

Section 1 - Section 1

Question No.1

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Bookmark

Reduction of ribonucleotides to deoxy- ribonucleotides by ribonucleotide reductase requires

- NADPH
- Tetrahydrofolate
- Coenzyme A
- Pyridoxal phosphate

Question No.2

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Bookmark

Targeting of a newly synthesized protein is most likely requires two signal peptides for which one of the following destinations in a cell

- Lysosome
- Peroxisome
- Endoplasmic reticulum
- Chloroplast

Question No.3

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Bookmark

These boys need some new books, _____?

- isn't it?
- don't they?
- is it?
- do they?

Question No.4

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Bookmark

Which of the following promotes platelet production under normal physiological conditions

- Interleukin
- Pleiotrophin
- Erythropoietin
- Thrombopoietin

Question No.5

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Density gradient centrifugation can be performed using all of the below EXCEPT

- Sucrose
- Ficoll
- Percoll
- Glucose

Question No.6

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Bookmark

In recent times, the number of cases of death by poisoning _____ sharply.

- increased
- has increased
- had increased
- have increased

Question No.7

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Bookmark

Which of the following diseases is governed by pleiotropic genes

- Sickle cell anemia
- Color blindness
- Duchene muscular dystrophy
- Hemophilia

Question No.8

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Bookmark

Following statement holds true a duplex DNA

- Addition of NaCl changes its confirmation
- Addition of NaCl denatures the DNA
- Addition of NaCl decreases the melting temperature
- Addition of NaCl increases the melting temperature

Question No.9

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Bookmark

A two digit number is three times the sum of its digits. If 45 is added to it, the digits are reversed. The number is

- 31
- 27
- 35
- 32

Question No.10

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If A+B means A is daughter of B,
A-B means A is husband of B
A × B means A is brother of B

From the statement P – Q + R × S, how is Q related to S?

- Niece
- Sister
- Mother
- None of these

Question No.11

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Which of the following is not the function of helper T cells

- They help activate B cells to secrete antibodies and macrophages to destroy ingested microbes
- They help activate cytotoxic T cells to kill infected target cells
- They recognize and bind extracellular ligands
- Produce soluble signaling proteins called cytokines, which include the interleukins

Question No.12

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Addition of water in C-C bond is by the enzyme

- Hydroxylase
- Hydrolase
- Dehydrogenase
- Hydratase

Question No.13

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Administration of cytochalasin B to actively dividing germ cell culture results in

- Arrest of both nuclear division and cytokinesis
- Diplotene arrest
- Resumption of meiosis
- Arrest of nuclear division is unaltered whereas cytokinesis is arrested

Question No.14

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Which one of the following has the largest mitochondrial DNA

- Higher vertebrates
- Green algae
- Plants
- Fungi

Question No.15

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Statements: All tools are books, Some books are pens.

Conclusion:

I. Some tools are pen

II. Some pens are books

- If only conclusion II follows
- If neither I nor II follows
- If either I or II follows
- If only conclusion I follows

Question No.16

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Identification of transcription start site is possible by

- RNase protection assay
- Chromatin immunoprecipitation
- RNA-EMSA
- DNase foot printing assay

Question No.17

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Bookmark

Which of the following is NOT a hypothyroid disease

- Cretinism
- Grave's disease
- Goiter
- Myxedema

Question No.18

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Bookmark

A mutation that gives an altered phenotype only when no wild type version is present is

- Conditional mutation
- Recessive mutation
- Complementation
- Dominant mutation

Question No.19

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Bookmark

In the early stages of cell formation in nature, which one of the following organelles most likely arose first

- Lysosome
- Nucleus
- Mitochondria
- Plasma membrane

Question No.20

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Bookmark

Choose the best antonym of the italicized word.
Many snakes are actually *innocuous*.

