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

AUAT — 2024

2-Year M. Sc. in Chemistry (P12)

(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. IUPAC nomenclature of the compound $CH_2=CHCH(CH_3)CH_2Br$ is

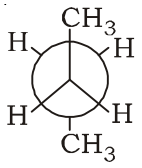
[A] 4-bromo-3-methylbut-1-ene

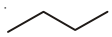
[B] 3-bromomethylbut-1-ene

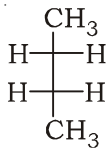
[C] 1-bromo-2-methylbut-3-ene

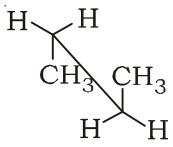
[D] 1-bromomethylbut-3-ene

2. *n*-Butane in Fischer Projection formula is

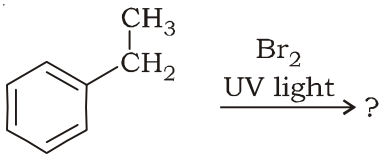
[A] 

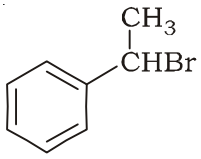
[B] 

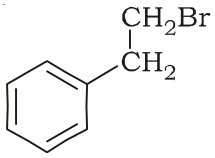
[C] 

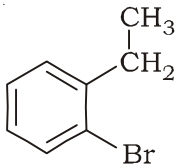
[D] 

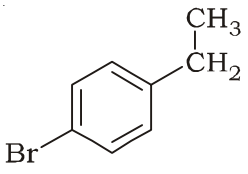
3. The structure of the major product formed in the following reaction is



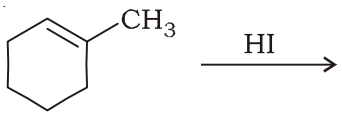
[A] 

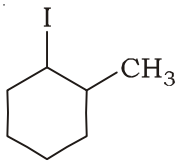
[B] 

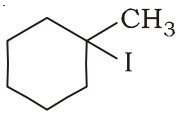
[C] 

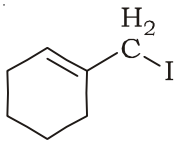
[D] 

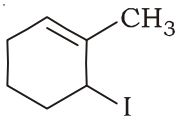
4. The structure of the major product formed in the following reaction is



[A] 

[B] 

[C] 

[D] 

5. Which of the following compounds is formed when phenol is heated with CCl_4 and NaOH?

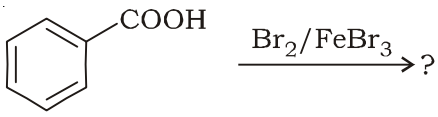
[A] Sodium salicylate

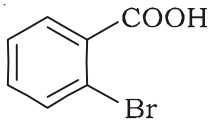
[B] Para-hydroxybenzaldehyde

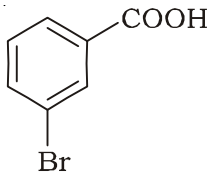
[C] Salicylic acid

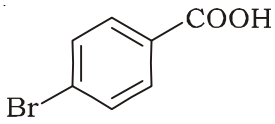
[D] Salicylaldehyde

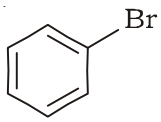
6. The structure of the major product formed in the following reaction is



[A] 

[B] 

[C] 

[D] 

7. Which of the following compounds will take part in nucleophilic addition reaction most readily?

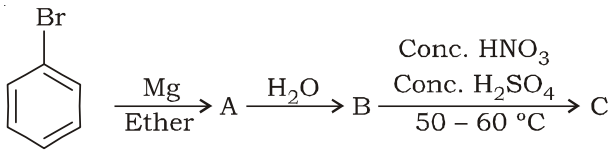
[A] C_6H_5CHO

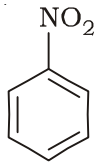
[B] $C_6H_5COC_6H_5$

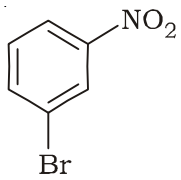
[C] CH_3CHO

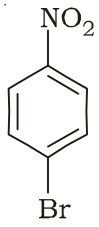
[D] CH_3COCH_3

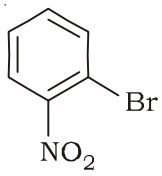
8. The final product (C) formed in the following reaction sequence is



