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# राजस्थान लोक सेवा आयोग Rajasthan Public Service Commissio



Ques. Paper: BioChemist

Mode of

Online

Exam:

Jiiiiii

Date of

14-07-2015

Exam:

Duration

2 hours

of Exam: No of

Questions: 100

Ques #:1

# Transfer of an amino group from an amino acid to an alpha beto acid is done by:

- 1) Transaminases
- 2) Aminases
- 3) Transketolase
- 4) Decarboxylase

Ques # :2

# Which product of citric acid cycle is used in detoxification of ammonia in brain

- 1) Oxaloacetate
- 2) Alpha ketoglutarate
- 3) Succinate
- 4) Citrate

Ques #:3

# Protein act as buffer due to which property

- 1) Colloid
- 2) Basis
- 3) Acidic
- 4) Amphipathic





#### Ammonia is detoxified in brain to:

- 1) Urea
- 2) Glutamine
- 3) GABA
- 4) Uric acid

Ques #:5

#### Urea cycle is present in:

- 1) Liver
- 2) GIT
- 3) Spleen
- 4) Kidney

Ques #:6

# Protein is purified using ammonium sulfate by:

- 1) Salting out
- 2) Ion exchange chromatography
- 3) Mass chromatography
- 4) Molecular size exclusion

Ques # :7

# Aromatic ring is presented in

- 1) Arginine
- 2) Glycine
- 3) Phenylalanine
- 4) Lysine

Ques #:8

# Protein that precipitate on heating to 45° C & redissolve on boiling is:

- 1) Bence Jones Protein
- 2) gamma globulin
- 3) Albumin
- 4) Myosin

Ques # :9

#### Tyrosinase is:





- 1) Oxidase
- 2) Transferase
- 3) Lyase
- 4) Isomerase

#### Mitochondrial DNA is

- 1) Paternally inherited
- 2) Maternally inherited
- 3) Horizontal inheritance
- 4) Vertical inheritance

Ques #:11

# Which amino acid migrates fastest on Chromatography on carboxymethyl cellulose medium

- 1) Aspartic acid
- 2) Valine
- 3) Lysin
- 4) Glycine

Ques #:12

#### Non functional plasma enzymes are all except

- 1) Alkaline Phosphotase
- 2) Acid Phophotase
- 3) Lipoprotein lipase
- 4) gamma glutamyl transpeptidase

Ques #:13

#### End of chromosomes are replicated by:

- 1) Telomerase
- 2) Centromese
- 3) Restriction Endonuclease
- 4) Exonuclease

Ques #:14

#### Okazaki segments are required for:

- 1) DNA synthesis
- 2) RNA synthesis





- 3) Protei synthesis
- 4) None of them

#### Refsum's disease is due to deficiency of which of the following enzyme

- 1) Malonate dehydrogenase
- 2) Thiophorase
- 3) Succinate thiopase
- 4) Phytanic acid oxidase

Ques # :16

#### Which process separates the fragments of DNA

- 1) Gel Centrifugation
- 2) Paper chromatography
- 3) High speed centrifugation
- 4) Thin layer Chromatography

Ques #:17

#### Sulphur containing amino acid is

- 1) Asparagine
- 2) Methionine
- 3) Glycine
- 4) Alanine

Ques #:18

# The main function of mitochondria is

- 1) Protein synthesis
- 2) Oxidation
- 3) Electron transfer
- 4) Fat synthesis

Ques #:19

#### Increased risk of MI is associated with which amino acid

- 1) Methionine
- 2) Hymocysteine
- 3) Ornithine
- 4) Valine





#### UV light damage to the DNA leads to

- 1) Formation of pyrimydine dimers
- 2) No damage to DNA
- 3) DNA hydrolysis
- 4) Double stranded breaks

Ques #:21

#### the tertiary structure of Protein is detected by:

- 1) X-ray diffraction/Crystallography
- 2) Spectrophotometry
- 3) Electrophoresis
- 4) Chromatography

Ques #:22

#### Vitamin A is stored mainly as Retinolesters in

- 1) Kidneys
- 2) Muscle
- 3) Liver
- 4) Retina

Ques # :23

#### Enzymes not involved in glycolysis is

- 1) Enolase
- 2) Phosphoglyceromutase
- 3) aldolase
- 4) Glycerophosphate dehydrogenase

