ì¹

[A] $BBr_3 > BCl_3 > BF_3$

[B] $BCl_3 > BBr_3 > BF_3$

[C] $BF_3 > BCl_3 > Br_3$

[D] $BCl_3 > BF_3 > BBr_3$

27. Borazole $(B_3N_3H_6)$ is related to benzene as

ë¤à¹âì\à° $(B_3N_3H_6)$ ë¤>[\ì>¹ Îàì= A¡â®¡à¤ Î´Š[A¡t¡?

[A] isoelectronic

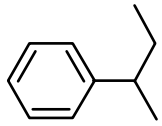
[B] isostructural

[C] isoelectronic and isostructural

[D] None of the above

28. The IUPAC nomenclature of the following compound is

[>³[º[Jt¡ ë™ìK¹ IUPAC >à³A¡¹0 Ò°



[A] 2-cyclohexylbutane

[B] 2-phenylbutane

[C] 3-cyclohexylbutane

[D] 3-phenylbutane

29. Which of the following structures exhibits cis-trans isomerisms?

[>ì‰¡¹ ëA¡à> A¡àk¡àì³à[i¡ cis-trans "àÒìÎàì³[¹\³ Šƒ Å> A¡ì¹?

[A] $BrH_2C — CH_2Br$

[B] $Br_3C — CH_3$

[C] $BrHC = CHBr$

[D] $CBr_2 = CII_2$

30. Which of the following methods is employed to distinguish optical isomers?

"Š[i¡A¡¸à° "àÒìÎà³à‰¹¹ Šà=A¡¸ A¡¹ìt¡ [>ì‰¡¹ ëA¡à> Š‡¡[t¡ ¤¸¤Òà¹ A¡¹à ÒÚ?

[A] Chemical tests

[B] Polarimetry

[C] Spectroscopy

[D] Boiling/melting point determination

31. Which of the fololwing carbocations will be the most stable?

[>ì‰¡¹ ëA¡à> A¡à¤àA¡,à¡à¡à Ú> Î¤ì‰¡ì Ú [Ñ[t¡Åâº Òì¤?

[A] $Ph_3\overset{\oplus}{C}$

[B] $CH_3-\overset{\oplus}{C}H_2$

[C] $(CH_3)_2\overset{\oplus}{C}H$

[D] $CH_2=CH-\overset{\oplus}{C}H_2$

32. Which of the following properties is most commonly possessed by nucleophile?

[>³[º[Jt¡ í¤[ÅÊ¡,P¡[º¹ ³ì<¸ ëA¡à>[i¡ Îà<à¹ot¡ [>l¡[A¡*ó¡àÒìº¹ =àìA¡?

[A] An overall positive charge

[B] Empty orbitals

[C] An unpaired electron

[D] A lone pair electron

33. Wurtz reaction involves the interaction of alkyl halides in dry ether with

Wurtz [¤[y¡Úà Ú Ç¡ Í¡ Ò=àì¹¹ Îàì= ",àºA¡à[º Ò¸àºàÒì¡¹ [³=[Ñ¡Úà A¡à¹ Îàì= \[l¡t¡?

[A] sodium

[B] zinc

[C] copper

[D] platinum

34. Ethylene reacts with cold alkaline $KMnO_4$ (Bayer's reagent) to form

Ò[=[º> k¡àr¡à Û¡à¹ãÚ $KMnO_4$ (ë¤Úàì¹¹ [¤A¡à¹A¡) &¹ Îàì= [¤[y¡Úà A¡ì¹ Kk¡> A¡ì¹

[A] oxalic acid

[B] acetic acid

[C] glycerol

[D] glycol

35. Markovnikov's addition is observed in

³àA¡à¡l¡[>A¡ìó¡¹ Î}ì™à\> Š[¹º[Û¡t¡ ÒÚ

[A] $CH_3-CH=CH-CH_3-HBr$

[B] $CH_3-CH=CH_2+HBr$

[C] $CH_3-CH=CH_2+Br_2$

[D] $H_3C-C\equiv C-CH_3+HBr$

36. Teflon is a polymer of

ë¡ó¡º> A¡ãì Î¹ Š[º³à¹?