[A] 

[B] 

[C] 

[D] 

9. Which of the following is a basic amino acid?

[A] Glycine

[B] Alanine

[C] Lysine

[D] Glutamic acid

10. Which of the following is ***not*** a sugar?

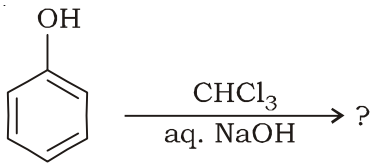
[A] Glucose

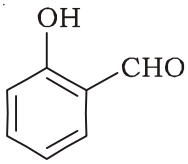
[B] Sucrose

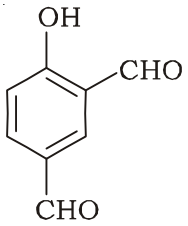
[C] Fructose

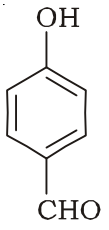
[D] Cellulose

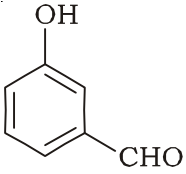
11. The major product formed in the following reaction is



[A] 

[B] 

[C] 

[D] 

12. Which of the following compounds is formed when formaldehyde is treated with concentrated potassium hydroxide solution?

[A] Glyoxal

[B] Methanol

[C] Ethanol

[D] Acetic acid

13. When Phenol is treated with bromine water a white precipitate is formed due to the formation of which compound?

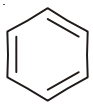
[A] 2-Bromophenol

[B] 4-Bromophenol

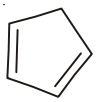
[C] 2,4-Dibromophenol

[D] 2,4,6-Tribromophenol

14. Which of the following systems is anti-aromatic?

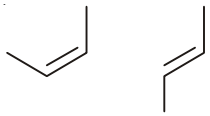
[A] 

[B] 

[C] 

[D] 

15. The following pair of compounds is an example of



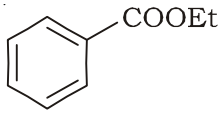
[A] optical isomerism

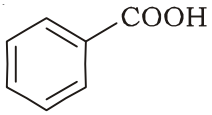
[B] geometrical isomerism

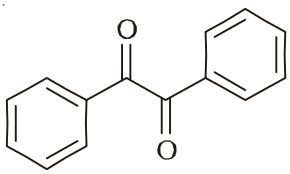
[C] functional group isomerism

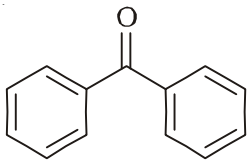
[D] positional isomerism

16. Which of the following compounds forms effervescence with aq. $NaHCO_3$ solution?

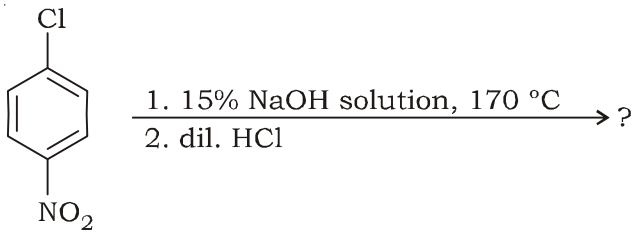
[A] 

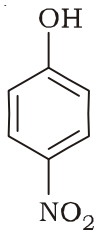
[B] 

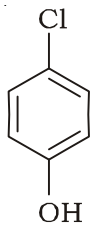
[C] 

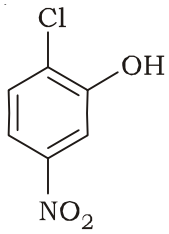
[D] 

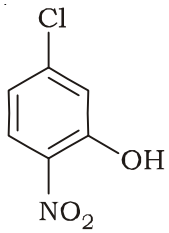
17. The major product formed in the following reaction is



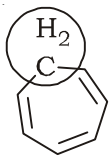
[A] 

[B] 

[C] 

[D] 

18. The hybridization of the encircled C atom of the following molecule is



[A] sp^3

[B] sp^2

[C] sp

[D] dsp^2

19. Which of the following statements is ***true*** about benzene?

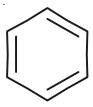
[A] All the C—C bond lengths of benzene are equal due to hyperconjugation