Ques # :24

#### Which of the following has no free aldehyde or ketone group

- 1) Fructose
- 2) Maltose
- 3) Sucrose
- 4) Galactose

Ques #:25

#### Part of mRNA removed during protein synthesis





- 1) Intron
- 2) Codon
- 3) Exon
- 4) Cistron

# The sugar component of cerebrosides is

- 1) Fructose
- 2) Sucrose
- 3) Galactose
- 4) Maltose

Ques #:27

# Mousy odour urine is seen in

- 1) Maple syrup urine disease
- 2) PKU
- 3) Isovaleric aciduria
- 4) Cystinuria

Ques #:28

#### Pyruvate dehydrogenase contains all except

- 1) Biotin
- 2) NAD
- 3) FAD
- 4) CoA

Ques # :29

# Protein are sorted by:

- 1) Golgi bodies
- 2) Mitochondria
- 3) Ribosomes
- 4) Nuclear Membrane

Ques # :30

#### Muscles are not involved in which glycogen storage disease

- 1) I
- 2) II
- 3) III





4) IV

Ques #:31

#### The activity of carboxylase is dependent upon the positive allosteric effect of:

- 1) Succinate
- 2) AMP
- 3) Isocitrate
- 4) Acetyl CoA

Ques #:32

#### Ribosomes has following enzymatic activity

- 1) peptidyl tranferase
- 2) Peptidase
- 3) Aminoacycle + RNA synthelase
- 4) Gtpase

Ques #:33

# The substance essential for transfer of fatty acids across mitochondrial membrane

- 1) Creatine
- 2) Creatinin
- 3) Carnitine
- 4) Coenzyme A

Ques #:34

#### Microsatelite sequence is

- 1) Small satelite
- 2) Extra Chromosomal DNA
- 3) Short sequence (2-5) repeat DNA
- 4) Looped DNA

Ques #:35

# If starvation exceeds 7 day, the major nutritional supply of the brain comes from

- 1) Fatty acids
- 2) Ketone Bodies
- 3) Protein breakdown
- 4) Carbohydrate breakdown





#### DNA estimation can be done by:

- 1) Spirometer
- 2) Spectrophotometer
- 3) Ph meter
- 4) Sphygnometer

Ques #:37

#### FIGLU is a metabolite of

- 1) Revoflavin
- 2) Thyrosine
- 3) Histidine
- 4) Alamine

Ques #:38

#### The enzymes used in polymerase chain reaction:

- 1) Thermostable enzymes
- 2) Enzymes stabiliser
- 3) Inorganic ion
- 4) Inorganic metal

Ques #:39

# All of the following enzymes are involved in oxidation reduction reaction except

- 1) Dehydrogenase
- 2) Hydrolases
- 3) Oxygenase
- 4) Peroxidases

Ques #:40

#### Which coenzyme is resposible for carboxylation reaction

- 1) Biotin
- 2) FAD
- 3) NADH
- 4) TPD

Ques #:41

#### Which is true about Phage DNA





- 1) Antibiotic susceptibility
- 2) Restriction enzyme sites
- 3) Hexagonal DNA
- 4) Carrier short segment of DNA

#### Ketone body formation without glycosuria seen in:

- 1) Diabetes Mellitus
- 2) Diabetes Insipidus
- 3) Prolonged starvation
- 4) Obesity

Ques # :43

#### Western Blot technique is done for

- 1) Mitochondrial RNA
- 2) DNA
- 3) rRNA
- 4) Proteins

Ques # :44

#### Reverse transcriptase is

- 1) DNA dependent RNA polymerase
- 2) RNA dependent DNA polymerase
- 3) DNA dependent DNA polymerase
- 4) RNA dependent RNA polymerase

Ques #:45

#### How many ATP's are formed in case of β oxidation of stearic acid:

- 1) 7
- 2) 18
- 3) 56
- 4) 147

Ques #:46

#### Study of structure and product of gene is

- 1) Genomics
- 2) Inoteomics
- 3) Bioinformatics





#### 4) Cytogenatics

Ques # :47

#### Bile acids are derived from

- 1) Fatty acids
- 2) Cholesterol
- 3) Bilirubin
- 4) Proteins

Ques #:48

#### Zinc is cofactor for

- 1) Alcohol dehydrogenase
- 2) Pyruvate carboxylase
- 3) Hexokinase
- 4) Alphaketo glutarate dehydrogenase

