

Andhra University Common Entrance Test
(AUCET)
Now it is

Andhra University Region
Post Graduation Common Entrance Test
(AURPGCET)

Paper: Biochemistry

Year: 2003

<http://biochemistryden.blogspot.com>
<http://biohunting.blogspot.com>
<http://lifescience-exampapers.blogspot.com>

Note: The given papers are previous AUCET Biochemistry papers

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Biochemistry – 2003

PART-A

- pH of human blood is**
1. 6.8 2. 7.0 3. 7.4 4. 7.8
- Ceruloplasmin is a**
1. Calcium binding protein
2. Copper-binding protein
3. Iron binding protein
4. Cobalt binding protien
- Vitamin that is necessary for blood clotting**
1. Vit E 2. Vit A 3. Vit K 4. Vit B₆
- A promoter site on DNA**
1. Intiates replication
2. Intiates transcription
3. Codes for RNA polymerase
4. Intiates translation
- Methionine codon is**
1. AUC 2. AUG 3. UGC 4. UGA
- Wobble hypothesis was hypthotesized by**
1. Francis crick 2. Wobble
3. Watson 4. Okazaki
- Reverse transcriptase is**
1. DNA directed RNA polymerase
2. RNA directed RNA polymerase
3. DNA directed DNA polymerase
4. RNA directed DNA polymerase
- Meselson & stahl provided experimental proof for**
1. DNA is a genetic meterial
2. Semi Conservative mode of DNA replicatiior
3. Existance of plasmids
4. Enzymatic nature of RNA
- In a double stranded DNA Adenine base pairs with**
1. Guanine 2. Thiamine 3. Thymine 4. Cytocin
- RBC life span is**
1. 100 days 2. 90 days 3. 120 days 4. 200 days
- In biological membranes basic structures are due to**
1. Carbohydrate, Protein interaction
2. Covalent bonds between adjacent structures
3. Bilayar of amphipathic lipids
4. Lipids are carbohydrate interaction
- Cloning of gene means**
1. Transcription of gene
2. Disruption of gene
3. Introduction of gene from one species into another
4. None of the above
- Protein synthesis occurs in**
1. Mitochondria 2. Ribosomes
3. Nucleolus 4. Golgi apparatus
- B. lymphocytes are responsible for — immunity**
1. Humoral 2. Cellular 3. Both 4. None
- IgM are**
1. Dimers 2. Pentrmers 3. Trimers 4. Tetramers
- About 70% of the human Ig. molecules carry — light chain**
1. Kappa 2. Lamda 3. Gama 4. Beta
- Immunoglobulin which does not cross the pla-centa**
1. Ig G 2. Ig M 3. Ig E 4. Ig A
- The basic unit of all Ig molecules consist of — polypeptide chains linked by —**
1. 2 chains, di-sulphide bonds
2. 4 chains, H- bonds
3. 4 chains, di-sulphide bonds
4. 4 chains, weak interactions
- Thyroid function is determined by the use of the isotopes**
1. Na²⁴ 2. K⁴² 3. Ca⁴⁵ 4. I¹³¹
- Major role of DNA poymerase I in replication**
1. To ensure fidelity in replication
2. For repair processess
3. To replicate DNA
4. To convert double std DNA into chromatin