- poisonous
- ferocious
- deadly
- harmful

Question No.21

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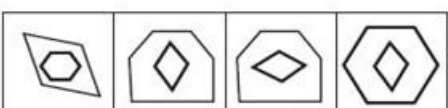
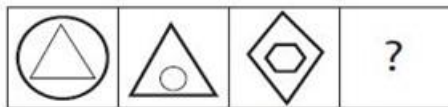
Bookmark

Zinc is a cofactor for

- Pyruvate dehydrogenase
- Pyruvate carboxylase
- Alcohol dehydrogenase
- KG dehydrogenase

Question No.22

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Bookmark 

- 3
- 1
- 2
- 4

Question No.23

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Bookmark

Choose the best synonym of the italicized word. The prisoners of war signed the document under *coercion*.

- supervision
- security
- compulsion
- confusion

Question No.24

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Bookmark

The word hormone was coined by

- Starling
- Berthelot
- Benting and Best
- Frederick Sanger

Question No.25

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Bookmark

Which one of the following is NOT a cellular signal inducing molecule

- Insulin
- Calcium
- Methylated DNA
- F-actin

Question No.26

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Bookmark

Which of the following sets of hormones are closely related to parental care behavior in mammals?

- Mammothrophin, oxytocin, somatomammothrophin, vasopressin
- Oxytocin, somatomammothrophin, mammothrophin, estradiol
- Mammothrophin, Oxytocin, vasopressin, cortisol
- Mammothrophin, oxytocin, vasopressin, estradiol

Question No.27

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In statistical analyses, Correlation coefficient is the range between

- 0 to +1
- 1 to 0
- +1 to +2
- 1 to +1

Question No.28

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Bookmark

Shortest peptide hormone in mammals is

- Thyrotrophin releasing hormone
- Vassopressin
- Thyroid stimulating hormone
- Oxytocin

Question No.29

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Bookmark

Most wide spread form of symbiosis in nature is

- Commensalism
- Parasitism
- Predation
- Mutualism

Question No.30

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Oubain is:

- Inhibitor of acyl carrier protein
- Inhibitor of protein degradation
- Inhibitor of lipid absorption
- Inhibitor of carbohydrate absorption

Question No.31

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Many marine birds often drink seawater, yet maintain their internal osmolarity at a constant level that is hypoosmotic to seawater. Which of the following physiological strategies best explains how the birds could maintain their tissue osmolarity?

- Excrete both salts and nitrogenous wastes through specialized nasal glands
- Excrete salts through specialized salt exchange glands and excrete less urine
- Absorption of salts from the environment through salt exchange glands and produce more concentrated urine
- Absorption of water from the environment through specialized salt-exchange glands and produce more dilute urine.

Question No.32

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Bookmark

Metabolism of one of the following amino acids produces acids

- Glutamate
- Aspartate
- Alanine
- Histidine

Question No.33

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Study the following information carefully and answer the question below it

- (i) There is a group of five persons- A, B, C, D and E
- (ii) One of them is manual scavenger, one is sweeper, one is watchman, one is human scarecrow and one is grave-digger
- (iii) Three of them – A, C and grave-digger prefer tea to coffee and two of them – B and the watchman prefer coffee to tea
- (iv) The human scarecrow and D and A are friends to one another but two of these prefer coffee to tea.
- (v) The manual scavenger is C's brother

Who is a manual scavenger?

- B
- A
- D
- C

Question No.34

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Sodium azide inhibits electron transport chain by acting on

- Complex-IV
- Complex-III
- Complex-II
- Complex-I

Question No.35

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Bookmark

Vectors widely used for genetic engineering in plants are

- EMBL vectors
- Ti vectors
- Phagemids
- Cosmids

Question No.36

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Bookmark

Causes of homocystinuria

- Deficiency of Vit. B12
- Deficiency of Folic acid
- Deficiency of Vit. B6
- Deficiency of pantothenic acid

Question No.37

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One of the following enzyme is absent in humans

- Lipase
- Cellulase
- Carboxypeptidase
- Pepsin

Question No.38

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Bookmark

Choose the correct meaning of the italicized idiom.

You cannot throw *dust into my eyes*.

- Cheat me
- Terrify me
- Abuse me
- Hurt me

Question No.39

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Bookmark

Choose the best antonym of the italicized word.

There are four chapters that are *extraneous* to the structure of the book.