Ques # :49

# Which biochemical pathway doesnot occur in the mitochondria

- 1) Kreb's cycle
- 2) Urea cycle
- 3) gluconeogenase
- 4) Fatty acid synthesis

Ques #:50

# Which of the following is increased in Lipoprotein lipase deficiency

- 1) VLDL
- 2) LDL
- 3) HDL
- 4) Chylomicron

Ques #:51

# Which vein in anticubital fossa is preferred site for collection of venous blood in adult

- 1) Brachial
- 2) Radial
- 3) Median cubital
- 4) Cubital





#### Name the anticogulant among following

- 1) Fumarate
- 2) Idoacetate
- 3) Oxalates
- 4) Arsenic

Ques #:53

#### Heprin is an anticoagulant which accelerates action of :

- 1) Prothrombin
- 2) Antithrombin III
- 3) Factor 2
- 4) Factor 4

Ques #:54

#### Normal level of serum urea is:

- 1) 40-80 mg/dl
- 2) 20-30 mg/dl
- 3) 20-45 mg/dl
- 4) 80-100 mg/dl

Ques #:55

#### Normal level of HbA1C is

- 1) 2-3%
- 2) 4-9%
- 3) 5-6%
- 4) 1-2%

Ques #:56

#### In preheptic jaundice which type of bilirubin is raised

- 1) Direct
- 2) Conjugated
- 3) Indirect
- 4) Bile salt

Ques #:57

Clay colored stool is seen in which jaundice





- 1) Prehepatic
- 2) Hemolytic
- 3) Posthepatic
- 4) Hepatic

#### In hemolyte jaundice, urine shows

- 1) Absence of bile pigments and presence of urobilinogen
- 2) Absence of bile pigments and urobilinogen
- 3) Presence of bile pigments and urobilinogen
- 4) Presence of bile pigments and absence of urobilinogen

Ques # :59

#### In Obstructive jaundice urine shows

- 1) Presence of bile pigments and absence of urobilinogen
- 2) Presence of bile pigments and urobilinogen
- 3) Absence of bile pigments and urobilinogen
- 4) Absence of bile pigments and presence of urobilinogen

Ques #:60

#### Prothrombin is synthesised in

- 1) Liver
- 2) Kidneys
- 3) Erythyrocytes
- 4) Spleen

Ques #:61

#### Hematuria can occur in

- 1) Stone in urinary tract
- 2) Mismatched blood transfusion
- 3) Ketosis
- 4) Yellow fever

Ques # :62

#### Standard urea clearance in normal subjects is

- 1) 54 ml/min
- 2) 64 ml/min
- 3) 74 ml/min





#### 4) 104 ml/min

Ques # :63

#### Sweat chloride are increased in

- 1) Acute pancreatilis
- 2) Cystic fibrosis
- 3) Pacreatic cancer
- 4) Acute glomerulonephritis

Ques #:64

# Maximum rise in serum amylase occurs in

- 1) Infective hepatittis
- 2) Acute pancreatilis
- 3) Pacreatic cancer
- 4) Acute parotities

Ques #:65

#### BMR is increased in

- 1) cretinism
- 2) Hyperthyrodism
- 3) Endemic goitre
- 4) Myxoedema

Ques # :66

# N-acetylglucosamine is present in

- 1) Chondroitin sulphate
- 2) hyaluronic acid
- 3) Heparin
- 4) Inulin

Ques #:67

# Predominant form of glucose in solution is

- 1) glucofuranose
- 2) glucopyranose
- 3) Acyclic form
- 4) Hydrated acyclic form





#### Lipid content of chylomicron is about

- 1) 70%
- 2) 99%
- 3) 80%
- 4) 30%

Ques #:69

#### Pyruvate kinase is inhibited by

- 1) Citrate
- 2) Enolpyruvate
- 3) Alanine
- 4) Lactale

Ques #:70

# Unique by product of glycolysis in erythrocytes is

- 1) Isocitrate
- 2) 1,3 biphosphoglycerate
- 3) 2,3 biphosphoglycerate
- 4) Lactate