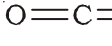
[B] All the C—C bond lengths of benzene are equal due to resonance

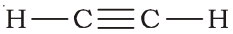
[C] All the C—C bond lengths of benzene are not equal due to improper resonance

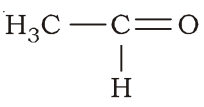
[D] Due to resonance benzene is less stable than the anti-aromatic compounds

20. A molecule with permanent dipole moment is

[A] 

[B] 

[C] 

[D] 

21. Based on dipole moment, geometries of BF_3 and NH_3 are respectively

[A] pyramidal and planar

[B] planar and pyramidal

[C] pyramidal and cubic

[D] cubic and planar

22. Langmuir isotherm holds good at low pressure but fails at

[A] low temperature

[B] high pressure

[C] intermediate pressure

[D] None of the above

23. The migration of positively charged colloidal particles, under an electrical field, toward the cathode is called

[A] electrophoresis

[B] electro-osmosis

[C] sedimentation

[D] electro-dialysis

24. Which of the following decays represents the decay of uranium-238 to thorium-234?

[A] Alpha decay

[B] Beta decay

[C] Gamma decay

[D] None of the above

25. A system in which state variables have constant values throughout the system is called in a state of

[A] equilibrium

[B] non-equilibrium

[C] isothermal equilibrium

[D] None of the above

26. The phenomenon of lowering of temperature when a gas is made to expand adiabatically from a region of high pressure into a region of low pressure is known as

[A] first law of thermodynamics

[B] second law of thermodynamics

[C] Le Chatelier's principle

[D] Joule-Thomson effect

27. The heat of neutralisation of a strong acid and a strong base is always

[A] zero

[B] constant

[C] positive

[D] changing

28. The process of sublimation for a solid occurs

[A] at the melting point

[B] at a temperature below its melting point

[C] at a temperature above its melting point

[D] None of the above

29. Which of the following equations is used to calculate the heats of reaction when ΔG at two temperatures are given?

[A] Gibbs-Helmholtz equation

[B] Clapeyron equation

[C] Kirchhoff's equation

[D] None of the above

30. Each substance in a given state has a tendency to escape from that state and this escaping tendency is called

[A] spontaneity

[B] Gibbs free energy

[C] fugacity

[D] activity

31. The root mean square velocity of a certain gas at 27 °C is a m sec^{-1}. Its root mean square velocity at 927 °C is

[A] $a/2$ m sec^{-1}

[B] $2a$ m sec^{-1}

[C] $3a$ m sec^{-1}

[D] $6a$ m sec^{-1}

32. A liquid is in equilibrium with its vapours at its boiling point. On the average, the molecules in the two phases have equal

[A] potential energy

[B] kinetic energy

[C] van der Waal's forces

[D] total energy

33. The unit(s) of coefficient of viscosity is/are

[A] dyne cm^{-2} sec

[B] poise

[C] centipoise

[D] All of the above

34. For an orthorhombic crystal system, which is ***incorrect***?

[A] $a \neq b \neq c$

[B] $\alpha = \beta = \gamma = 90°$

[C] $a = b \neq c$

[D] None of the above

35. Which of the following defects is generally found in sodium chloride and cesium chloride?

[A] Frenkel defect

[B] Interstitial defect

[C] Schottky defect

[D] None of the above

36. The liquid crystals have

[A] properties of super cooled liquid

[B] properties of amorphous solids

[C] the fluidity of a liquid and optical properties of a solid

[D] None of the above

37. The parachor is

[A] an additive property

[B] a constitutive property

[C] both additive and constitutive properties

[D] None of the above

38. Which ion has maximum magnetic moment?

[A] V^{+3}

[B] Mn^{+}

[C] Fe^{+3}

[D] Cu^{+2}

39. Which of the following amine ***does not*** react with Heinsberg reagent?

[A] Neopentyl amine

[B] Isopropyl amine

[C] Triethyl amine

[D] Ethylmethylamine

40. Alpha-glucose and beta-glucose are called

[A] isomers

[B] anomers

[C] tautomers

[D] epimers

41. Oxidation of toluene with CrO_3, in the presence of $(CH_3CO)_2O$ followed by hydrolysis gives a product (A) which on treatment with aqueous NaOH produces