- needful
- relevant
- integral
- important

Question No.40

4.00

Bookmark

Alpha Linolenic acid is a

- w-6 polyunsaturated fatty acid
- w-3 polyunsaturated fatty acid
- w-9 polyunsaturated fatty acid
- w-12 polyunsaturated fatty acid

Question No.41

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Bookmark

Which of the following is a reliable technique to identify RNA-protein interactions

- RNase protection assay
- Chromatin immunoprecipitation
- RNase foot printing
- RNA-EMSA

Question No.42

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Bookmark

Which one of the following is NOT a transfection technique

- Liposome mediate delivery
- Microinjection
- Electroporation
- Site directed mutagenesis

Question No.43

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Bookmark

Statement: "A Car is required on rent"-An Advertisement

Assumptions:

I. All types of Vehicles are available on Rent

II. People will respond to the advertisements

- If only assumption II is implicit
- If only assumption I is implicit
- If neither I nor II is implicit
- If both I and II are implicit

Question No.44

4.00

Bookmark

The two principal contractile proteins present in skeletal muscle are

- Actin and myosin
- Actin and tropomyosin
- Myosin and tropomyosin
- Troponin and tropomyosin

Question No.45

4.00

Bookmark

Severe anemia at birth is a feature of

- Sickle cell disease
- Beta-thalassemia
- Alpha-thalassemia
- Hereditary persistence of fetal hemoglobin

Question No.46

4.00

Bookmark

Experiments to prove the evolution of life were first performed by

- Darwin and Wallace
- Haldane and Lamarck
- Urey and Miller
- Watson and Crick

Question No.47

4.00

Bookmark

Choose the correct meaning of the italicized idiom.
Those who work by *fits and starts* seldom show good results.

- Irregularly
- Disinterestedly
- Regularly
- Rarely

Question No.48

4.00

Bookmark

One of the following can be detected by using an enzyme assay

- Cystic fibrosis
- Fragile X syndrome
- Tay-Sachs disease
- Oculocutaneous albinism

Question No.49

4.00

Bookmark

The study of senescence and senility is

- Gerontology
- Dendrology
- Psychology
- Palentology

Question No.50

4.00

Bookmark

Which of the following is not a bacterial disease?

- Tonsillitis
- Lyme disease
- Mononucleosis
- Syphilis

Question No.51

4.00

Bookmark

The most variable period of the cell cycle is

- M
- G1
- S
- G2

Question No.52

4.00

Bookmark

One of the following is NOT a stimuli for secretion of gastric inhibitory peptide

- Acid
- Protein
- Carbohydrate
- Fat

Question No.53

4.00

Bookmark

With which of the following relatives is an individual most likely to share a common HLA phenotype

- Mother
- Son
- Sister
- Father

Question No.54

4.00

Bookmark

The starting and ending sequence generally found in an intron is

- GU; AG
- GA; CG
- AG; GU
- CG; GA

Question No.55

4.00

Bookmark

An important cause for polyteny in somatic cells of few organisms

- Sex chromosome amplification
- Supercoiling of chromatin
- Chromosome replication without any cell division
- Chromosome recombination

Question No.56

4.00

Bookmark

Most genes are transcribed into

- rRNAs
- snRNAs
- t-RNAs
- mRNAs

Question No.57

4.00

Bookmark

Gene for folic acid absorption is present in on

- Chromosome V
- Chromosome XXI
- Chromosome X
- Chromosome XI

Question No.58

4.00

Bookmark

Which one of the following is the odd one out?

- In situ hybridization
- Chromatin immuno precipitation
- Chromosome painting
- Fluorescence in situ hybridization

Question No.59

4.00

Bookmark

Which cellular organelles fits well for symbiont hypothesis

- Nucleus
- Lysosomes
- Peroxisomes
- Mitochondria

Question No.60

4.00

Bookmark

Which of the following does not contain keratin

- Spinach
- Potato
- Carrot
- tomato

Question No.61

4.00

Bookmark

Glutellin, zeins and phaseolins are

- Storage lipids
- Storage carbohydrates
- Storage proteins
- Storage micronutrients

Question No.62

4.00

Bookmark

If 5 men or 8 boys can do a work in 84 days. In how many days can 10 men and 5 boys can do the same work?

