INSTRUCTIONS TO CANDIDATES

(Use only blue/black ball-point pen in the space above and on both sides of the OMR Answer Sheet)

1. Within 30 minutes of the issue of the Question Booklet, check the Question Booklet to ensure that it contains all the pages in correct sequence and that no page/question is missing. In case of faulty Question Booklet bring it to the notice of the Superintendent/Invigilators immediately to obtain a fresh Question Booklet.

2. Do not bring any loose papers, written or blank, inside the Examination Hall except the Admit Card.

3. A separate OMR Answer Sheet is given. It should not be folded or mutilated. A second OMR Answer Sheet shall not be provided. Only the OMR Answer Sheet will be evaluated.

4. Write all the entries by blue/black ball pen in the space provided above.

5. On the front page of the OMR Answer Sheet, write by pen your Roll Number in the space provided at the top, and by darkening the circles at the bottom. Also, write the Question Booklet Number, Centre Code Number and the Set Number (wherever applicable) in appropriate places.

6. No overwriting is allowed in the entries of Roll No., Question Booklet No. and Set No. (if any) on OMR Answer Sheet and also Roll No. and OMR Answer Sheet Serial No. on the Question Booklet.

7. Any change in the aforesaid entries is to be verified by the Invigilator, otherwise it will be taken as unfair means.

8. Each question in this Booklet is followed by four alternative answers. For each question, you are to record the correct option on the OMR Answer Sheet by darkening the appropriate circle in the corresponding row of the OMR Answer Sheet, by ball-point pen as mentioned in the guidelines given on the first page of the OMR Answer Sheet.

9. For each question, darken only one circle on the OMR Answer Sheet. If you darken more than one circle or darken a circle partially, the answer will be treated as incorrect.

10. Note that the answer once filled in ink cannot be changed. If you do not wish to attempt a question, leave all the circles in the corresponding row blank (such question will be awarded zero mark).

11. For rough work, use the inner back page of the title cover and the blank page at the end of this Booklet.

12. On completion of the Test, the Candidate must handover the OMR Answer Sheet to the Invigilator in the examination room/hall. However, candidates are allowed to take away Text Booklet and copy of OMR Answer Sheet with them.

13. Candidates are not permitted to leave the Examination Hall until the end of the Test.

14. If a candidate attempts to use any form of unfair means, he/she shall be liable to such punishment as the University may determine and impose on him/her.

संबंधित हिंदी में अनिश्चित आवेदन-पत्र पर लिखी गई है]
SPACE FOR ROUGH WORK

रफ़ कार्य के लिए जमाह
No. of Questions : 120

Time : 2 Hours

Full Marks : 360

Note :

(1) Attempt as many questions as you can. Each question carries 3 marks. One mark will be deducted for each incorrect answer. Zero mark will be awarded for each unattempted question.

(2) If more than one alternative answers seem to be approximate to the correct answer, choose the closest one.

1. The Mathematics of exponential growth in micro-organisms can be expressed as

(1) \( \log N_o = n \log 2 + \log N \) \hspace{1cm} (2) \( n \log 2 = \log N + \log N_o \)

(3) \( \log N = 2 \log N_o \) \hspace{1cm} (4) \( \log N = \log N_o + n \log 2 \)

2. Malolactic fermentation is carried out during the production of

(1) Beer \hspace{1cm} (2) Wine \hspace{1cm} (3) Biofuels \hspace{1cm} (4) Cheese
3. Cyanotoxins are produced by
   (1) Green algae   (2) Blue-green algae
   (3) Red algae    (4) Yellow-green algae

4. In a scheme of classification, genetically related groups represent a
   (1) Clone       (2) Clade       (3) Kingdom   (4) Domain

5. Which one of the following is not found in phytoplasma cell membrane?
   (1) Proteins    (2) Lipids      (3) Sterols   (4) Fatty acids

6. Clinically useful aminoglycosides includes
   (1) Penicillin  (2) Cephalosporin
   (3) Streptomycin (4) Erythromycin

7. Dipicolinic acid is formed mainly in which one of the following bacterial structures?
   (1) Flagella    (2) Sex pilus    (3) Capsule   (4) Endospore

8. *E. coli* genomic DNA has approximately how many base pairs?
   (1) 4.5 Mb      (2) 1.8 Mb      (3) 2.1 Mb    (4) 8.5 Mb
9. Vaccination was developed by
   (1) Stanley Prusiner    (2) Edward Jenner
   (3) Paul Ehrlich       (4) Robert Koch