[A] monofluoroethene

[B] difluoroethene

[C] trifluoroethene

[D] tetrafluoroethene

37. $CH_3-CH=CH-CH_3$ on ozonolysis gives

*ì\àì>àºàÒ[ÎìÎ $CH_3-CH=CH-CH_3$ ëƒÚ

[A] CH_3CHO

[B] CH_3COCH_3

[C] O_2

[D] CH_3CH_2OH

38. Chromium metal crystallizes in a body-centred cubic lattice. The length of the unit cell edge is found to be 287 pm. The atomic redius of chromium is

ëy¡à[³Úà³ <àt¡ &A¡[i¡ BCC ët¡ Ñ£¡[i¡A¡à[Út¡ ÒÚ¡ú Ò¡l¡[>i¡ ëÎº Šàì"¹ íƒQ¸ 287 pm Šà*Úà ™àÚ¡ú ëy¡à[³Úàì³¹ Šà¹³ào[¤A¡ ¤¸àÎà< Òº

[A] 124·13 pm

[B] 142·13 pm

[C] 143·5 pm

[D] 214 pm

39. In sodium chloride crystal, each chloride ion is surrounded by

ë Î à[l ¡Ú à³ ëA¡à¹àÒl ¡ Ñ£¡[i¡ìA¡¹ Š[t¡[i¡ ëA¡à¹àÒl ¡ "àÚ> A¡à ‡à¹à ë¤[Ê¡t¡?

[A] 6 Na^+

[B] 6 Cl^-

[C] 5 Na^+

[D] 4 Na^+

40. Due to Frankel defect, the density of ionic solids

Ó¡¸àìS¡º y¡[i¡¹ A¡à¹ìo, "àÚ[>A¡ A¡[k¡> Šƒàì=¹ Q>â

[A] decreases

[B] increases

[C] does not change

[D] either increases or decreases

41. The amorphous solid among the following is

[>ì³1 ³ì<¸ [>¹àA¡à¹ A¡[k¡> Šƒà=[i¡ Òº

[A] diamond

[B] graphite

[C] glass

[D] common salt

42. At high altitudes, the boiling point of water decreases because

l ¡Zì¡ l ¡Zì¡t¡àÚ, \ìº¹ Ñ£¡i¡>à S¡ Òà Î ŠàÚ A¡à¹o

[A] the atmospheric pressure is high

[B] the temperature is low

[C] the atmospheric pressure is low

[D] the temperature is high

43. The flow of solvent through a semi-permeable membrane towards the solution side is known as

&A¡[i¡ "‹ì®¡ƒ¸ [c¡[À¹ ³<¸ [ƒìÚ ‰¤ìo¹ [ƒìA¡ ‰àa¤ìA¡¹ Š¤àÒ [ÒÎàì¤ Š[¹[Wì¡t¡

[A] adsorption

[B] absorption

[C] diffusion

[D] osmosis

44. The lowest freezing point of 0·1 M aqueous solution is of

[>ìWì¡¹ ëA¡à> 0·1 M \ºàÚ ‰¤ìo¹ Î¤[>³ [Ò³à S¡ ÒÚ?

[A] K_2SO_4

[B] NaCl

[C] Urea

[D] Glucose

45. If the half cell reaction, has a large negative reduction potential, then

™[ƒ [>³[º[Jt¡ "‹ ëA¡àÈ [¤[y¡Úà¹ reduction potential &¹ Î´à¤¸ ³à> ¤l ¡ =àìA¡ t¡ì¤

$$A + e \rightarrow A^-$$

[A] *A* is readily reduced

[B] *A* is readily oxidised

[C] A^+ is readily reduced

[D] A^- is readily oxidised

46. In normal hydrogen elecrtode, the concentration of H^+ ion is

Îà‹à¹o ÒàÒìl ¡àì\> Òì ºA¡ìi¡àì l ¡ H⁺ "àÚì>¹ Q>â =àìA¡

[A] 0·1 M

[B] 0·2 M

[C] 1 M

[D] 2 M

47. In the cell, $Zn\left|Zn^{2+}\right|\left|Cu^{2+}\right|Cu$ the negative terminal is

[>³[º[Jt¡ ëA¡à ìÈ ~¡oàuA¡ Šà"[i¡ Òº

$Zn\left|Zn^{2+}\right|\left|Cu^{2+}\right|Cu$

[A] Cu

[B] Cu^{2+}

[C] Zn

[D] Zn^{2+}

48. A quantitative relationship between the temperature and rate constant is given by

t¡àŠ³ày à &¤} ¹à Î àÚ[>A¡ [¤[y¡Úà Òà¹ <¡¤ìA¡¹ ³ì<¸ &A¡[i¡ Š[¹³àoKt¡ Î´ŠA¡ ëƒ*Úà ÒÚ A¡âì Î¹ ‡à¹à?