- 25
- 28
- 32
- 35

Question No.63

4.00

Bookmark

Inside the cochlea, the tectorial membrane is a part of

- Reissner's membrane
- Scala media
- Scala typani
- Scala vestibule

Question No.64

4.00

Bookmark

When a big fish eats a small fish that eats water fleas supported by phytoplanktons, in the ecological point of view, the water fleas can be considered as

- Tertiary consumers
- Primary consumers
- Producers
- Secondary consumers

Question No.65

4.00

Bookmark

Southwestern blotting is used for determining

- Length of DNA
- Molecular weight of unknown protein factor
- Intron-Exon boundaries
- Cross linking of cysteine residues

Question No.66

4.00

Bookmark

The predominant iso enzyme of LDH in cardiac muscle is

- LD-5
- LD-3
- LD-1
- LD-2

Question No.67

4.00

Bookmark

Study the following information carefully and answer the question below it:

Aasha, Bhuvnesh, Charan, Danesh, Ekta, Farhan, Ganesh and Himesh are sitting around a circle, facing the centre. Aasha sits fourth to the right of Himesh while second to the left of Farhan. Charan is not the neighbour of Farhan and Bhuvnesh. Danesh sits third to the right of Charan. Himesh never sits next to Ganesh.

Who among the following sits between Ganesh and Danesh?

- Aasha
- Bhuvnesh
- Charan
- Ekta

Question No.68

4.00

Bookmark

The protein coloring dye coomassie brilliant blue:

- Emits fluorescence when interacts with multiple regions of the protein
- Interacts with the negative carboxyl groups in the proteins
- Interacts with the positive amine groups in the proteins
- Forms hydrogen bonding with the proteins

Question No.69

4.00

Bookmark

The shape of pyramid biomass in pond ecosystem is

- Octagonal
- Upright
- Spindle
- Inverted

Question No.70

4.00

Bookmark

The process by which white light is resolved into seven colors is

- Diffraction
- Absorption
- Reflection
- Refraction

Question No.71

4.00

Bookmark

The allosteric inhibitor of an enzyme

- Participates in feedback regulation
- Causes the enzyme to work faster
- Binds to the active site
- Denatures the enzyme

Question No.72

4.00

Bookmark

First life on earth was originated from

- Cyanobacteria
- Chemoheterotrophs
- Protozoa
- Autotrophs

Question No.73

4.00

Bookmark

Abzyme is an

- Iso- Enzyme
- Abnormal Enzyme
- Allosteric Enzyme
- Antibody with catalytic activity

Question No.74

4.00

Bookmark

Based on the information given answer the following question.

1. In a family of six persons, there are people from three generations. Each has separate professions and they like different colours. There are two couples.
2. Shyam is an Engineer and his wife is not a doctor and she does not like Red colour.
3. Chartered Accountant likes green colour and his wife is a teacher.
4. Manisha is the mother-in-law of Sunita and she likes orange colour.
5. Vimal is the grand father of Tarun and tarun is the Principal and likes black colour.
6. Nyna is the grand daughter of Manisha and she likes blue colour. Nyna's Mother likes white colour.

Which of the following is the correct pair of two couples?

- Cannot be determined
- Tarun-Nyna, Shyam-Sunita
- Shyam-Sunita, Vimal-Manisha
- Shyam-Manisha, Vimal-Sunita

Question No.75

4.00

Bookmark

The hormone, LEPTIN is secreted by

- Adrenal
- Pancreas
- Adipose tissue
- Thymus

Question No.76

4.00

Bookmark

Which one of the following set of organelles can be separated by performing low speed centrifugation

- Lysosome and endosomes
- Golgi complex and endoplasmic reticulum
- DNA and mRNA
- Nuclei and secretory vesicles

Question No.77

4.00

Bookmark

Choose the missing term : AZ, GT, MN, ?, YB

- KE
- SX
- SH
- TS

Question No.78

4.00

Bookmark

The INCORRECT statement about genetic drift is

- Significant only in large populations
- Random change in allele frequency in a population
- A mechanism for the evolution of new species
- Founder effect is a special case