10. Genomic concatemeric DNA is formed during the replication of
    (1) Bacteriophage     (2) Bacteria
        (3) Yeast         (4) Plant virus

11. Bacteroids surrounded by a plant cytoplasmic membrane form structures called
    as
    (1) Infection thread   (2) Symbiosome
        (3) Nod factors    (4) Root nodules

12. Which one of the following has been used to enrich rice paddies with fixed nitrogen?
    (1) Azolla            (2) Rhizobium
        (3) Streptomyces   (4) Agrobacterium

13. The cos sites of bacteriophage lambda is made up of how many nucleotides?
    (1) 8          (2) 12          (3) 16          (4) 20

14. Which one of the following is not a mutagen?
    (1) Ethidium bromide  (2) X-ray
        (3) Transposons    (4) Salicylic acid

   61   3

(P.T.O.)
15. The lac repressor functions as a
   (1) Monomer   (2) Dimer   (3) Trimer   (4) Tetramer

16. A oxygenic phototroph, prochlorophyte, contains
   (1) Phycobilins and chlorophyll b
   (2) Chlorophylls a and b, and no phycobilins
   (3) Phycobilins and chlorophylls a and b
   (4) Phycobilins and no chlorophylls

17. Which one of the following is a MoFe protein?
   (1) Dinitrogenase   (2) Dinitrogenase reductase
   (3) 1,3-β-glucanase   (4) DNA polymerase

18. Taking up DNA by transformation is an inherited property of a bacterium. This
    is due to the presence of
   (1) Com protein genes   (2) Nif genes
   (3) Trp operon   (4) siRNA

19. A mutant with a growth requirement for a specific nutrient is known as
    (1) Autotroph   (2) Auxotroph   (3) Heterotroph   (4) Phototroph
20. Some of the metabolic plasmids of bacteria carry genes for enzymes that direct

(1) The formation of sex pili
(2) Destruction and modification of antibiotics
(3) Degradation of aromatic compounds
(4) Killing of other bacteria

21. Chemoautotrophic bacteria derive energy for their physiological needs by

(1) Oxidizing organic compounds (2) Reducing N₂
(3) Absorbing solar energy (4) Oxidizing inorganic chemicals

22. 'Red-rust of tea' disease is caused by a member of

(1) Algae (2) Bacteria (3) Plant viruses (4) Fungi

23. The term cistron was given by

(1) Muller (2) Sutton (3) Benzer (4) Nirenberg

24. The famous microbiologist, who disapproved the theory of spontaneous generation was

(1) Carl Woese (2) Martin Beijerinck
(3) Louis Pasteur (4) Stanley Miller
25. The mode of nutrition of methanogenic bacteria is
   (1) Chemoautotrophic  (2) Photoheterotrophic
   (3) Chemoorganotrophic  (4) Auxotrophic

26. Select the mismatch:
   (1) Phycoerythrin pigment — Non-photosynthetic
   (2) Heterocyst — Anaerobic cell
   (3) Bacterial endospores — Heat resistant cells
   (4) Ammonium nitrogen — Electron donor

27. The association and dissociation of ribosomal subunits are dependent on the concentrations of
   (1) Mg ions  (2) Ca ions  (3) Na ions  (4) Mn ions

28. If a bacterial cell divides in every 20 minutes, how many bacterial cells will be formed in two hours?
   (1) 16  (2) 24  (3) 64  (4) 32

29. The main biological function of naturally occurring bacteria associated with the gold and copper mines is
   (1) To oxidize reduced sulfur and form $H_2SO_4$
   (2) To convert ammonia to nitrate
   (3) To oxidize $Fe^{+2}$ to $Fe^{+3}$
   (4) To fix $N_2$
30. When an old bacterial culture is transferred to fresh basal medium, the lag growth phase will be

(1) Prolonged
(2) Absent
(3) Reduced
(4) Without any change

31. When mutation occurs due to the substitution of a pyrimidine base by a purine base, it is called as

(1) Transition
(2) Transgenic
(3) Transformation
(4) Transversion

32. The ‘Super Bug’, a transgenic bacterial strain, was created to clean the pollution caused by

(1) Pesticides
(2) Eutrophication
(3) Heavy metals
(4) Petroleum hydrocarbons

33. How many quanta of light energy are required for the use of 4 positive equivalents (with the production of 4 reducing equivalents), necessary for the evolution of one molecule of $O_2$ from two molecules of $H_2O$ ?