21. Nucleosomes consist of
1. RNA and protein
 2. DNA, bound around collection of Histone molecule
 3. Basic histones and non histone proteins
 4. Proteins and small quantity of RNA
22. The atoms having the same atomic number but different atomic mass are said to be
1. Isobars
 2. Isotopes
 3. Isomers
 4. Isotrons
23. Poly peptide synthesis inside a cell origins from
1. Amino terminal
 2. Carboxy terminal
 3. Both ends simultaneously
 4. None of the above
24. PCR Technique is related to
1. To trim the size and quantitate specific protein
 2. DNA transfer technique
 3. Identification and purification of specific clones
 4. Amplification of DNA sequence
25. Using the following enzyme cDNA copies can be made from mRNA templat
1. Class II Restriction endo nucleases
 2. Ribozymes
 3. Reverse transcriptase
 4. RNA polymerase
26. Molecular aggregates with following symmetry encase the genetic material of many viruses
1. Hexagones
 2. Icosahedral
 3. Pentagones
 4. Heptagones
27. Phospho lipid bilayer membranes are almost impermeable to
1. Charged molecules
 2. Neutral molecules
 3. Uncharged molecules
 4. All
28. Substances which can bind to antibodies but cannot elicit an immune response are called
1. Carrier
 2. Antigens
 3. Haptens
 4. Epitopes
29. Many m RNAs of prokaryotes are
1. Polycistronic
 2. Monocistronic
 3. Interrupted
 4. None
30. In prokaryotes all polypeptide chains probably are initiated with the amino acid
1. Methionine
 2. N-Formyl methionine
 3. Cystein
 4. Any "S" containing amino acid
31. Fluidity of a membrane increases by — the phospholipid fatty acid chains
1. Shortening
 2. Increasing
 3. Saturating
 4. Unsaturation
32. In addition to methionine the other amino acid which is specified by one codon is
1. Tyrosine
 2. Phenylalanine
 3. Tryptophan
 4. Arginine
33. Which of the following hormone that does not promote hyperglycemia
1. Epinephrine
 2. Insulin
 3. Glucagon
 4. Thyroid hormone
34. (Alfa) α -particles are
1. Fast moving protons
 2. Fast moving neutrons
 3. Fast moving helium nuclei
 4. Electro magnetic waves
35. Many ribosomes on the same m RNA molecule forms
1. Poly ribo nucleotides
 2. Rough endoplasmic reticulum
 3. Polysomes
 4. Ribozymes
36. What is the average caloric requirement of an adult male
1. 1000 kilo calories/day
 2. 10,000 k. calories/day
 3. 500 kilocalories/day
 4. 3000 kilo calories/day
37. Catechol ring is present in — hormone
1. Insulin
 2. Glucagon
 3. Epinephrin
 4. Calcitonin
38. — is a Ovarian steroid hormone
1. Human chorionic gonadotropin
 2. Chorionic somato mammothrophin
 3. Androgen
 4. Estrogen
39. Caloric value of Fat is
1. 4.1 k. cal/gm
 2. 5.6 k. cal/gm
 3. 9.4 k. cal/gm
 4. 3.4 k. cal/gm
40. Siderosis is a toxicity disease of — mineral
1. Iron
 2. Sodium
 3. Selenium
 4. Iodine
- PART-B**
41. Enzymes catalyse the reactions by
1. Increasing entropy of a system
 2. Increasing substrate energy
 3. Altering reaction equilibrium
 4. Decreasing free energy of activation
42. — is the coenzyme of transaminases
1. Pyridoxal phosphate
 2. Biotin
 3. Thiamine pyrophosphate
 4. Lipoic acid
43. Induced fit model for enzyme substrate complex formation was proposed by
1. Fischer
 2. Michaelis & Menten
 3. Jacob & Monod
 4. Kush land
44. Pellagra can be prevented by treatment with
1. Thiamine
 2. Niacin
 3. Pyridoxin
 4. Vit B₁₂

45. Biotin is involved in which of the following types of reaction
1. Hydroxylations
 2. Carboxylations
 3. Transamination
 4. Deamination
46. Glycolysis is the only ATP producing path way in
1. RBC's
 2. Hepatocytes
 3. Adipocytes
 4. Neurons
47. Which of the following is a low energy phosphate
1. ATP
 2. UDP
 3. GTP
 4. Glycerol - 3'- Phosphate
48. Which of the following has higher redox potential in respiratory chain
1. Cyt aa₃
 2. Ubiquinone
 3. FMN
 4. NAD
49. In anerobic glycolysis of glucose end product is
1. Acetylco A
 2. Lactate
 3. Pyruvate
 4. Fructose1-6-biphosphate
50. Mitochondria is the power house of the cell because
1. Burns food consumes ATP
 2. All energy released is made available in oxidizing equivalents
 3. Produces ATP by oxidative phosphorylation
 4. All the above
51. Final common metabolic path way for oxidation of major food items is
1. Glycolysis
 2. Beta oxidation
 3. TCA cycle
 4. Lipolysis
52. Total number of ATP produced per oxidation of a molecule of glucose in aerobic condition
1. 32
 2. 38
 3. 36
 4. 34
53. Purines catabolize to form
1. Urea
 2. Ammonia
 3. Uric acid
 4. All of the above
54. Ribozymes are
1. Enzyme like substances present in RNAs
 2. Not highly specific for substrates
 3. Proteins
 4. Help in intron splicing events in conversion of pre mRNA to mature mRNA
55. Cobalt is a constituent of
1. Folic acid
 2. Niacin
 3. Vit B₁₂
 4. Biotin
56. When substrates are oxidized through NAD linked dehydrogenases the P : O ratio is
1. 1
 2. 2
 3. 3
 4. 4
57. The most abundant class of enzymes
1. Transferases
 2. Isomerases
 3. Oxido reductases
 4. Ligases
58. The first purified and crystallised enzyme is
1. Amylase
 2. Invertase
 3. Ribonuclease
 4. Urease
59. — is the uncoupling agent of oxidative phosphorylation
1. Antimycin A
 2. Dicoumarol
 3. Barbiturates
 4. Pencillin
60. Number of ATP formed per turn in TCA cycle
1. 10
 2. 12
 3. 15
 4. 8
61. Synthesis of glucose from non carbohydrate precursors is known as
1. Glycolysis
 2. Hexose monophosphate shunt
 3. Gluconeogenesis
 4. Glycogenolysis
62. Transamination of Alanine gives
1. Pyruvate
 2. Oxaloacetate
 3. α ketoglutarate
 4. Glycine
63. The major carrier of activated acyl compounds in cells is
1. Coenzyme
 2. Coenzyme A
 3. Fatty acid
 4. Carnitine
64. Protein deficiency in children leads to the widespread disease of malnutrition known as
1. Kwashiorkar
 2. Down's syndrom
 3. Grave's disease
 4. Addison's disease
65. Aspartate trans carbomylase of E coli is allosterically inhibited by
1. ATP
 2. GTP
 3. CTP
 4. UTP
66. Only fatty acids with even number of carbon atoms produce — upon oxidative degrada
1. Propionyle Co A
 2. Coenzyme A
 3. Pyruvate
 4. Acetyl Co A
67. — is a ketone body
1. Acetic acid
 2. HMG CoA
 3. β-hydroxy butiric acid
 4. α -etogluta
68. — is an example for isoenzyme
1. Pyruvate dehydrogenase
 2. Malate dehydrogenase
 3. Glutamate dehydrogenase
 4. Lactate dehydrogenase
69. Km of an enzyme is — concentration at which
- $$V_o = \frac{V_{max}}{2}$$
1. Enzyme
 2. Coenzyme
 3. Substrate
 4. Inhibitor
70. — inhibitors do not alter the V_{max} of an enzyme catalyzed reaction
1. Irreversible inhibitor
 2. Uncompetitive inhibitor
 3. Competitive inhibitor
 4. Non competitive inhibitor

