| Roll No | | | | | | | | | |
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| O. M. R. Serial No. | | | | | | | | | |

M. Sc. (Biotechnology) (Second Semester) (NEP) EXAMINATION, 2022-23

INTERMEDIARY METABOLISM

| Paper Code | | | | | | | |
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Time : 1:30 Hours]

Questions Booklet Series A

Question Booklet Number

[Maximum Marks : 75

Instructions to the Examinee :

- Do not open the booklet unless you are asked to do so.
- 2. The booklet contains 100 questions. Examinee is required to answer 75 OMR Answer-Sheet questions in the provided and not in the question booklet. All questions carry equal marks.
- Examine the Booklet and the OMR Answer-Sheet very carefully before you proceed. Faulty question booklet due to missing or duplicate pages/questions or having any other discrepancy should be got immediately replaced.

परीक्षार्थियों के लिए निर्देश :

- प्रश्न-पुस्तिका को तब तक न खोलें जब तक आपसे कहा न जाए।
- प्रश्न-पुस्तिका में 100 प्रश्न हैं। परीक्षार्थी को 75 प्रश्नों को केवल दी गई OMR आन्सर-शीट पर ही हल करना है, प्रश्न-पुस्तिका पर नहीं। सभी प्रश्नों के अंक समान हैं।
- 3. प्रश्नों के उत्तर अंकित करने से पूर्व प्रश्न-पुस्तिका तथा OMR आन्सर-शीट को सावधानीपूर्वक देख लें। दोषपूर्ण प्रश्न-पुस्तिका जिसमें कुछ भाग छपने से छूट गए हों या प्रश्न एक से अधिक बार छप गए हों या उसमें किसी अन्य प्रकार की कमी हो, तो उसे तुरन्त बदल लें।

(Remaining instructions on the last page)

(शेष निर्देश अन्तिम पृष्ठ पर)

(Only for Rough Work)

- 1. Identify the reduced form of coenzymes :
 - (A) NAD⁺
 - (B) FAD
 - (C) FADH₂
 - (D) Ubiquinone
- Which one of the following vitamins is a precursor of NAD⁺ ?
 - (A) Vitamin B1
 - (B) Vitamin B2
 - (C) Vitamin B3
 - (D) Vitamin B5
- 3. Loss of electrons can be termed as
 - (A) Metabolism
 - (B) Anabolism
 - (C) Oxidation
 - (D) Reduction
- The reducing agents in the reactions X and Y (provided below) are and, respectively.
 - $X: Mg + Fe^{2+} \rightarrow Mg^{2+} + Fe$
 - $\rm Y: Acetaldehyde + NADH \rightarrow$
 - $Ethanol + NAD^+$
 - (A) Mg and Acetaldehyde
 - (B) Mg and NADH
 - (C) Fe^{2+} and Acetaldehyde
 - (D) Fe^{2+} and NADH

- 5. Which of the following enzyme catalyzes the first step of glycolysis ?
 - (A) Hexokinase
 - (B) Pyruvate kinase
 - (C) Phosphofructokinase-1
 - (D) Enolase
- A single molecule of glucose generates
 molecules of acetyl CoA,
 which enters the Krebs cycle ?
 - (A) Four
 - (B) Three
 - (C) Two
 - (D) One
- 7. Dihydroxyacetone phosphate is rapidly and reversibly converted to
 - (A) Glyceraldehyde 3-phosphate
 - (B) 1, 3-bis-phosphoglycerate
 - (C) Fructose 1, 6-bisphosphate
 - (D) Fructose 6-phosphate
- 8. Substrate level phosphorylation step in glycolysis is catalyzed by
 - (A) Phosphofructokinase-1 andPhosphoglycerate Kinase
 - (B) Phosphoglycerate Mutase and Phosphoglycerate Kinase
 - (C) Enolase and Phosphoglycerate Kinase
 - (D) Pyruvate Kinase and Phosphoglycerate Kinase

