

Andhra University Common Entrance Test
(AUCET)
Now it is

Andhra University Region
Post Graduation Common Entrance Test
(AURPGCET)

Paper: Biochemistry

Year: 2004

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

Note: The given papers are previous AUCET Biochemistry papers

Andhra University Common Entrance Test (AUCET) Biochemistry – 2004

PART-A

- A potent inhibitor of protein synthesis that acts as an analogue of aminoacyl t-RNA is**
 - Mitomycin C
 - Streptomycin
 - Rifampicin
 - Puromycin
- Translation results in a product known as**
 - Protein
 - t-RNA
 - m-RNA
 - DNA
- How many different codons are capable of terminating polypeptide chain elongation in proteins**
 - 1
 - 2
 - 3
 - 4
- The prostaglandins:**
 - Cause hypertension
 - Occur only in prostatic tissue
 - Are alicyclic fatty acid derivatives
 - Are synthesized from oleic acid
- A hyperglycemic factor produced by the pancreas is**
 - FSH
 - Insulin
 - Thyroxine
 - Glucagon
- Ferritin is found in**
 - Liver
 - Kidney
 - Pancreas
 - Bone
- The ingestion of which food - stuff results in the greatest specific dynamic action**
 - Fat
 - Carbohydrate
 - Protein
 - Vitamins
- Tetany due to hypocalcemia results from removal of the**
 - Parathyroids
 - Thyroids
 - Pituitary
 - Adrenals
- The biological value of a protein depends upon:**
 - The digestibility alone
 - Digestibility and amino acid composition
 - Amino acid composition alone
 - Digestibility and leucine content
- The major path way for calcium excretion under normal condition is:**
 - Feces
 - Sweat
 - Urine
 - Milk
- A negative nitrogen balance is observed**
 - During normal pregnancy
 - During normal child growth
 - During convalescence
 - In malnutrition
- Oxidation of which substance yields the most calories per gram?**
 - Glucose
 - Lipid
 - Animal Protein
 - Glycogen
- The normal pH of blood is :**
 - 7.4
 - 6.8
 - 7.7
 - 7.1
- Which is not a part of the haemoglobin molecule?**
 - Histidine
 - Protein
 - Ferric ion
 - Vinyl groups
- Among the anti-coagulants normally present in an animal is :**
 - Dicumarol
 - Heparin
 - Vitamin K
 - Lipoprotein lipase
- The naturally occurring porphyrins are :**
 - Usually associated with a metal
 - Usually associated with an uncharged metal ion
 - Only found in animals
 - Usually chains of pyrrole rings
- Blood plasma differs from blood serum in content of :**
 - Lipid
 - Erythrocytes
 - Protein
 - Carbohydrate
- Christmas factor is synonymous with :**
 - Proconvertin
 - Antihemophilic factor B
 - Platelet accelerator
 - Factor XI
- The fetal haemoglobin :**
 - Has O_2 dissociation curves for any value of PCO_2 identical to that of HbA
 - Is immunologically indistinguishable from HbA
 - Is physicochemically indistinguishable from HbA
 - Disappears gradually from the circulation following birth

20. The mature erythrocyte contains :
1. Cytochromes
 2. TCA enzymes
 3. Pyruvic kinase
 4. AT pase
21. DNA directed RNA polymerase is :
1. Replicase
 2. Transcriptase
 3. Reverse transcriptase
 4. Polymerase III
22. Okasaki fragments are small bits of :
1. RNA
 2. DNA
 3. DNA with RNA heads
 4. RNA with DNA heads
23. Sigma and Rho factors are required for :
1. Replication
 2. Transcription
 3. Translation
 4. Polymerisation
24. Restriction enzymes have been found in :
1. Humans
 2. Birds
 3. Bacteria
 4. Bacterio phages
25. The codon for phenylalanine is :
1. AAA
 2. CCC
 3. GGG
 4. UUU
26. Antigen initially presented to T lymphocytes by:
1. Macrophages
 2. Neutrophils
 3. Plasma cells
 4. Platelets
27. Immature B lymphocytes:
1. produce only μ chains
 2. Are progenitors of T as well as B lymphocytes
 3. Express IgM on their cell surface
 4. Must go through the thymus to mature
28. Zinc is a constituent of the enzyme :
1. Lactate dehydrogenase
 2. Glutamate dehydrogenase
 3. Carbonic anhydrase
 4. Trasketolase
29. The micro organism that can cause jaundice is:
1. Salmonella typhimurium
 2. Plasmodium sp.
 3. Escherichia coli
 4. Streptococcus faecalis
30. One of the following is not estimated by RIA :
1. T_3
 2. T_4
 3. Insulin
 4. 2H -testosterone
31. The following enzyme is bound to the cell membrane :
1. Hexokinase
 2. Sodium-potassium AT pase
 3. Pepsin
 4. Lipase
32. Inactive plasminogen is activated by :
1. Fibrinogen
 2. Fibrin
 3. Thrombin
 4. Calcium ions
33. Soya bean proteins are rich in :
1. Lysine
 2. Alamine
 3. Glycine
 4. Aspartic acid
34. Kwashiorkor results from :
1. Vitamin A deficiency
 2. Vitamin D deficiency
 3. Minerals deficiency in diet
 4. Protein and calorie deficiency in diet
35. GM counter is used to measure
1. Alpha radiation
 2. Beta radiation
 3. Gamma radiation
 4. Protons
36. The half-life of ^{14}C isotope is —
1. 5
 2. 51
 3. 510
 4. 5100
37. In ELISA the enzyme lable for the antibody may be :
1. Lipase
 2. Amylase
 3. Succinate dehydrogenase
 4. Glucose oxidase
38. One of the following is a radioactive isotope
1. 3H
 2. 2H
 3. ^{15}N
 4. ^{13}C
39. One of the following is a stable isotope:
1. ^{14}C
 2. ^{32}P
 3. ^{15}N
 4. ^{131}I
40. Nucleotides are linked to one another in RNA by which of the following bonds ?
1. Phosphate ester bond
 2. Hydrophobic bond
 3. Phosphodiester bond
 4. Glycosidic bond