[A] Nernst equation

[B] Arrhenius equation

[C] Van't Hoff equation

[D] Henderson equation

49. When temperature is raised, the rate of reaction increases because of

™J> t¡àŠ³ày à ¤[‡¡ ŠàÚ, t¡J> [¤[y¡Úà¹ Òà¹ ¤[‡¡ ŠàÚ A¡à¹0

[A] lowering of activation energy

[B] increase in the number of collissions

[C] decrease in the number of collissions

[D] decrease in the number of activated molecules

50. The half-life period of a first order reaction is 100 sec. The rate constant of the reaction is

Š=³ y¡ì³¹ [¤[y¡Úà¹ "‹-\å¤>A¡à º Òº 100 ë Î ìA¡"¡¡ú [¤[y¡Úà¹ Òà¹ <¡¤A¡ Òº

[A] $6{\cdot}93 \times 10^{-3}\ sec^{-1}$

[B] $0{\cdot}693\ sec^{-1}$

[C] $6{\cdot}93 \times 10^{-4}\ sec^{-1}$

[D] $69{\cdot}3\ sec^{-1}$

51. Increasing order of boiling point is

Ñ£¡i¡>àìS¡¹ y¡³¤‹³à> y¡³ Òº

[A] $H_2O > H_2S > H_2Se > H_2Te$

[B] $H_2O > H_2Te > H_2Se > H_2S$

[C] $H_2O > H_2Se > H_2Te > H_2S$

[D] $H_2O > H_2S > H_2Te > H_2Se$

52. Phosphorus pentoxide is a/an

ó¡Î ó¡¹à Î ëŠ¡i¡GàÒI¡ &A¡[i¡

[A] oxidising agent

[B] reducing agent

[C] bleaching agent

[D] dehydrating agent

53. O_2 molecule is

O_2 "0 Òº

[A] paramagnetic

[B] diamagnetic

[C] ferromagnetic

[D] None of the above

54. Variable valency is the main characteristic of

Š[¹¤t¡>Åå° ë™à\¸t¡à A¡à¹ Š<à> í¤[ÅÊ¡¸?

[A] alkali metals

[B] alkaline earth metal

[C] nobel gases

[D] transition elements

55. The ion which gives coloured solution is

ë™ "àÚ>[i¡ ¹[R¡> ‰¤o ëƒÚ, ëÎ[i¡ Ò°

[A] Zn^{2+}

[B] Cd^{2+}

[C] Cu^{+}

[D] Fe^{2+}

56. The magnetic moment of an iron salt is 4·90 BM. The oxidation state of iron in that salt is

&A¡[i¡ ë°åÒà °¤ì0¹ ëŒ¡i´A¡àÚ °à³A¡ 4·90 BM¡Ú ëÎÒ °¤ì0 ë°åÒà¹ \à¹o "¤Ñà Ò°

[A] +3

[B] +2

[C] zero

[D] 2·5

57. Out of the following, the compound, which is not a coordination compound, is

[>³[°[Jt¡ ë™iKP¡[°¹ ³ì<¸ ë™[i¡ &A¡[i¡ coordination compound >Ú, ëÎ[i¡ Ò°

[A] $[Co(NH_3)_4Cl_2]^+$

[B] $FeSO_4.(NH_4)_2SO_4.6H_2O$

[C] $K_3[Fe(CN)_6]$

[D] $K_4[Fe(CN)_6]$

58. For the equation $k = Ae^{-E_a/RT}$ in chemical kinetics, which of the following statement is ***correct***?

¹àÎàÚ[>A¡ K[t¡[¤ƒ¸àÚ $k = Ae^{-E_a/RT}$ Î³ãA¡¹ì0¹ \>¸ [>ì‰¹ ëA¡à> [¤¤[t¡[i¡ Î[k¡A¡?