PART-C

71. One letter abbreviation for tryptophan
1. R 2. T 3. W 4. Y
72. Which of the following is a cation exchange resin
1. CM cellulose 2. Dowex - 1
3. DEAE - cellulose 4. Agarose
73. The greatest buffering capacity at physiological pH would be provided by a protein rich
1. Lysine 2. Histidine 3. Valine 4. Glycine
74. The highest concentration of cystein can be found in
1. Melanine 2. Myosin 3. Keratine 4. Collagen
75. All 20 common (standard) amino acids are optically active except
1. Lysine 2. Cystine 3. Glycine 4. Serine
76. An important polysaccharide mixture isolated from marine red algae (Rhodophyceae)
1. Alginate 2. Agar 3. Cellulose 4. Glycogen
77. Glucose and galactose are
1. Enantiomers 2. Epimers
3. Optical isomers 4. Geometrical isomers
78. Valency of C (carbon) is
1. 2 2. 4 3. 5 4. 6
79. Inulin is a poly saccharide of
1. D- ribose 2. D - arabinose
3. D - fructose 4. D - xylose
80. Which of the following sugar does not form as osazones
1. Maltose 2. Lactose 3. Sucrose 4. Mannose
81. Unusual modified bases are present significantly in
1. Eucaryotic mRNA 2. t RNA
3. r - RNA 4. Prokaryotic m RNA
82. Number of base pairs per turn in B - DNA
1. 12 2. 10.4 3. 11.4 4. 12.4
83. Double helical regions of RNA has _____ conformation
1. B 2. A 3. C 4. Z
84. A choline residue is present in which of the following lipids
1. Phosphatidic acid
2. Cholesterol
3. Ganglioside
4. Sphingomyelin
85. Rancidity of fat is due to
1. Reduction of food substances containing fat
2. Auto oxidation of lipids exposed to oxygen
3. Both the processes act simultaneously
4. None of the above
86. Histones are rich in which amino acid
1. Glycine 2. Arginine
3. Methionine 4. Cystin
87. Arachidonic acid contains the _____ number of double bonds
1. 2 2. 3 3. 4 4. 5
88. Liberman - Burchard reaction is performed to detect
1. Cholesterol 2. Glycerol
3. Fatty acid 4. Vit D
89. Number of pyrrole rings in heme are
1. 2 2. 4 3. 6 4. 8
90. 5 - methyl uracil means
1. Cytosine
2. Thymine
3. Methyl thymine
4. None of the above

ANSWERS

1.3	2.2	3.3	4.2	5.2	6.1	7.4	8.2	9.2	10.3	11.3	12.3	13.2	14.1	15.2	16.3
17.2	18.3	19.4	20.2	21.2	22.2	23.1	24.4	25.3	26.2	27.1	28.3	29.1	30.2	31.4	32.3
33.2	34.3	35.3	36.4	37.3	38.4	39.3	40.1	41.4	42.1	43.4	44.2	45.2	46.1	47.2	48.1
49.2	50.3	51.3	52.2	53.3	54.4	55.3	56.3	57.3	58.4	59.2	60.2	61.3	62.1	63.4	64.1
65.1	66.4	67.3	68.4	69.3	70.3	71.3	72.3	73.2	74.3	75.3	76.2	77.2	78.2	79.-	80.3
81.2	82.2	83.2	84.4	85.2	86.2	87.3	88.1	89.2	90.4						

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