PART-B

41. In oxidative phosphorylation, the oxidation of one molecule of NADH to NAD^+ produces how many ATPs ?
1. 2
 2. 3
 3. 4
 4. 5
42. Dehydrogenases of the hexose monophosphate shunt are specific for
1. NAD^+
 2. FAD
 3. $NADP^+$
 4. FMN
43. A fatty acid not synthesized in man is
1. Oleic acid
 2. Stearic acid
 3. Palmitic acid
 4. Linoleic acid
44. Which amino acid undergoes transamination to form α -keto isocaproic acid ?
1. Leucine
 2. Isoleucine
 3. Valine
 4. Lysine
45. An amino acid not involved in urea synthesis is
1. Arginine
 2. Ornithine
 3. Citrulline
 4. Histidine
46. Which amino acid not involved in urea synthesis is
1. Valine
 2. Leucine
 3. Isoleucine
 4. Histidine
47. Which one is present in RNA but not in DNA ?
1. Uracil
 2. Thymine
 3. Cytosine
 4. Guanine
48. A key substance in pyrimidine biosynthesis is
1. ATP
 2. Thiouracil
 3. $NADP^+$
 4. Carbamyl Phosphate
49. For the conversion of dUMP to TMP, which one of the following is required ?
1. Tetrahydrofolic acid
 2. ATP
 3. FMN
 4. Pyridoxil phosphate

50. Which one of the following is required as a coenzyme for pyruvate decarboxylase ?
 1. FMN 2. Biotin
 3. FAD 4. Thiamine pyrophosphate
51. The effect of 2, 4 - dinitrophenol is to
 1. Raise the R.Q.
 2. Lower the R.Q.
 3. Decrease the H⁺ gradient across the mitochondrial membrane
 4. Lower the BMR
52. Entropy is a measure of the
 1. Rate of an enzymatic reaction
 2. Free energy of an enzymatic reaction
 3. Energy that is unavailable for work
 4. Exothermicity of a reaction
53. Galactonemia is due to deficiency of which enzyme ?
 1. UDP - galactose - n - epimerase
 2. UDP - transferase
 3. Galactose - 1 - Phosphate
 4. UDP - galactose transferase
54. An enzyme not involved in glycolysis is
 1. Aldolase
 2. α - glycerophosphate dehydrogenase
 3. Pyruvate kinase
 4. Enolase
55. Reactivation of phosphorylase b is favoured by
 1. Oxytocin 2. Insulin 3. ACTH 4. Glucagon
56. The biological activity of the tocopherols has been attribute, in part, to their action as
 1. Antioxidants
 2. Carriers in the electron transport chain
 3. Anticoagulants
 4. Antidotes for selenium poisoning
57. β -Carotene is converted to Vitamin A chiefly in the
 1. Liver 2. Intestine 3. Spleen 4. Kidney
58. A Vitamin that is a reducing agent, a property that may explain its function is
 1. Nicotinamide 2. Vitamin C
 3. Thiamine 4. Folic acid
59. Whole wheat is an excellent source of
 1. Vitamin D 2. Vitamin A
 3. Thiamine 4. Ascorbic acid
60. The growth of bacteria requiring p-aminobenzoic acid is inhibited by
 1. Folic acid 2. Penicillin
 3. Tetrahydrofolic acid 4. Sulfonamides
61. Riboflavin is a constituent of
 1. FAD 2. NAD⁺
 3. Cocarboxylase 4. Codécarboxylase
62. The feeding of avidin may result in a deficiency of
 1. Riboflavin 2. Biotin
 3. Choline 4. Nicotinic acid
63. The pyrimidine nucleotides are derived from
 1. Nicotinamide 2. Panthothenic acid
 3. Ascorbic acid 4. Pyridoxal
64. The pellegra preventive factor in the Vitamin B complex is
 1. Pantothenic acid 2. Pyridoxine
 3. Thiamine 4. Niacin
65. K_m is :
 1. The dissociation constant for the enzyme - substrate complex
 2. The substrate concentration that gives half-maximal velocity
 3. Identical for all isozymes of an enzyme
 4. Independent of the nature of the substance
66. In non-competitive inhibition
 1. The concentration of active enzyme molecules is reduced
 2. V_{max} is increased
 3. The concentration of active enzyme molecules is unchanged
 4. The apparent k_m is increased
67. An enzyme of saliva that hydrolyzes starch is
 1. Pepsin 2. β -amylase
 2. α -amylase 4. Maltase
68. A specific poison for succinate dehydrogenase is
 1. Malate 2. Arsenite 3. Cyanide 4. Malonate
69. Urea is produced by the enzyme
 1. Urease 2. Glutaminase
 3. Arginase 4. Uricase
70. The specific substrate for oxidative phosphorylation is
 1. AMP 2. ADP 3. ATP 4. NADP⁺