[A] *k* is the equilibrium constant

[B] *A* is adsorption factor

[C] E_a is the energy of activation

[D] *R* is Rydberg constant

59. The Tyndal effect is shown by

[>ì‰¹ ëA¡à>[i¡ [i¡"¡à° Š®¡à¤ ëƒJàÚ?

[A] precipitate

[B] sol

[C] plasma

[D] solution

60. Which of the following has the minimum gold number?

[>ì‰¹ ëA¡à>[i¡¹ Î¤[>´ gold number "àìá?

[A] Starch

[B] Sodium oleate

[C] Gum arabic

[D] Gelatin

61. The ore having two different metals is

ƒ[i¡ [®¡Ä <àt¡¹ "àA¡[¹A¡ Ò°

[A] haematite

[B] galena

[C] magnetite

[D] copper pyrites

62. Which of the following complexes has square planar structure?

[>ì‰¡¹ ëA¡å> A¡³ìšìG¹ ¤KàA¡å¹ Î³³t¡ºåÚ A¡àk¡å ì³å ¹ìÚìá?

[A] $[Ni(CN)_4]^{2-}$

[B] $[Ni(CO)_4]$

[C] $[Zn(NH_3)_4]^{2+}$

[D] $[NiCl_4]^{2-}$

63. The ligand, which is not chelating, is

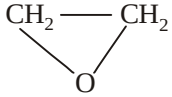
ë™ [ºK¸à"¡[i¡ [‰¡ì º[i¡} >Ú, t¡å Òº

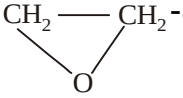
[A] EDTA

[B] $C_2O_4^{2-}$

[C] CH_3COO^-

[D] en

64. The reaction of  with RMgX leads to the formation of

RMgX-&¹ Îåì=  -&¹ ¹åÎåÚ[>A¡ [¤[y¡ÚàÚ A¡å ít¡[¹ ÒÚ?

[A] RCHOHR

[B] $RCHOHCH_3$

[C] R_2CHCH_2OH

[D] RCH_2CH_2OH

65. The compound, which does not give iodoform test, is

ë™ ë™ïK[i¡ "àìÚàì¡à ó¡³ Š¹åÛ¡å ëƒÚ >à, ëÎ[i¡ Òº

[A] acetophenone

[B] benzophenone

[C] $CH_3CHOHCH_3$

[D] $CH_3CHOHCH_2CH_2CH_3$

66. Tollens' reagent is

i¡ìºìX¹ [¤A¡å¹A¡ Òº

[A] alkaline mercuric chloride solution

[B] ammoniacal silver nitrate solution

[C] ammonium citrate solution

[D] alkaline potassium permanganate solution

67. Among the following, the most basic compound is

[>´[º[Jt¡P¡[º¹ ³ì<¸ Î¤ì‰¡ìÚ basic ë™ïK[i¡ Òº

[A] benzylamine

[B] aniline

[C] acetanilide

[D] *p*-nitroaniline

68. The amine, which does not respond to carbylamine reaction, is

ë™ "¸à[³> A¡å[¤º³àÒ> [¤[y¡ÚàÚ Îàl¡å ëƒÚ >à, ëÎ[i¡ Òº

[A] ethylamine

[B] $(CH_3)_2NH$

[C] CH_3NH_2

[D] phenylamine

69. DNA contains the sugar

DNA-ët¡ l¡š[Ñt¡ [‰¡[>¹ "o

[A] deoxyribose

[B] ribose

[C] D-fructose

[D] D-glucose

70. Amino acids are the building blocks of

"¸à[³ì>à "¸à[Îl¡ A¡âìÎ¹ [¤[Á¡} ¤A¡?

[A] carbohydrates

[B] vitamins

[C] fats

[D] proteins

PART—II

(Islamic History and Culture, General English & General Knowledge)

71. Makkah is situated in

³Bi¸à ëAi¸à=à¸Ú "¤[Ñti?