- 9. The total number of ATP molecules synthesized in the glycolysis by substrate level phosphorylation :
 - (A) Two
 - (B) Four
 - (C) Six
 - (D) Eight
- On oxidation of how many grams of glucose, 32 moles of ATP are synthesized ?
 - (A) 0.18
 - (B) 1.8
 - (C) 18
 - (D) 180
- 11. High concentration of glucose6-phosphate is inhibitory to
 - (A) Hexokinase
 - (B) Pyruvate kinase
 - (C) Enolase
 - (D) Phosphofructokinase-1
- 12. Which substrate is used in the last step of glycolysis ?
 - (A) Glyceraldehyde 3-phosphate
 - (B) Pyruvate
 - (C) Phosphoenolpyruvate
 - (D) 1, 3-bisphosphoglycerate

- 13. Glycolysis converts
 - (A) Glucose into pyruvate
 - (B) Glucose into phosphoenolpyruvate
 - (C) Fructose into pyruvate
 - (D) Fructose into phosphoenolpyruvate
- 14. Which of the following acts as activator of the Phosphofructokinase-1 in the glycolysis ?
 - (A) AMP
 - (B) ATP
 - (C) Acetyl-CoA
 - (D) Citrate
- 15. When one molecule of glucose is oxidized to two molecules of lactate during anaerobic glycolysis, which of the following statements is false ?
 - (A) Lactate dehydrogenase reaction produces no ATP
 - (B) Glyceraldehyde 3-P dehydrogenase reaction produces 2 ATP molecules
 - (C) Pyruvate kinase reaction produces2 ATP molecules
 - (D) Phosphofructokinase-1 reaction uses 1 ATP molecule
- 16. Hydrolysis of sucrose yields
 - (A) D-galactose and D-glucose
 - (B) D-glucose and D-glucose
 - (C) D-galactose and D-fructose
 - (D) D-fructose and D-glucose

- 17. Which enzyme is involved in the pathway of synthesis of acetyl-CoA from pyruvate ?
 - (A) Hexokinase
 - (B) Pyruvate Decarboxylase
 - (C) Pyruvate Dehydrogenase
 - (D) Pyruvate Kinase
- Formation of one molecule of glucose from pyruvate requires
 - (A) 2 ATP, 2 GTP and 2 NADH
 - (B) 4 ATP, 1 GTP and 2 NADH
 - (C) 3 ATP, 2 GTP and 2 NADH
 - (D) 4 ATP, 2 GTP and 2 NADH
- 19. Which of the following statements about gluconeogenesis is correct ?
 - (A) Pyruvate is first converted to phosphoenolpyruvate by phosphoenolpyruvate carboxykinase
 - (B) Pyruvate is first converted to oxaloacetate
 by phosphoenolpyruvate
 carboxykinase
 - (C) Fructose 1, 6-biphosphatase converts fructose 1, 6-bisphosphate into fructose 1-phosphate
 - (D) Glucose 6-phosphatase hydrolyzes glucose 6-phosphate to release glucose into the blood

- 20. Which of the following produces pyruvate ?
 - (A) Leucine
 - (B) Alanine
 - (C) Lysine
 - (D) All of the above
- 21. Gluconeogenesis involves the conversion of
 - (A) Glucose to Pyruvate
 - (B) Pyruvate to Glucose
 - (C) Fructose to Pyruvate
 - (D) Pyruvate to Fructose
- 22. Which of the following organisms cannot convert Acetyl-CoA derived from fatty acids into glucose ?
 - (A) Animals
 - (B) Plants
 - (C) Bacteria
 - (D) All of the above
- 23. In the TCA cycle, which of the following combines with Acetyl-CoA to form a 6 carbon compound ?
 - (A) Oxaloacetate
 - (B) Fumarate
 - (C) Pyruvate
 - (D) Malate

- 24. For each molecule of glucose, how many times does the TCA cycle proceed ?
 - (A) One
 - (B) Two
 - (C) Three
 - (D) Four
- 25. In the TCA cycle, one molecule of Acetyl-CoA upon complete oxidation produces
 - (A) 2 GTP, 2 FADH₂ and 2 NADH
 - (B) 1 GTP, 3 FADH₂ and 1 NADH
 - (C) 1 GTP, 1 FADH $_2$ and 3 NADH
 - (D) 3 GTP, 1 FADH $_2$ and 2 NADH
- 26. Products of glucose oxidation essential for oxidative phosphorylation are :
 - (A) Pyruvate
 - (B) Acetyl-CoA
 - (C) NADPH and ATP
 - (D) NADH and $FADH_2$
- 27. Which of the following complexes of electron transport chain does not account for the pumping out of protons from the mitochondrial matrix ?
 - (A) Complex I
 - (B) Complex III
 - (C) Complex II
 - (D) Complex IV