[A] C_6H_5CHO

[B] $(C_6H_5CO)_2O$

[C] C_6H_5COONa

[D] 2,4-Diacetyltoluene

42. The velocity of an electron in the third orbit of hydrogen atom is

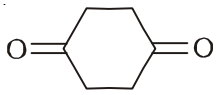
[A] $7{\cdot}28 \times 10^7$ cm sec^{-1}

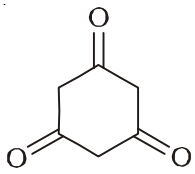
[B] $7{\cdot}08 \times 10^7$ cm sec^{-1}

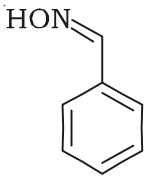
[C] $7{\cdot}38 \times 10^7$ cm sec^{-1}

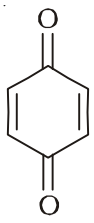
[D] $7{\cdot}48 \times 10^7$ cm sec^{-1}

43. Tautomerism is not exhibited by

[A] 

[B] 

[C] 

[D] 

44. Which of the following compounds reacts with chloroform and a base to form phenyl isocyanide?

[A] Phenol

[B] Aniline

[C] Benzene

[D] Nitrobenzene

45. Air contains 79% N_2 and 21% O_2 by volume. If the barometric pressure is 750 mm of Hg, the partial pressure of oxygen is

[A] 157·5 mm of Hg

[B] 175·5 mm of Hg

[C] 315 mm of Hg

[D] None of the above

46. The ratio of closed packed atoms to tetrahedral holes in cubic close packing is

[A] 1 : 1

[B] 1 : 2

[C] 1 : 3

[D] 2 : 1

47. Interhalogen compound which exists in dimeric form, is

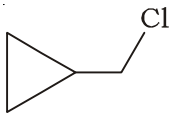
[A] ICl_3

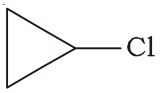
[B] ICl

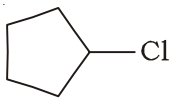
[C] IF_7

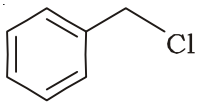
[D] BrF_5

48. Which of the following is most reactive towards S_N1 mechanism?

[A] 

[B] 

[C] 

[D] 

49. 0·005 M acid solution has $P^H = 5$. The percentage ionisation of acid is

[A] 0·8%

[B] 0·6%

[C] 0·4%

[D] 0·2%

50. The efficiency of heat engine is maximum when

[A] temperatures of source and sink are maximum

[B] temperatures of source and sink are minimum

[C] temperature of source is minimum and that of sink is maximum

[D] temperature of source is maximum and that of sink is minimum

51. Which of the following statements is ***not true***?

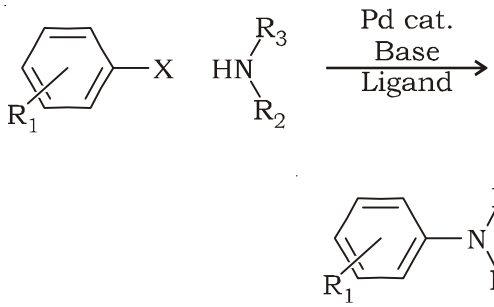
[A] The ratio of the mean speed to the RMS speed is independent of the temperature

[B] The sequence of the mean speed of the molecules is equal to the mean squared speed at a certain temperature

[C] Mean kinetic energy of the gas molecules at any given temperature is independent of the mean speed

[D] The difference between RMS speed and mean speed at any temperature for different gases diminishes as larger and yet larger molar masses are considered

52. Which of the following is known name for the reaction given below?



(where, X = Cl, Br, I, OTf; R_2 = Alkyl, Aryl, H; R_3 = Alkyl, Aryl)

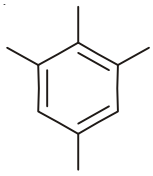
[A] Ullmann reaction

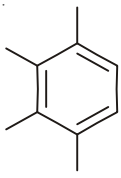
[B] Gabriel phthalimide synthesis

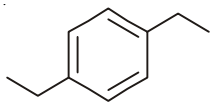
[C] Buchwald-Hartwig reaction

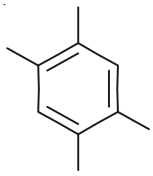
[D] Chan-Lam coupling

53. Which of the following is an organic compound having the molecular formulae $C_{10}H_{14}$ exhibited two singlets in the ^{1}H NMR spectrum and three signals in the ^{13}C NMR?