(1) 8  (2) 12  (3) 6  (4) 4

34. The entire network of cell cytoplasm of plant cells, interconnected by plasmodesmata is referred as

(1) Apoplast
(2) Spheroplast
(3) Symplast
(4) Protoplast

(P.T.O.)
35. Which of the following is primary transporter?
   (1) Antiporter
   (2) Symporter
   (3) Uniporter
   (4) ABC transporters

36. Cyanobacteria differ from purple and green phototrophic bacteria because they
   (1) Show oxygenic photosynthesis
   (2) Use H$_2$S as an electron donor
   (3) Have a membrane-enclosed nucleus
   (4) Do not require light

37. Which of the following is not a sink in the plants?
   (1) Flower bud
   (2) Developing fruit
   (3) Photosynthetically active leaf
   (4) A storage organ of the plant

38. Zygote is characterised by
   (1) Synapsis, crossing-over, tetrad formation
   (2) Synapsis, bivalents, crossing-over
   (3) Recombination nodules, synapsis and bivalents
   (4) Bivalents, synapsis, tetrad formation
39. Which of the following is arginine rich?
   (1) H1  (2) H2A  (3) H2B  (4) H3

40. Cell cycle is regulated by the master control molecules known as
   (1) Transferases  (2) Lipases
   (3) Kinases  (4) Dehydrogenases

41. Which of the following is a microfilament?
   (1) Keratin  (2) Actin  (3) Desmin  (4) Tubulin

42. Which of the following is hemizygous?
   (1) Male mice  (2) Male *Drosophila*
   (3) Female *Drosophila*  (4) Male plant of *Melandrium*

43. Which of the following combinations is true as proponents of 'synthetic theory of evolution'?
   (1) T. Dobzhansky, R. A. Fisher, Lamarck, J. B. S. Haldane, Ernst Mayr
   (2) T. Dobzhansky, R. A. Fisher, Darwin, J. B. S. Haldane, Ernst Mayr
   (3) T. Dobzhansky, R. A. Fisher, Hugo de Vries, J. B. S. Haldane, Ernst Mayr
   (4) T. Dobzhansky, R. A. Fisher, J. B. S. Haldane, Ernst Mayr, Sewall Wright, G. L. Stabbins

44. 'Linkage map' is also referred to as
   (1) Chromosome map  (2) Physical map
   (3) Restriction map  (4) Genetic map
45. In glycolysis fructose-6-phosphate is transformed to fructose 1,6-diphosphate by the enzyme

(1) Hexokinase
(2) Phosphohexoisomerase
(3) Phosphofructokinase
(4) Phosphotriose isomerase

46. Chitin is a

(1) Polypeptide
(2) Polysaccharide
(3) Polyphosphate
(4) Lipid

47. Which of the following enzyme is responsible for DNA chain elongation?

(1) DNA polymerase I
(2) DNA polymerase II
(3) DNA polymerase III
(4) RNA polymerase

48. Agarose-gel electrophoresis is used for separating

(1) Proteins
(2) Nucleic acids
(3) Lipids
(4) Carbohydrates

49. Which of the following element is responsible for evolving oxygen in plant through splitting of water by changing its oxidation states?

(1) Fe
(2) Mg
(3) Mn
(4) Cu

50. Psammophytes grow on

(1) Stone
(2) Saline land
(3) Sand
(4) Marshy lands
51. ‘Stone leprosy’ is caused by

(1) *Mycobacterium leprae*  
(2) Lightening  
(3) Acid rain  
(4) Dust on sand  

52. The site of glycosidation of lipids and proteins to produce glycolipids and glycoproteins in the cell is

(1) Mitochondria  
(2) Chloroplast  
(3) Golgi complex  
(4) Lysosomes  

53. One gene-one enzyme hypothesis was given by

(1) Beadle and Tatum  
(2) Jacob and Monad  
(3) Watson and Crick  
(4) Luria and Delbrick  

54. Clathrin coated vesicles are meant for

(1) Extracellular traffic  
(2) Intracellular traffic  
(3) Coating vacuole  
(4) Protein synthesis  