- 28. In the pentose phosphate pathway, the major products are
 - (A) Ribulose 5-Phosphate and NADPH
 - (B) Ribulose 5-Phosphate and NADH
 - (C) Ribulose 5-Phosphate and NAD⁺
 - (D) Ribulose 5-Phosphate and ATP
- 29. What is the main function of the pentose phosphate pathway ?
 - (A) Supply $NADP^+$
 - (B) Supply NADH
 - (C) Supply energy
 - (D) Supply pentoses and NADPH
- 30. Which of the following statements is correct about the reductive pentose phosphate pathway ?
 - (A) It is not reversible
 - (B) Transketolase transfers 3 carbon units
 - (C) Transaldose transfers 2 carbon units
 - (D) The pathway can provide glycolytic intermediates
- In the pentose phosphate pathway, the conversion of xylulose 5-phosphate to ribulose 5-phosphate is catalyzed by
 - (A) Phosphopentose Epimerase
 - (B) Transaldolase
 - (C) Transketolase
 - (D) Phosphopentose Isomerase

- 32. What is the first reaction of the pentose phosphate pathway ?
 - (A) Oxidation of glucose 6-phosphate to 6-phosphoglucono-δ-lactone
 - (B) Oxidation of 6-phosphogluconate
 to ketopentose ribulose 5 phosphate
 - (C) Reduction of 6-phosphoglucono-δlactone to glucose 6-phosphate
 - (D) Reduction of ketopentose ribulose5-phosphate to 6-phosphogluconate
- 33. After glycolysis, which of the following is transported across the inner mitochondrial membrane into the matrix ?
 - (A) Pyruvate
 - (B) Acetyl-CoA
 - (C) ATP molecules
 - (D) Coenzyme A
- 34. NADH and FADH₂ is associated with respectively
 - (A) Complex II and complex III
 - (B) Complex I and complex III
 - (C) Complex III and complex IV
 - (D) Complex I and complex II

- - (A) 0.5 ATP
 - (B) 1.5 ATP
 - (C) 2.5 ATP
 - (D) 3.5 ATP
- 36. Which of the following is not true for cytochrome c oxidase complex ?
 - (A) It donates electrons to O_2
 - (B) It accepts electrons from cytochrome c
 - (C) It pumps two protons out of the mitochondrial matrix
 - (D) It accepts electrons from ubiquinone
- 37. Where does oxidative phosphorylation take place ?
 - (A) Ribosomes
 - (B) Nucleus
 - (C) Mitochondria
 - (D) Cell membrane
- The proposal of the chemiosmotic hypothesis was by
 - (A) Peter D. Mitchell
 - (B) Charles Darwin
 - (C) Alfred Russell
 - (D) Hans Krebs

- 39. ATP synthesis via chemiosmosis is facilitated by
 - (A) ATP Dehydrogenase
 - (B) ATP Synthase
 - (C) Kinase
 - (D) Phosphatase
- 40. Which of the following cytochromes is responsible for donating electrons to oxygen ?
 - (A) Cyt a₃
 - (B) Cyt b
 - (C) Cyt c
 - (D) Cyt a_1
- 41. Which of the following complexes of ETS does not account for the pumping out of protons from the mitochondrial matrix ?
 - (A) Complex I
 - (B) Complex III
 - (C) Complex II
 - (D) Complex IV
- 42. Which of the following is the Complex IV of ETS ?
 - (A) NADH dehydrogenase
 - (B) Cytochrome c oxidase
 - (C) Cytochrome bc_1
 - (D) Succinate dehydrogenase