[A] Persia

[B] Turkey

[C] The United Kingdom

[D] Saudi Arabia

72. Subhanallah means

Î¤Òå>"¸ÀàÒ Ai=à¹ "=

[A] Glory be to Allah

[B] Praise be to Allah

[C] Allah is Almighty

[D] Allah is Merciful

73. In Islam, interest is

ÒÎºà¸ì³ Îƒ

[A] encouraged

[B] allowed

[C] discouraged

[D] prohibited

74. The first chapter of the *Holy Qur'an* is

'Š[¤y Ai¹"à¸ì>¹' Š=³ "‹¸à¸Ú Òº

[A] Al-Fatiha

[B] Al-Baqarah

[C] Al-Ikhlas

[D] Al-Kawthar

75. In which masjid, prayer is performed in a circular row?

ëA¸à> ³Î[\ìƒ ¤v¸àAi¸à¹ Î¸à[¹ìti >^{à³}à™ šIi¸à ÒÚ?

[A] Masjid al-Aqsa

[B] Masjid al-Haram

[C] Masjid al-Nabawi

[D] Al-Azhar Mosque

76. Prophet Muhammad (PBUH) lived for _____ years.

>¤à ³Òà´¶ƒ (Î¸à–) _____ ¤á¹ \à[¤ti [áìº>¡ú

[A] 60

[B] 62

[C] 65

[D] 67

77. A person who receives revelation from God Almighty in the form of message as well as book is called

³Òà> #Åì¹¹ [>Ai¡i¡ ÒÒìti [™[> ¤à¸t¡à * ŠÑAi¡ I¡®¡Ú "à¸Aiàì¹ št¡,à¸ìƒÅ Šà>, t¡à¸ìAi¡ ¤ºà ÒÚ

[A] Prophet

[B] Messenger

[C] Prophet as well as Messenger

[D] Neigher Prophet nor Messenger

78. Fasting refers to

ë¹à™à ¤ºìti ë¤à¸c¡à¸Ú

[A] abstaining from food

[B] abstaining from evils

[C] developing God consciousness

[D] All of the above

79. Rashidun Caliphate began with which of the following incidents?

ëA¸à> Qi¡>à¹ ÎìU ¹à[Åƒ> [Jºà¸ó¡ti Ç¡¹¡ ÒìÚ[áº?

[A] The death of Prophet Muhammad (PBUH)

[B] The end of Umayyad Caliphate

[C] The end of Abbasid Caliphate

[D] None of the above

80. The first woman in this earth is

&Ò Š[=¤åìti Š=³ >^{à¹}å ÒìºO>

[A] Eve

[B] Sara

[C] Julekha

[D] Mariam

81. Which phrase is recited before various activities, such as eating, reading Qur'an or beginning a task?

J*Ú, A¡1"> Šk¡ ¤ &A¡[i¡ A¡\ Ç¡1¡ A¡1 3ìt¡ [¤[®¡Ä A¡ì\1 "ìK ëA¡> ¤Aj,}Å[i¡ Šk¡ A¡1 ÒÚ?

[A] Bismillah

[B] Astaghfirullah

[C] Allahu Akbar

[D] Subhanallah

82. What is the phrase commonly recited when hearing about someone passing away?

ëA¡l¡ 31 *Ú1 A¡=à Ç¡ì> Î<1ot¡ ë™ ¤Aj,[i¡ ¤oìt¡ ÒÚ ëÎi¡ A¡å?

[A] Alhamdulillah

[B] Hasbunallahu Wa Ni'mal Wakeel

[C] Inna Lillahi Wa Inna Ilayhi Raji'un

[D] Subhanallah

83. What did prophet Muhammad (SAW) break his fast with?

>¤å 3Ò´¶f (Î–) A¡å [fìÚ ë1\ ®¡Rìt¡>?

[A] Dates

[B] Watermelon

[C] Cucumber

[D] Apple

84. What is sighted to signal the start of Ramadan?

13\> Ç¡1¡ Ò*Ú1 Î}ìA¡t¡ A¡å ëfJ™Ú?

[A] Stars

[B] Shooting Star

[C] Bright Sun

[D] Crescent Moon

85. Who is exempted from fasting during Ramadan?

13\> 3ìÎ ë1\ ë=ìA¡ A¡1 "¤,Ò[t¡Šœ¡?