55. Which one of the following are terminator codons?

(1) UAA, UAG, UGA  
(2) AUG, UAG, UGA  
(3) UAC, AUG, UAG  
(4) AUG, ACG, GAG

(P.T.O.)
56. The starting tRNA of prokaryotes is loaded with
   (1) Valine               (2) Methionine
   (3) Tryptophan          (4) Formylated methionine

57. Which of the following contains hydrolytic enzymes?
   (1) Dictyosomes  (2) Peroxisomes  (3) Lysosomes  (4) Carboxysomes

58. $K_m$ (Michaelis-Menten constant) is defined as
   (1) The substrate concentration at which all of the enzyme molecules are forming ES complex
   (2) The substrate concentration at which $\frac{3}{4}$ of the enzyme molecules are forming ES complex
   (3) The substrate concentration at which $\frac{1}{2}$ of the enzyme molecules are forming ES complex
   (4) The substrate concentration at which $\frac{1}{3}$ of the enzyme molecules are forming ES complex

59. The study of genetic material recovered directly from environmental samples is known as
   (1) Metagenomics       (2) Proteomics
   (3) Genomics           (4) Metabolomics

60. MAB stands for
   (1) Man and Biology   (2) Man and Biosphere Programme
   (3) Map and Biology   (4) Management and Biosphere

(61) 12
61. How many CO₂ molecules exit from citric acid cycle?
   (1) One           (2) Two           (3) Three       (4) Four

62. Which one of the following immunoglobulins is associated with anaphylactic
delayed hypersensitivity reaction?
   (1) IgE           (2) IgA           (3) IgG         (4) IgM

63. A population of individuals of species, having genetic differences is referred as
   (1) Ecotype       (2) Ecad          (3) Ecotone     (4) Biotype

64. Which one of the following gases is microbiocidal in nature?
   (1) Nitrogen      (2) Ethylene oxide
   (3) Hydrogen      (4) Oxygen

65. Edman’s reagent is preferred for sequence determination of a protein because
during one cycle of reaction it
   (1) Modifies and cleaves only N-terminal amino acid residue
   (2) Modifies and cleaves only C-terminal amino acid residue
   (3) Cleaves N-terminal amino acid residue in native form
   (4) Cleaves C-terminal amino acid residue in native form
66. In a dipeptide, peptide bond is generated between
   (1) $\alpha$-COOH of 1st and $\alpha$-NH$_2$ of 2nd amino acid
   (2) $\alpha$-NH$_2$ of 1st and $\alpha$-COOH of 2nd amino acid
   (3) $\beta/\gamma$-NH$_2$ of 1st and $\beta/\gamma$-COOH of 2nd amino acid
   (4) $\alpha$-C of 1st and $\alpha$-C of 2nd amino acid

67. Which one of the following stabilizes $\alpha$-helix structure of a protein?
   (1) Peptide bonds          (2) Disulphide bonds
   (3) Ionic bonds            (4) Hydrogen bonds

68. Exposure of a native protein to heat results into partial denaturation of the
    protein due to breaking of
   (1) Disulphide bonds       (2) Hydrophobic interaction
   (3) Hydrogen bonds         (4) Peptide bonds

69. Enzymes, which do not follow normal Michaelis-Menten kinetics and exhibit
    cooperativity are
   (1) Isoenzymes             (2) Coenzymes
   (3) Allosteric enzymes     (4) Abzymes

70. Lactate dehydrogenase belongs to which major class of the enzymes?
   (1) Ligases                 (2) Transferases
   (3) Oxido-reductases        (4) Isomerases
71. Identify an aldose from the options given below
   (1) Dihydroxy acetone   (2) Glyceraldehyde
   (3) Xylulose           (4) Ribulose

72. Which one of the following pairs represents an isomer to each other?
   (1) D-glucose and L-glucose   (2) α-D-glucose and β-D-glucose
   (3) D-glucose and D-mannose   (4) D-glucose and D-fructose

73. Identify the glycolytic enzyme which is associated with substrate level ATP synthesis
   (1) Phosphofructokinase       (2) Hexokinase
   (3) Pyruvate kinase           (4) Aldolase

74. Identify a decarboxylase out of the TCA cycle enzymes given below
   (1) Isocitrate dehydrogenase   (2) Succinate dehydrogenase
   (3) Fumerase                  (4) Malate dehydrogenase