- 43. Maximum energy per gram on oxidation is yielded from
 - (A) Starch
 - (B) Fat
 - (C) Glycogen
 - (D) Protein
- 44. NADH produced during glycolysis transfer electrons to the electron transport chain via :
 - (A) Malate-Aspartate Shuttle
 - (B) Acetyl-CoA Shuttle
 - (C) Carnitine Shuttle
 - (D) All of the above
- 45. Cyanide, oligomycin, and 2, 4dinitrophenol (DNP) are inhibitors of mitochondrial aerobic phosphorylation. Which of the following statements correctly describes the mode of action of the three inhibitors ?
 - (A) Cyanide and 2,4-dinitrophenol inhibit the respiratory chain, and oligomycin inhibits the synthesis of ATP.
 - (B) Cyanide inhibits the respiratory chain, whereas oligomycin and 2,4dinitrophenol inhibit the synthesis of ATP.
 - (C) Cyanide, oligomycin, and 2,4dinitrophenol compete with O₂ for cytochrome oxidase.
 - (D) Oligomycin and cyanide inhibit synthesis of ATP while 2,4dinitrophenol inhibits the respiratory chain.

46. The first stable compound of Krebs cycle

is

- (A) Citrate
- (B) Cis-Aconitate
- (C) Oxaloacetate
- (D) Malate
- 47. Which of the following is the prosthetic group of NADH dehydrogenase ?
 - (A) NADH
 - (B) FAD
 - (C) NADPH
 - (D) FMN
- 48. Which one of the following is the one having highest redox potential ?
 - (A) Ubiquinone
 - (B) O₂
 - (C) FMN
 - (D) NAD^+
- 49. In oleic acid, the double bond is placed between
 - (A) C₆-C₇
 - (B) C₇-C₈
 - (C) C₈-C₉
 - (D) C₉-C₁₀

- 50. Which of the following is an essential fatty acid ?
 - (A) Palmitic acid
 - (B) Oleic acid
 - (C) Stearic acid
 - (D) Linolenic acid
- 51. Ergosterol is a sterol found in the cell membrane of
 - (A) Escherichia coli
 - (B) Homo sapiens
 - (C) Saccharomyces cerevisiae
 - (D) Oryza sativa
- 52. What is the source of NADPH required for fatty acid synthesis ?
 - (A) Pentose phosphate pathway
 - (B) Malic enzyme
 - (C) Both (A) and (B)
 - (D) None of the above
- 53. How many rounds of β-oxidation are necessary to metabolize lauric acid (12:0) and arachidic acid (20:0)?

 - (A) 12 and 20, respectively
 - (B) 6 and 10, respectively
 - (C) 5 and 9, respectively
 - (D) 3 and 5, respectively

- 54. The *de novo* fatty acid synthesis occurs in which compartment of animal cells ?
 - (A) Mitochondria
 - (B) Peroxisome
 - (C) Endoplasmic reticulum
 - (D) Cytosol
- 55. Acetyl-CoA Shuttle System has an important role in
 - (A) β -oxidation of fatty acids
 - (B) Fatty acid synthesis
 - (C) Unsaturation of fatty acid
 - (D) All of the above
- 56. Mammalian hepatocytes can introduce double bonds at position (s).
 - (A) Δ^9
 - (B) $\Delta^{9, 12}$
 - (C) $\Delta^{9, 12, 15}$
 - (D) $\Delta^{5, 8, 11, 14}$
- 57. Kennedy pathway performs role in the biosynthesis of
 - (A) Sterol
 - (B) Triacylglycerol
 - (C) Glycogen
 - (D) Starch

- 58. Which genetic disorder is associated with dysfunction of peroxisomes ?
 - (A) Parkinson's disease
 - (B) Down's syndrome
 - (C) Zellweger syndrome
 - (D) Bubble Boy syndrome
- 59. During biosynthesis of fatty acid, Acetyl-
 - CoA is converted into Malonyl-CoA via :
 - (A) Acetyl-CoA Carboxylase
 - (B) Enoyl-ACP Reductase
 - (C) Acetyl-CoA Transacylase
 - (D) All of the above
- 60. Insulin stimulates
 - (A) Glycogenolysis
 - (B) Gluconeogenesis
 - (C) Glycogenesis
 - (D) Fatty acid oxidation
- 61. Which of the following condenses acyl and malonyl groups ?
 - (A) Acyl carrier protein
 - (B) Acetyl-CoA ACP transacetylase
 - (C) β -ketoacyl ACP synthase
 - (D) Malonyl-CoA ACP transferase