[A] The traveler

[B] The weak and the old

[C] The sick

[D] All of the above

86. The word 'Islam' means

'ÒÎo3' Åì¦1 "=

[A] Those who follow Muhammad

[B] Surrender to God

[C] Recitations

[D] Sons of Allah

87. Who are mentioned in the *Quaran* as those who Allah loves?

'A¡1"ì>' A¡ìf1ìA¡ "ÀÒ ®¡o¤ìÎ> ¤ìo l¡ìÀJ A¡1 ÒìÚìá?

[A] Allah loves those who commit sin

[B] Allah loves those who eat more

[C] Allah loves those whoever repents and whoever is clean

[D] None of the above

88. Where do Muslims go for the Pilgrimage (Hajj)?

3Îo3>1 ëA¡å=™y (Ò\) A¡1ìt¡ ™Ú?

[A] Baitul Mudaddas (Al-Aqsa Mosque Palestine)

[B] Karbala (Iraq)

[C] Dubai (UAE)

[D] Makkah (Saudi Arabia)

89. What are the forms of worship in Islam?

ÒÎo3 l¡Šå>ìA¡ A¡å ¤ìo?

[A] Salah (Prayers)

[B] Sawm (Fasting)

[C] Remembrance of Allah

[D] All of the above

90. Why do Muslims fast?

3Îo3>1 ëA¡> ë1\ 1ìJ?

[A] To lose weight

[B] Personal satisfaction

[C] To gain Taqwa

[D] Sympathy with poor people

91. The noun form of the word 'CLEAR' is

[A] clear

[B] clearly

[C] clarity

[D] clearing

92. Choose the correct sentence from the given alternatives :

[A] James and Simey went to the market

[B] I look forward to meet you

[C] Me and Tashi live here

[D] This restaurant has both fooding and lodging facilities

93. We need the _____ of the guide before we plan to make our _____ to the mountain peak.

[A] accent, ascent

[B] assent, ascent

[C] ascent, assent

[D] assent, accent

94. The adjective form of the word 'VACATE' is

[A] vacancy

[B] vacation

[C] vacant

[D] vacantly

95. Find the meaning of the underlined expression.

She put the <u>cherry on top</u> of the cake of her success by winning a scholarship.

[A] adding on perfection to something which is already perfect

[B] enthusiastic about something

[C] offering a delicious treat

[D] to put final touches on a nearly complete project

96. Who was made the Nawab of Bengal after the Battle of Plassey?

Š°à Å à¹ ™ì‡¡¹ Š¹ A¡à ìA¡ ¤à}°à¹ >¤à¤ A¡¹à ÒÚ?

[A] Mir Jafar

[B] Alivardi Khan

[C] Siraj-ud-Daulah

[D] Mir Qasim

97. Which of the following books is written by Rajendra Prasad?

[>ì‰¡¹ ëA¡à> ¤Ò[i¡ ¹à ì \ @ƒ ŠÎà ìƒ¹ ë°Jà?

[A] *India Divided*

[B] *An Autobiography : Towards Freedom*

[C] *The Discovery of India*

[D] *Glimpses of World History*

98. What is the dangerous disease caused by bacteria in humans and cattle called?

³à>È * K¤à[ƒ ŠÇ¡¹ ¤¸à A¡ìi¡[¹Úà ‡à¹à ÎÊ¡ [¤Šð>A¡ ë¹à KìA¡ A¡å ¤°à ÒÚ?

[A] Little Mother

[B] Measles

[C] Anthrax

[D] Malaria

99. Where is 'Dudhsagar Waterfall' in India?

®¡à¹ìt¡¹ 'ƒ‹ÎàK¹ \°ŠŠàt¡' ëA¡à=àÚ "¤[Ñt¡?

[A] At the border of the Indian States Goa and Karnataka

[B] In Karnataka

[C] In Gujarat

[D] In Rajasthan

100. Where is 'Nanda Devi Mountain' (Second highest mountain in India)?

'>@ƒà ëƒ¤å Št¡' ®¡à¹ìt¡¹ [‡t¡åÚ Îì¤à‰¡ Št¡ ëA¡à=àÚ "¤[Ñt¡?

[A] Chamoli district

[B] Jaipur district

[C] Srinagar district

[D] Shimla district

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