75. The ‘Fo’ domain of the mitochondrial Fo-F1 complex is named so because it represents
   (1) The protein fragment given no number
   (2) The protein fragment that does not perform catalytic function
   (3) Cofactor binding domain
   (4) Domain that confers oligomycin sensitivity to the complex
76. Which one of the following enzymes synthesize a cell signaling factor?
   (1) Cyclooxygenase  (2) Cytochrome oxidase
   (3) Cytochrome-Q-reductase  (4) Co-A reductase

77. The protein part of an enzyme, which utilizes cofactors for its catalytic functions, is known as
   (1) Apoenzyme  (2) Coenzyme
   (3) Holoenzyme  (4) Native enzyme

78. Which one of the following is an amphoteric molecule?
   (1) α-Glycine  (2) Triglyceride  (3) Sucrose  (4) Phospholipid

79. Out of the following lipids, which one contains maximum number of fatty acids?
   (1) Cholesterol  (2) Biological wax
   (3) Prostaglandin  (4) Triglyceride

80. In a nucleotide structure, phosphate is attached to the ribose sugar by a
   (1) Phosphoester bond  (2) Phosphodiester bond
   (3) Glycoside  (4) Peptide

81. 2'-deoxy-cytidine is a
   (1) Nucleotide  (2) Di-nucleotide
   (3) Modified base  (4) Nucleoside

(61) 16
82. Which one of the following RNAs assume tertiary structure for its functions?

(1) Hn-RNA  (2) mRNA  (3) tRNA  (4) 5S rRNA

83. During prokaryotic DNA synthesis, RNA primers at lagging strand are removed by

(1) S1 nuclease  (2) DNA polymerase I
(3) DNA polymerase III  (4) RNase II

84. Which analytical tool was used by Hershey and Chase to demonstrate that DNA serves as hereditary material and not the proteins?

(1) Radiotracer technique
(2) X-ray diffraction analysis
(3) Spectrometry
(4) Density gradient centrifugation

85. The polymerase that synthesizes a polynucleotide chain in a template independent manner is

(1) DNA Pol-I  (2) DNA Pol-III
(3) RNA polymerase  (4) Poly-a polymerase

86. Discovery of ribozymes associates with

(1) RNA splicing  (2) Transcriptional silencing
(3) Translational silencing  (4) DNA ligase activity
87. Identify the factor that terminates prokaryotic translation

(1) 1F2-GTP  (2) 1F2  (3) RF1  (4) RG3

88. In a charged tRNA, amino acid is linked at

(1) 3'-end
(2) 5'-end
(3) D-loop
(4) Adjacent to anti-codon sequences

89. A human recombinant gene can be successfully translated in E. coli. This is because

(1) Genetic code is universal
(2) Genetic code is degenerate type
(3) E. coli and human have similar translational factors
(4) E. coli and human have similar ribosomal organization

90. Which one is used as a genetic vector?

(1) λ-Phage DNA  (2) Retroviral RNA
(3) Retrovial cDNA  (4) RNA primer
91. In a P700 reaction centre of chlorophyll, 700 denotes for
(1) Light wavelength
(2) Number of reaction centres
(3) Potential of the photosystem
(4) Number of water molecule split

92. During photosynthetic dark reaction, the inorganic C is fixed with
(1) Ribulose 2,5-bisphosphate (2) Ribose 2,5-bisphosphate
(3) Ribulose 1,5-bisphosphate (4) Ribose 1,5-bisphosphate

93. Identify the Cu containing photosynthetic pigment
(1) Chlorophyll (2) Plastocyanin
(3) Thioredoxin (4) Ferredoxin

94. In eukaryotes, the first transcript synthesized by RNA polymerase II is referred as
(1) mRNA (2) sn-RNA (3) Hn-RNA (4) t-RNA

95. The conformation of 2'-deoxy-ribose in a DNA double strand is
(1) Chair type (2) Boat type
(3) Furanose ring type (4) Puckered type

(P.T.O.)
96. Titration of a completely protonated solution of α-arginine against a base would produce pK values of

(1) One  (2) Two  (3) Three  (4) Four

97. Maximum number of electrons in a subshell with \( l = 3 \) and \( n = 4 \) is

(1) 10  (2) 12  (3) 14  (4) 16

98. Mg\(^{2+}\) is isoelectronic with

(1) Ca\(^{2+}\)  (2) Na\(^+\)  (3) Zn\(^{2+}\)  (4) Cu\(^{2+}\)