| 62. | Pyruvate is the precursor for | 66. | Which of the following gives rise to | | | | | |
|-----|---|-----|---|--|--|--|--|--|
| | (A) Alanine | | methionine, threonine, and lysine? | | | | | |
| | | | (A) Pyruvate | | | | | |
| | (B) Glutamate | | (B) Glutamate | | | | | |
| | (C) Serine | | (C) Aspartate | | | | | |
| | (D) Proline | | (D) Serine | | | | | |
| | | 67. | Which of the following is not an | | | | | |
| 63. | The cyclized derivative of glutamate | | aromatic amino acid ? | | | | | |
| | is | | (A) Phenylalanine | | | | | |
| | (A) Proline | | | | | | | |
| | (B) Argining | | (B) Tyrosine | | | | | |
| | (b) Arginine | | (C) Tryptophan | | | | | |
| | (C) Glutamine | | (D) Leucine | | | | | |
| | (D) Serine | | | | | | | |
| | | 68. | Which of the following can be formed by | | | | | |
| 64. | Precursor of glycine is | | hydroxylation of phenylalanine? | | | | | |
| | (A) Proline | | (A) Serine | | | | | |
| | (B) Glutamine | | (B) Tyrosine | | | | | |
| | (C) Serine | | (C) Tryptophan | | | | | |
| | (D) Glutamate | | (D) Leucine | | | | | |
| 65. | Which of the following is a non-essential | 69. | Phosphoribosyl pyrophosphate is a | | | | | |
| | amino acid ? | | precursor of tryptophan and | | | | | |
| | (A) Methionine | | (A) Tyrosine | | | | | |
| | (B) Threonine | | (B) Histidine | | | | | |
| | (C) Lysine | | (C) Phenylalanine | | | | | |
| | (D) Cysteine | | (D) Isoleucine | | | | | |
| | | | | | | | | |

- 70. When a molecule of palmitic acid
 (16 : 0) is completely oxidized by
 β-oxidation, how many molecules of
 Acetyl-CoA are formed ?
 - (A) Seven
 - (B) Eight
 - (C) Nine
 - (D) Ten
- 71. When a molecule of palmitic acid(16 : 0) is completely oxidized byβ-oxidation, how many molecules ofATP are generated ?
 - (A) 38
 - (B) 108
 - (C) 208
 - (D) 138
- 72. Which of the following gives rise to Valine and Isoleucine ?
 - (A) Pyruvate
 - (B) Glutamate
 - (C) Aspartate
 - (D) Serine

- 73. Which of the following is an important cellular reducing agent ?
 - (A) Glutathione
 - (B) Glycine
 - (C) Arginine
 - (D) Porphyrin
- 74. Which of the following is the precursor for auxin ?
 - (A) Phenylalanine
 - (B) Valine
 - (C) Tryptophan
 - (D) Arginine
- 75. Which of the following is an important precursor in the pyrimidine biosynthesis ?
 - (A) Glycine
 - (B) Aspartate
 - (C) Serine
 - (D) Leucine
- 76. In the first committed step of pyrimidine biosynthesis, the reaction is catalyzed by
 - (A) Aspartate transcarbamoylase
 - (B) Dihydroorotase
 - (C) Cytidylate synthase
 - (D) Adenylate kinase

| 77. | CTP is | formed | from | UTP | by | the | action |
|-----|--------|--------|------|-----|----|-----|--------|
| | of | | | | | | |

- (A) Adenylate kinase
- (B) Aspartate transcarbamoylase
- (C) Dihydroorotase
- (D) Cytidylate synthetase
- 78. Conversion of dUMP to dTMP is catalyzed by
 - (A) Thymidylate synthase
 - (B) Dihydrofolate reductase
 - (C) Dihydroorotase
 - (D) Cytidylate synthase
- 79. Adenosine deaminase deaminates adenosine to
 - (A) Hypoxanthine
 - (B) Inosine
 - (C) Xanthine
 - (D) Guanosine
- 80. The first intermediate with a complete purine ring is
 - (A) Inosinate
 - (B) Formate
 - (C) Aspartate
 - (D) Glycine