[A] 

[B] 

[C] 

[D] 

54. An organic compound (MF; $C_8H_{10}O$) exhibited the following ^1H NMR special data : 62·5 (3H, s), 3·8 (314, s), 6·8 (2H, *d*, J 8 Hz), 7·2 (2H, *d*, J 8 Hz) ppm. Which of the following is that compound among the choices?

[A] 4-methylbenzyl alcohol

[B] 4-methyl anisole

[C] 4-ethylphenol

[D] 2-ethylphenol

55. Which of the following is ***true*** about transesterification?

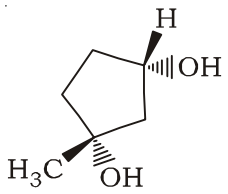
[A] Exchanging the organic alkyl group of alcohol with the organic group alkyl of an ester

[B] Exchanging the organic alkyl group of an ester with the organic group alkyl of an ether

[C] Exchanging the organic alkyl group of an ester with the organic group alkyl of an alcohol

[D] Exchanging the organic alkyl group of an ester with the organic group alkyl of an alkane

56. What is the complete IUPAC name of the following substance?



[A] (1 R,3S)-1-methylcyclopentane-1,3-diol

[B] (1 S,3R)-1-methylcyclopentane-1,3-diol

[C] (1 S,3S)-1-methylcyclopentane-1,3-diol

[D] (1 R,3R)-1-methylcyclopentane-1,3-diol

57. The temperature coefficient of the rate of a reaction is 3. How many times the rate of reaction would increase, if the temperature is raised by 30 K?

[A] 3

[B] 9

[C] 27

[D] 81

58. Which form represents term symbols in the Russell-Saunders coupling?

[A] $^{2S+1}L_2$

[B] $^{2L+1}S_J$

[C] $^{2S+1}L_J$

[D] ^{2S+1}J

59. Which one of these is ***not*** an intensive property?

[A] Boiling point

[B] pH

[C] EMF of a cell

[D] Entropy

60. What is the energy corresponding to a transition between 3rd and 4th orbits, if the ionization energy of hydrogen atom is 13·6 eV?

[A] 3·40 eV

[B] 1·51 eV

[C] 0·85 eV

[D] 0·66 eV

61. Most basic among following is

[A] NH_3

[B] PH_3

[C] SbH_3

[D] BiH_3

62. The molecule with biggest bond angle is

[A] NH_3

[B] NF_3

[C] H_3O^+

[D] NH_4^+

63. Which among CO_3^{2-}, SO_3, XeO_3 and NO_3^- have planar structure?

[A] CO_3^{2-}, SO_3, XeO_3

[B] SO_3, XeO_3, NO_3^-

[C] CO_3^{2-}, XeO_3, NO_3^-

[D] CO_3^{2-}, SO_3, NO_3^-

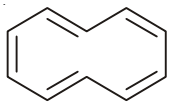
64. The CFSE will be highest for

[A] $[CoF_6]^{3-}$

[B] $[Co(CNS)_4]^{2-}$

[C] $[Mn(H_2O)_6]^{2+}$

[D] $[Co(NH_3)_6]^{3+}$

65.  is not aromatic because

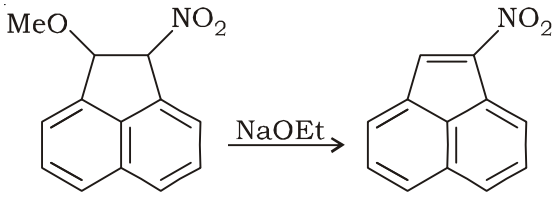
[A] it does not have delocalization of π electrons

[B] it has maximum angle strain

[C] it has not allowed $4n + 2$ Huckel's rule

[D] this molecule is not planar

66. The reaction given below is an example of



[A] E_2 elimination

[B] E_1 elimination

[C] Syn elimination

[D] E_1CB elimination

67. In a 200 MHz NMR spectrometer, a molecule shows two doublets separated by 2 ppm. The observed coupling constant is 10 Hz. The separation between these two signals and the coupling constant in a 600 MHz spectrometer will be, respectively

[A] 600 Hz and 30 Hz

[B] 1200 Hz and 30 Hz

[C] 600 Hz and 10 Hz

[D] 1200 Hz and 10 Hz

68. **Statement I :** The size of Zr and Hf are similar.