99. How many stereoisomers of 3-bromo-2-butanol \( \text{CH}_3 \text{CH(OH)} \text{CHBrCH}_3 \) exist?

(1) 2  (2) 4  (3) 3  (4) 1

100. The isomers which can be interconverted through rotation around a single bond are

(1) Conformers  (2) Diastereomers  
(3) Enantiomers  (4) Positional isomers

101. Standard enthalpy change of combustion occurs when 1 mol of substance is burnt in excess of

(1) Nitrogen  (2) Oxygen  
(3) Carbon dioxide  (4) Helium

(61) 20
102. CH$_3$CHO and C$_6$H$_5$CH$_2$CHO can be distinguished chemically by
   (1) Tollens' reagent test  (2) Fehling solution test
   (3) Benedict test       (4) Iodoform test

103. The enzyme, tyrosinase, is activated by
   (1) iron         (2) copper     (3) zinc     (4) potassium

104. In hemoglobin, the transition from T state to R state is triggered by
   (1) Fe$^{2+}$ binding (2) Heme binding
   (3) Oxygen binding    (4) Subunit association

105. Ethylene glycol reacts with dimethyl terephthalate to form
   (1) Nylon-66     (2) Teflon   (3) Orlon   (4) Dacron

106. The number of asymmetric carbon atoms in the $\alpha$-D-glucopyranose molecule is
   (1) 2  (2) 3  (3) 4  (4) 5

107. Which is a disaccharide?
   (1) Glucose (2) Maltose (3) Fructose (4) Cellulose

(61) 21 (P.T.O.)
108. Which of hydrogens a-d in the following molecule gives a triplet signal in a normal $^1$HNMR spectrum?

\[ \text{CH}_3-\text{C}-\text{CH}_2\text{CH(OCH}_3\text{)}_2 \]

- (1) Hydrogen a
- (2) Hydrogen b
- (3) Hydrogen c
- (4) Hydrogen d

109. Which one of the following set of quantum numbers represents highest energy?

- (1) $n = 2$, $l = 1$
- (2) $n = 3$, $l = 2$
- (3) $n = 3$, $l = 1$
- (4) $n = 2$, $l = 0$

110. Strength of hydrogen bond is intermediate between

- (1) van der Waal and covalent
- (2) ionic and covalent
- (3) ionic and metallic
- (4) metallic and covalent

111. For a reaction to be spontaneous, the following is essential to be negative

- (1) $\Delta H - T\Delta S$
- (2) $\Delta H + T\Delta S$
- (3) $\Delta H$
- (4) $\Delta S$

112. When ice melts into water, entropy

- (1) becomes zero
- (2) decreases
- (3) increases
- (4) remains same

113. The value of free energy change at equilibrium is

- (1) positive
- (2) negative
- (3) zero
- (4) not definite
114. Which one of the following is not a hard base?

(1) $\text{NH}_3$   (2) $\text{H}_2\text{O}$   (3) $\text{Cl}^-$   (4) $\text{CN}^-$

115. $\text{Hg}^{2-}$ is classified as

(1) soft acid   (2) hard acid   (3) soft base   (4) hard base

116. Winkler method is used to determine

(1) Dissolved Oxygen (DO)
(2) Biochemical Oxygen Demand (BOD)
(3) Organic Carbon (OC)
(4) Elemental Carbon (EC)

117. The smog is generally caused by the presence of

(1) $\text{O}_2$ and $\text{O}_3$   (2) $\text{NO}_X$ and $\text{SO}_X$
(3) $\text{O}_2$ and $\text{N}_2$   (4) $\text{O}_3$ and $\text{N}_2$

118. The prefixes $Z$ and $E$ stand for

(1) Zeigler-Erhard   (2) Zwitter-Erythro
(3) Zirco-Estrogen   (4) Zusammen-Enteggen

61       23       (P.T.O.)
119. Bakelite is a cross-linked polymer of
   (1) Phenol                      (2) Formaldehyde
   (3) Both phenol and formaldehyde (4) Wool

120. $\alpha$-D-glucose and $\beta$-D-glucose are
   (1) anomeric sugar             (2) epimeric sugar
   (3) position isomers           (4) functional isomers

   +++
रफ़ काम के लिए जगह
अभ्यासियों के लिए निर्देश

(इस पुस्तिका के प्रथम अंश से पृष्ठ 1 पर तथा ओ.एम.आर.ए का उन्नत-पत्र के दोनों पृष्ठों पर केवल दोहरी/काली बाल-प्यार्ट पेन से ही लिखें)