81. Glutamine is converted to glutamate and

NH₄⁺ by

- (A) Amino transferases
- (B) Glutaminase
- (C) Glutamine synthase
- (D) Glutamate dehydrogenase
- 82. Lesch-Nyhan syndrome is due to deficiency of :
 - (A) Adenine Phosphoribosyltransferase
 - (B) Hypoxanthine-GuaninePhosphoribosyltransferase
 - (C) Xanthine Oxidase
 - (D) AMP Deaminase
- 83. Phenylketonuria (PKU) is a genetic disorder caused by a deficiency in which enzyme ?
 - (A) Phenylalanine hydroxylase
 - (B) Tyrosine hydroxylase
 - (C) Tryptophan hydroxylase
 - (D) Histidine hydroxylase
- 84. Phenylketonuria is inherited in which pattern of inheritance ?
 - (A) Autosomal dominant
 - (B) Autosomal recessive
 - (C) X-linked dominant
 - (D) X-linked recessive

- 85. In the reduction of pyruvate to lactate, which of the following is regenerated ?
 - (A) H^+
 - (B) NADH
 - (C) NAD^+
 - (D) FAD
- 86. Albinism is a disorder caused by a deficiency in which enzyme ?
 - (A) Phenylalanine hydroxylase
 - (B) Tyrosinase
 - (C) Tryptophan hydroxylase
 - (D) Histidine hydroxylase
- 87. What is the general term used for the anaerobic degradation of glucose to obtain energy ?
 - (A) Anabolism
 - (B) Oxidation
 - (C) Fermentation
 - (D) None of the above
- 88. Which of the following is not the precursor for the *de novo* purine biosynthesis ?
 - (A) Aspartic Acid
 - (B) Glycine
 - (C) Glutamine
 - (D) Arginine

- 89. Severe combined immunodeficiency disease is caused by the deficiency in which of the following enzymes ?
 - (A) AMP deaminase
 - (B) Adenosine deaminase
 - (C) PRPP synthetase
 - (D) None of the above
- 90. Identify the function of ribonucleotide reductase enzyme
 - (A) Required for the biosynthesis of deoxyribonucleotides
 - (B) Required for the degradation of purine nucleotides
 - (C) Required for the degradation of pyrimidine nucleotides
 - (D) Required for the biosynthesis of CTP
- 91. The accumulation of this substance in the body causes gout :
 - (A) Blood plasma
 - (B) WBC
 - (C) Uric acid
 - (D) Synovial fluid

- 92. Phenylketonuria results in a build-up of which amino acid in the body ?
 - (A) Phenylalanine
 - (B) Tyrosine
 - (C) Tryptophan
 - (D) Histidine
- 93. Which of the following is a precursor of hormones such as testosterone, progesterone and estrogen ?
 - (A) Collagen
 - (B) Glycogen
 - (C) Cholesterol
 - (D) Glycerol
- 94. Glycolysis begins with which of the following reactions ?
 - (A) Reduction
 - (B) Oxidation
 - (C) Phosphorylation
 - (D) Acidification
- 95. Urea production occurs almost exclusively in
 - (A) Kidney
 - (B) Liver
 - (C) Blood
 - (D) Urine
- 96. Ribozymes are
 - (A) Cell organelle
 - (B) Enzymes
 - (C) Nucleotide
 - (D) Nucleoside

- 97. Fructose is a
 - (A) Aldose sugar
 - (B) Ketose sugar
 - (C) Monosaccharide
 - (D) Polymer
- 98. Where are the enzymes for β -oxidation present ?
 - (A) Nucleus
 - (B) Cytosol
 - (C) Mitochondria
 - (D) Golgi Apparatus
- 99. Which of the following undergoesβ-oxidation ?
 - (A) Polyunsaturated fatty acids
 - (B) Saturated fatty acids
 - (C) Monounsaturated fatty acids
 - (D) All of the above
- 100. Where are ketone bodies synthesized ?
 - (A) Brain
 - (B) Muscles
 - (C) Liver
 - (D) Adipose tissues

4. Four alternative answers are mentioned for each question as—A, B, C & D in the booklet. The candidate has to choose the correct answer and mark the same in the OMR Answer-Sheet as per the direction :

Example :

Question :



Illegible answers with cutting and over-writing or half filled circle will be cancelled.