Question No.79

4.00

Bookmark

Hexokinase is

- Oxidase
- Oxide reductase
- Reductase
- Transferase

Question No.80

4.00

Bookmark

One of the following DOES NOT increase the levels of antidiuretic hormone

- Chloride
- Morphine
- Nicotine
- Cyclophosphamide

Question No.81

4.00

Bookmark

If the genotypes AA, Aa and aa have frequencies 0.5, 0.25 and 0.25 respectively, then the frequency of A and a alleles will be

- 0.5 and 0.25
- 0.725 and 0.275
- 0.75 and 0.25
- 0.625 and 0.375

Question No.82

4.00

Bookmark

Autophagy and crinophagy can be related to the efficient function of

- Peroxisomes
- Mitochondria
- Lysosomes
- Glycosomes

Question No.83

4.00

Bookmark

Since the _____ of the motor car, road accidents have increased dramatically.

- inauguration
- inception
- initiation
- advent

Question No.84

4.00

Bookmark

Repeat core sequences consisting of 2, 3 or 4 base pairs are called

- Satellites
- Single nucleotide polymorphisms
- Microsatellites
- Minisatellites

Question No.85

4.00

Bookmark

The combination of main supporting enzyme is

- Co enzyme
- Apo enzyme
- Holo enzyme
- Constructive enzyme

Question No.86

4.00

Bookmark

One of the following is a component of the mitochondrial electron chain

- Isocitrate dehydrogenase
- Glutamate dehydrogenase
- Succinate dehydrogenase
- Pyruvate dehydrogenase

Question No.87

4.00

Bookmark

Hypophysectomy refers to

- Removal of pituitary gland
- Removal of testis
- Removal of hypothalamus
- Removal of pancreas

Question No.88

4.00

Bookmark

Vitamin K is

- Oxidation
- Carboxylation
- Reduction
- Hydroxylation

Question No.89

4.00

Bookmark

An autosomal recessive disorder that leads to decreased sodium, chloride and potassium reabsorption in the Loop of Henle is

- Fanconi's syndrome
- Liddle's syndrome
- Bartler's syndrome
- Gitelman's syndrome

Question No.90

4.00

Bookmark

The most effective detection chemistry employed for real time gene expression analyses is

- Hybridization probes
- Hydrolysis probes
- Molecular beacons
- DNA hybridization probes

Question No.91

4.00

Bookmark

The half-life of IgM in serum is

- 21 days
- 10 days
- 2 days
- 6 days

Question No.92

4.00

Bookmark

Contrastness is produced by a gradient of refractive index across the specimen in

- Polarization microscope
- Phase contrast microscope
- Bright field microscope
- Differential interference contrast microscope

Question No.93

4.00

Bookmark

Vitamins that play a key role in TCA cycle are

- Riboflavin, Thiamine, Niacin, Pantothenic acid
- Folic acid, Riboflavin, Biotin, Cobalamin
- Pyridoxine, Folic acid, Cobalamin
- Pantothenic acid, Biotin, Cobalamin, Folic acid

Question No.94

4.00

Bookmark

Which number replaces the question mark?



- 10
- 12
- 9
- 11

Question No.95

4.00

Bookmark

Insulin DOES NOT regulate one of the following in the skeletal muscle

- Glucokinase
- Glycogen synthase
- Glycogen phosphorylase
- Phosphoprotein phosphatase

Question No.96

4.00

Bookmark

Which one of the following instruments is NOT required for localizing mRNA transcripts

- Ultracentrifuge
- Hybridization chamber
- Thermal cycler
- Microscope

Question No.97

4.00

Bookmark

In humans, majority of the prostaglandins are formed from

- Palmitic acid
- Linoleic acid
- Stearic acid
- Arachidonic acid

Question No.98

4.00

Bookmark

Genome markers :

- Must occur as multiple alleles
- Can be any unique DNA sequence
- Must be repeat DNA sequences
- Used only in genetic maps

Question No.99

4.00

Bookmark

Pap smear test is for the diagnosis of

- Bacterial infections
- Viral infections
- Hematological disorders
- Cancerous or pre cancerous cells

Question No.100

4.00

Bookmark

If in a certain language, GRASP is coded as BMVNK, which word would be coded as CRANE?

- BQZMD
- HWFSJ
- FUDQH
- XMVIZ