Ques #:71

# Coenzyme of transketolase is

- 1) FAD
- 2) NAD
- 3) Thiamine pyrophosphate
- 4) NADP

Ques #:72

#### Glucose is the only source of energy for

- 1) Kidney
- 2) Myocardium
- 3) RBC
- 4) Spleen

Ques # :73

Increased activity of PRAP synthetase can cause





- 1) Diabetes mellitus
- 2) Immunodeficiency
- 3) Diabetes insipidus
- 4) Gout

#### In mycardia infarction last serum enzyme to return to normal is

- 1) GOT
- 2) creatine kinase
- 3) GPT
- 4) LDH

Ques #:75

#### **Niacin contains**

- 1) Amide group
- 2) Carboxyl group
- 3) Sulfhydryl group
- 4) Hydroxyl group

Ques # :76

#### NADP is required as a coenzyme in

- 1) Citric acid cycle
- 2) HMP shunt
- 3) Gluconeogenasis
- 4) Glycolysis

Ques #:77

# Anti-egg white egg injury factor is

- 1) Niacin
- 2) Biotin
- 3) Pyridoxin
- 4) Riboflavin

Ques # :78

#### Human beings cannot synthesise ascorbic acid because they lack

- 1) L-gulonate dehydrogenase
- 2) L-gulunolactone oxidase
- 3) xylylose reduclase





#### 4) HMG Co A reduclase

Ques #:79

# Vitamin which can be synthesised by human being:

- 1) Niacin
- 2) Riboflavin
- 3) Thiamin
- 4) Folic acid

Ques #:80

#### Rhodopsin contains opsin and

- 1) 11-cis-retinal
- 2) 11-trans-retinol
- 3) all-cis-retinol
- 4) all-trans-retinal

Ques #:81

#### Water soluble form of vitamin K is

- 1) Menadione
- 2) Phylloquinone
- 3) Menaquinone
- 4) Tocopherol

Ques #:82

#### Iron is stroed in form of

- 1) Ferritin and haemosiderin
- 2) Ferritin and transferin
- 3) Hemoglobin and myoglobin
- 4) tranferrin and Haemosiderin

Ques #:83

# Copper deficiency can cause:

- 1) Microcytic anaemia
- 2) Polycythemia
- 3) Leukocytopenia
- 4) Thrombocytopenia





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Hypogonadism car	i occiir in	deficiency	Λt
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- 1) Zinc
- 2) Chromium
- 3) Copper
- 4) Magnesium

Ques #:85

# Trace element having antoxident function is

- 1) Selenium
- 2) Chromium
- 3) Aluminium
- 4) Cobalt

Ques #:86

# Acrodermitatitis enteropathia can lead to deficiency of :

- 1) Copper
- 2) Phophorus
- 3) Calcium
- 4) Zinc

Ques # :87

#### **Intracellular compartment contains (of the total body water)**

- 1) 50%
- 2) 60%
- 3) 80%
- 4) 70%

Ques #:88

#### Highest concentration of proteins is present in

- 1) Interstitial fluid
- 2) Transcellular fluid
- 3) Plasma
- 4) Intracellular Fluid

Ques #:89

# An amino acid required for porphyrin synthesis is





- 1) Serine
- 2) Histidine
- 3) Proline
- 4) Glycine

# In obstructive jaundice, faecal urobilinogon is

- 1) Increased
- 2) Absent
- 3) Decreased
- 4) Normal

Ques #:91

# Protein content of egg is about

- 1) 10%
- 2) 15%
- 3) 13%
- 4) 25%

Ques #:92

# Fat content of pulses is about

- 1) 10%
- 2) 15%
- 3) 20%
- 4) 5%

Ques # :93

# Egg is poor in

- 1) Protein
- 2) Avidin
- 3) Carbohydrates
- 4) Essential amino acid

Ques #:94

# G-proteins act as

- 1) Signal transducers
- 2) Hormone receptors
- 3) Second messengers





#### 4) Hormone carriers

Ques #:95

# Posterior pituitary glands secretes

- 1) Serotonin
- 2) Oxytocin
- 3) Catecholomines
- 4) Follicle stimulating hormone

Ques #:96

#### Nonapeptide among the following is:

- 1) Insulin
- 2) Antidiuretic hormone
- 3) ACTH
- 4) Thyrotropin releasing hormone

Ques #:97

#### ACTH is a polypeptide made up of

- 1) 26 amino acid
- 2) 64 amino acid
- 3) 39 amino acid
- 4) 92 amino acid

Ques #:98

# In thyroxine, tyrosine residues are iodinated at positions

- 1) 2 & 4
- 2) 4 & 6
- 3) 3 & 5
- 4) 1 & 3

Ques #:99

#### Complement system can be activated by binding of antigen to

- 1) Ig M
- 2) Ig E
- 3) Ig G
- 4) Ig A





# The most abundant T cells are

- 1) Helper T cells
- 2) Suppressor T cells
- 3) Cytotoxic T cells
- 4) Memory T cells