- 5. Each question carries equal marks. Marks will be awarded according to the number of correct answers you have.
- 6. All answers are to be given on OMR Answer sheet only. Answers given anywhere other than the place specified in the answer sheet will not be considered valid.
- 7. Before writing anything on the OMR Answer Sheet, all the instructions given in it should be read carefully.
- 8. After the completion of the examination candidates should leave the examination hall only after providing their OMR Answer Sheet to the invigilator. Candidate can carry their Question Booklet.
- 9. There will be no negative marking.
- 10. Rough work, if any, should be done on the blank pages provided for the purpose in the booklet.
- 11. To bring and use of log-book, calculator, pager and cellular phone in examination hall is prohibited.
- 12. In case of any difference found in English and Hindi version of the question, the English version of the question will be held authentic.
- **Impt.** : On opening the question booklet, first check that all the pages of the question booklet are printed properly. If there is ny discrepancy in the question Booklet, then after showing it to the invigilator, get another question Booklet of the same series.

4. प्रश्न-पुस्तिका में प्रत्येक प्रश्न के चार सम्भावित उत्तर – A, B, C एवं D हैं। परीक्षार्थी को उन चारों विकल्पों में से सही उत्तर छाँटना है। उत्तर को OMR आन्सर-शीट में सम्बन्धित प्रश्न संख्या में निम्न प्रकार भरना है:





अपटनीय उत्तर या ऐसे उत्तर जिन्हें काटा या बदला गया है, या गोले में आधा भरकर दिया गया, उन्हें निरस्त कर दिया जाएगा।

- प्रत्येक प्रश्न के अंक समान हैं। आपके जितने उत्तर सही होंगे, उन्हीं के अनुसार अंक प्रदान किये जायेंगे।
- सभी उत्तर केवल ओ. एम. आर. उत्तर-पत्रक (OMR Answer Sheet) पर ही दिये जाने हैं। उत्तर-पत्रक में निर्धारित स्थान के अलावा अन्यत्र कहीं पर दिया गया उत्तर मान्य नहीं होगा।
- ओ. एम. आर. उत्तर-पत्रक (OMR Answer Sheet) पर कुछ भी लिखने से पूर्व उसमें दिये गये सभी अनुदेशों को सावधानीपूर्वक पढ़ लिया जाये।
- परीक्षा समाप्ति के उपरान्त परीक्षार्थी कक्ष निरीक्षक को अपनी OMR Answer Sheet उपलब्ध कराने के बाद ही परीक्षा कक्ष से प्रस्थान करें। परीक्षार्थी अपने साथ प्रश्न-पुस्तिका ले जा सकते हैं।
- 9. निगेटिव मार्किंग नहीं है।
- कोई भी रफ कार्य, प्रश्न-पुस्तिका के अन्त में, रफ-कार्य के लिए दिए खाली पेज पर ही किया जाना चाहिए।
- 11. परीक्षा-कक्ष में लॉग-बुक, कैलकुलेटर, पेजर तथा सेल्युलर फोन ले जाना तथा उसका उपयोग करना वर्जित है।
- प्रश्न के हिन्दी एवं अंग्रेजी रूपान्तरण में भिन्नता होने की दशा में प्रश्न का अंग्रेजी रूपान्तरण ही मान्य होगा।
- महत्वपूर्ण : प्रश्नपुस्तिका खोलने पर प्रथमतः जाँच कर देख लें कि प्रश्न-पुस्तिका के सभी पृष्ठ भलीमाँति छपे हुए हैं। यदि प्रश्नपुस्तिका में कोई कमी हो, तो कक्षनिरीक्षक को दिखाकर उसी सिरीज की दूसरी प्रश्न-पुस्तिका प्राप्त कर लें।