Statement II : Size of Hf is affected by lanthanide contraction.

[A] Statement I and II are correct and II is the correct explanation of I

[B] Statement I and II are correct but II is not the correct explanation of I

[C] Statement I is correct and II is incorrect

[D] Statements I and II are both incorrect

69. The complex in which ligand form only C bond with metal is

[A] $W(CH_3)_6$

[B] $(n^5\text{-}C_5H_5)_2Fe$

[C] $K[PtCl_3(C_2H_4)]$

[D] $(n^6\text{-}C_6H_6)_2Ru$

70. The decreasing order of nucleophilicity for the following anions is

$CH_3CO_2^-$, CH_3O^-, $C_6H_5O^-$, NO_3^-

[A] $CH_3CO_2^- > CH_3O^- > C_6H_5O^- > NO_3^-$

[B] $CH_3O^- > NO_3^- > C_6H_5O^- > CH_3CO_2^-$

[C] $CH_3O^- > C_6H_5O^- > CH_3CO_2^- > NO_3^-$

[D] $C_6H_5O^- > CH_3O^- > NO_3^- > CH_3CO_2^-$

PART—II

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

71. Alhamdulillah means

আলহামদুলিল্লাহ এর অর্থ

[A] Praise be to Allah

[B] Glory be to Allah

[C] Allah is almighty

[D] Allah is the most gracious

72. As per Islam, which of the following is ***true*** about intoxicants?

ইসলাম অনুসারে মাদকদ্রব্যের ব্যাপারে কোন্ বক্তব্যটি **সঠিক**?

[A] Totally allowed

[B] Marginally allowed

[C] Marginally forbidden

[D] Strongly forbidden

73. The *Holy Qur'an* is revealed

'পবিত্র কুরআন' অবতীর্ণ হয়েছে

[A] at a time

[B] over a period of 12 years

[C] over a period of 23 years

[D] over a period of 32 years

74. The saying 'Cleanliness is half of faith' is made by

'পবিত্রতা ঈমানের অর্ধেক' এই উক্তিটি করেছেন

[A] Prophet Muhammad

[B] Hazrat Umar

[C] Ibn Taymiyya

[D] Imam Bukhari

75. The prayer at the noon is called

দুপুরের নামাযকে বলা হয়

[A] Fajr

[B] Zuhr

[C] Asar

[D] Isha

76. Mother of Prophet Muhammad (PBUH) died when he was _____ year(s) old.

পয়গম্বর মুহাম্মদ(সা.) মাতৃহারা হন _____ বছর বয়সে।

[A] 1

[B] 3

[C] 6

[D] 12

77. Which of the following is a festival of sacrifice?

নিম্নের কোনটি ত্যাগের উৎসব?

[A] Laylat al-Qadr

[B] Muharram

[C] Eid al-Fitr

[D] Eid al-Adha

78. The first woman martyr in Islam is

ইসলামের প্রথম মহিলা শহীদ হলেন

[A] Asma

[B] Nusaybah

[C] Al-Khansa

[D] Sumayyah

79. Hijri calendar is enumerated from the time of

কোন্ সময় থেকে হিজরি ক্যালেন্ডার গণনা করা হয়?

[A] birth of Prophet Muhammad

[B] migration of Prophet Muhammad to Madinah

[C] journey of Prophet Muhammad into heaven

[D] death of Prophet Muhammad

80. Islam acknowledges

ইসলাম স্বীকৃতি দেয়

[A] only the last Prophet

[B] only the last four Prophets

[C] only the last ten Prophets

[D] all the Prophets

81. On which day Muslims pray Jummah Prayer?

কোন্ দিনে মুসলমানরা জুমার নামায পড়ে?

[A] Sunday

[B] Saturday

[C] Tuesday

[D] Friday

82. The term Waqf refers to _____.

ওয়াকফ শব্দটি বোঝায় _____।

[A] Bill of exchange

[B] What is due to the State treasury?