PART-C

71. Liebermann - Burchard reaction is to detect
 1. Glycerol 2. Palmitic acid
 3. Cholesterol 4. Unsaturated
72. Sphingosine is
 1. Unsaturated fatty acid 2. Saturated fatty acid
 3. Sterol 4. Complex amino alcohol
73. The Beer-Lambert's law relates absorbance with
 1. concentration of solute and path length of the solution cell.
 2. concentration of solute and height of the solution cell.
 3. Length and heights of solution column
 4. Intensities of incident and transmitted lights

- 74. Chemically heparin is a**
 1. Purine 2. Protein
 3. Lipid 4. Carbohydrate
- 75. Digitonin is a**
 1. Protein 2. Glycoside
 3. Lipid 4. Alkaloid
- 76. Cytochromes are**
 1. Riboflavin containing nucleotides
 2. Pyridine nucleotides
 3. Iron - Porphyrin proteins
 4. Metal containing flavoproteins
- 77. Reduction of glucose with calcium in water produces**
 1. Sorbitol 2. Dulcitol
 3. Mannitol 4. Sorbose
- 78. Which one of the following polysaccharides is not a polymer of glucose ?**
 1. Amylose 2. Amylopectin
 3. Glycogen 4. Inulin
- 79. Histones**
 1. Are protein rich in lysine and/or arginine
 2. Are bound covalently to DNA
 3. Are identical to protamines
 4. Have relatively very high molecular weights
- 80. Keratin is a**
 1. Globulin 2. Fibrous protein
 3. Histone 4. Conjugated protein
- 81. Iodine value of an oil shows the extent of**
 1. Polymerisation 2. Unsaturation
 3. Molecular size 4. Esterification
- 82. Inulin is a**
 1. Fructosan 2. Glucosan 3. xylan 4. Hormone
- 83. Choline is**
 1. Amino acid 2. Fatty acid
 3. Quaternary base 4. Sugar
- 84. Collagen is very rich in**
 1. Glycine 2. Serine
 3. Aspartic acid 4. Glutamic acid
- 85. The following is not used in electrophoresis**
 1. Agar 2. Starch
 3. Polyacrylamide 4. Alumina
- 86. The common stain for proteins in electrophoresis is**
 1. Bromophenol blue 2. Oil red O
 3. Congo red 4. Ninhydrin
- 87. TLC is very useful to determine**
 1. Iodine number
 2. Acetyl number
 3. Saponification value
 4. Fatty acid composition
- 88. In molecular exclusion chromatography the following one will come as first fraction**
 1. Protein 2. Amino acids
 3. Sugars 4. Sodium chloride
- 89. The high acidity of cation exchange is due to**
 1. -COOH 2. -SO₃H
 3. Phenolic group 4. Enolic group
- 90. For separation of preteins and nucleic acids the following ion-exchange resin is preferred**
 1. Alumina 2. Dowex
 3. DEAE cellulose 4. Amberlite

ANSWERS

- | | | | | | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1.4 | 2.1 | 3.3 | 4.2 | 5.4 | 6.1 | 7.3 | 8.1 | 9.- | 10.1 | 11.4 | 12.2 | 13.1 | 14.3 | 15.2 | 16.1 |
| 17.3 | 18.4 | 19.4 | 20.3 | 21.2 | 22.3 | 23.3 | 24.4 | 25.4 | 26.1 | 27.3 | 28.3 | 29.- | 30.4 | 31.2 | 32.1 |
| 33.- | 34.4 | 35.2 | 36.4 | 37.4 | 38.1 | 39.3 | 40.3 | 41.2 | 42.3 | 43.4 | 44.- | 45.4 | 46.3 | 47.1 | 48.4 |
| 49.1 | 50.4 | 51.3 | 52.3 | 53.- | 54.2 | 55.4 | 56.1 | 57.1 | 58.2 | 59.3 | 60.4 | 61.1 | 62.2 | 63.1 | 64.4 |
| 65.2 | 66.2 | 67.3 | 68.1 | 69.3 | 70.2 | 71.3 | 72.4 | 73.1 | 74.2 | 75.4 | 76.3 | 77.1 | 78.4 | 79.1 | 80.2 |
| 81.2 | 82.1 | 83.3 | 84.1 | 85.4 | 86.1 | 87.- | 88.1 | 89.2 | 90.3 | | | | | | |

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