1. प्रम-पुस्तिका मिलने के 30 मिनट के अंतर ही देख से कि प्रश्नपत्र में सभी पृष्ठ पूरे हैं और कोई पृष्ठ या प्रश्न नहीं भरा है। पुस्तिका टॉपस्कन पाए होने पर उसकी सुंग मात्रक काँब-निरीक्षक को देखकर समपूर्ण प्रश्नपत्र की दी गई पुस्तिका प्राप्त कर सके।

2. पीछा बचने में प्रवेश-पत्र के अनुसार, लिखित या माना कोई भी कुछ क्रिया मात्र पेन में न लिखो।

3. ओ.एम.आर.ए का उन्नत-पत्र अनुसार से दिया गया है। इसे न तो मोड़ और न ही विकृत करें। दूसरा ओ.एम.आर.ए उन्नत-पत्र नहीं दिया जायेगा। केवल ओ.एम.आर.ए उन्नत-पत्र का ही मूलयोक्तन किया जायेगा।

4. सभी प्रश्नों के प्रथम आवरण-पुष्ट के नीचे/काली बाल पेन से निर्धारित झण्डा पर लिखें।

5. ओ.एम.आर.ए उन्नत-पत्र के प्रथम पृष्ठ पर पेन से अपना अनुक्रमांक निर्धारित स्थान पर लिखें तथा नीचे दिखाई दें। जहाँ-जहाँ आवश्यक हो वह प्रश्न-पुस्तिका का क्रमांक एवं केंद्रीय कोड नम्बर तथा सेट का मात्र जिन्दा स्थानों पर लिखें।

6. ओ.एम.आर.ए उन्नत-पत्र पर अनुक्रमांक संख्या, प्रश्न-पुस्तिका संख्या एवं सेट संख्या (यदि कोई ही) तथा प्रश्न पुस्तिका पर अनुक्रमांक संख्या और ओ.एम.आर.ए उन्नत-पत्र संख्या की प्रश्नियों में उपरोक्त की अनुमति नहीं है।

7. उपरोक्त प्रश्नियों में कोई भी परिवर्तन कर नहीं निरीक्षक द्वारा प्रमाणित होना चाहिए। अन्यथा यह एक अभ्यासियों सह एक प्रश्न प्राप्त माना जायेगा।

8. प्रश्न-पुस्तिका में प्रश्न के चार वैकल्पिक उत्तर दिए गये हैं। प्रथम प्रश्न के वैकल्पिक उत्तर के लिए अपने ओ.एम.आर.ए उन्नत-पत्र की सम्बन्धित पंक्ति के सामने दिये गये वृत्त को ओ.एम.आर.ए उन्नत-पत्र के प्रथम पृष्ठ पर दिये गये निर्देशों के अनुसार पेन से गाढ़ा करता है।

9. प्रथम प्रश्न के उत्तर के लिए केवल एक ही वृत्त को गाढ़ा करें। एक से अधिक वृत्तों का गाढ़ा करने पर आपके पर एक वृत्त की अदृश्य ध्यान रखें तथा उसका माना जायेगा।

10. ध्यान दें कि एक वार स्थायी अंकित उत्तर बदला नहीं जा सकता है। यदि आप किसी प्रश्न का उत्तर कहीं देखा गया है, तो समस्तीत्र पंक्ति के सामने दिये गये सभी वृत्तों को ध्यान दें। ऐसे प्रश्नों पर मूल्य अनुभव नहीं लिया जाएगा।

11. रक-कार्य के लिए प्रश्न-पुस्तिका के अनुसार वाले पृष्ठ तथा अलग पृष्ठ का प्रयोग करें।

12. परीक्षा की समाप्ति के बाद अभ्यर्थी अपने ओ.एम.आर.ए उन्नत-पत्र पर परीक्षा कार्य/हेतु पत्र के काफी निरीक्षक को संचारित को संचारित करें। अभ्यासियों के समय प्रश्न-पुस्तिका तथा ओ.एम.आर.ए उन्नत-पत्र की प्रश्न ले जा सकते हैं।

13. परीक्षा समाप्त होने से पहले परीक्षा भवन से बाहर आने के अनुमति नहीं होगी।

14. किंतु कोई अभ्यर्थी परीक्षा में अनुचित साधनों का प्रयोग करता है, तो वह बिल्कुल सूचीबद्ध द्वारा निर्धारित उपकरण/की, प्रेम लोगों/हामी।