[C] Promissory note

[D] Charitable foundation or trust

83. The Arabic term Haq means

আরবি শব্দ হক এর অর্থ হলো

[A] legal rights

[B] credit proposal

[C] taking full responsibility

[D] kind of sale

84. How many gates of Jannah are there?

জান্নাতের দরজা কয়টি?

[A] Six

[B] Seven

[C] Eight

[D] Nine

85. Name the Angel who was appointed to deliver messages to Prophet Muhammad (SAW) from Allah (SWT)?

আল্লাহর (সুবাহানাহু ওয়া তায়ালা) পক্ষ থেকে নবী মুহাম্মদ(সা.)-এর কাছে বার্তা পৌঁছে দেওয়ার জন্য নিযুক্ত ফেরেশতার নাম কি?

[A] Jibreel (AS)

[B] Mikael (AS)

[C] Israfil (AS)

[D] Azrael (AS)

86. Which Country is called the 'Land of Prophets'?

কোন্ দেশকে 'নবীদের দেশ' বলা হয়?

[A] Saudi Arabia

[B] Syria

[C] Palestine

[D] Iraq

87. Which word is mentioned most times in the *Holy Qur'an*?

'পবিত্র কুরআনে' কোন্ শব্দটি সবচেয়ে বেশি বার উল্লেখ করা হয়েছে?

[A] Qul

[B] Allah

[C] Rahman

[D] Āmana

88. What is the name of the fountain which each person of paradise will drink before entering?

জান্নাতে প্রত্যেক ব্যক্তি প্রবেশের পূর্বে যে ঝর্ণার জল পান করবে তার নাম কি?

[A] Zamzam

[B] Kawsar

[C] Tasneem

[D] None of the above

89. How many times does 'Bismillah' repeat in the *Holy Qur'an*?

'পবিত্র কুরআনে' কতবার 'বিসমিল্লাহ' এসেছে?

[A] 112

[B] 113

[C] 114

[D] None of the above

90. Which is the longest Surah in the *Holy Qur'an*?

'পবিত্র কুরআনের' দীর্ঘতম সূরা কোনটি?

[A] Surah Al - Maidha

[B] Surah An - Nisa

[C] Surah Al - Imran

[D] Surah Al - Baqarah

91. The study of various aspects of ageing is called

[A] Psephology

[B] Chronology

[C] Gerontology

[D] Entomology

92. The fear of being without your mobile phone is called

[A] Philophobia

[B] Claustrophobia

[C] Ophidiophobia

[D] Nomophobia

93. His courage won him honour. Identify the type of the underlined noun.

[A] Proper

[B] Collective

[C] Abstract

[D] Common

94. Fill in the blank with the ***correct*** alternative.

When I met her _____ years after, she looked old and haggard.

[A] a few

[B] the few

[C] few

[D] some

95. Choose the ***correct*** alternative from the given sentences :

[A] Those never fail who dies in great cause

[B] They never fail who die in a great cause

[C] They never fails who dies in a great cause

[D] They never fails who die in a great cause

96. Who is called the first female teacher of India?

ভারতের প্রথম মহিলা শিক্ষক কাকে বলা হয়?

[A] Sarojini Naidu

[B] Savitribai Phule

[C] Rani Lakshmibai

[D] None of them

97. Mount Etna is a famous volcano located in

মাউন্ট এটনা একটি বিখ্যাত আগ্নেয়গিরি অবস্থিত

[A] Argentina

[B] Italy

[C] Mexico

[D] Philippines

98. The Battle of Kalinga was fought in the year

কলিঙ্গের যুদ্ধ কবে সংঘটিত হয়েছিল?

[A] 540 BC

[B] 320 AC

[C] 440 BC

[D] 261 BC

99. In which year the First World War was fought?

প্রথম বিশ্বযুদ্ধ কত সালে সংঘটিত হয়েছিল?

[A] 1917 – 1920

[B] 1914 – 1918

[C] 1912 – 1916

[D] 1910 – 1914

100. Which country is the largest tea producer in the world?

বিশ্বের বৃহত্তম চা উৎপাদনকারী দেশ কোনটি?

[A] India

[B] China

[C] Bhutan

[D] Nepal

SPACE FOR ROUGH WORK

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