

## 129 PU Ph.D Zoology

### 1 of 100

152 PU\_2016\_129\_E

The progesterone hormone is a:-

- ☐ c-15 steroids
- ☐ c-25 steroids
- ☐ c-21 steroids
- ☐ c-19 steroids

### 2 of 100

161 PU\_2016\_129\_E

A steroid hormone which regulates glucose metabolism is:-

- ☐ estrogen
- ☐ progesterone
- ☐ aldosterone
- ☐ Cortisol

### 3 of 100

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RNA molecules, capable of catalyzing a chemical reaction such as self-splicing are known as:-

- ☐ lysosomes
- ☐ ribozymes
- ☐ ribosomes
- ☐ isozymes

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108 PU\_2016\_129\_E

Main difference between RBC's of man and frog is:-

- ☐ Human RBCs are without nucleus
- ☐ Human RBCs have more nuclei
- ☐ Frog's RBCs are without nucleus
- ☐ Only human RBCs have haemoglobin

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When organisms produce all of its offspring in a reproductive event, it is known as:-

- ☐ Iteroparity
- ☐ Semelparity
- ☐ Aparity

- ☐ Viviparity

**6 of 100**

216 PU\_2016\_129\_E

Effect of deforestation are:-

- ☐ distruction of wild life
- ☐ increase in air pollution
- ☐ desertification
- ☐ all the above

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200 PU\_2016\_129\_E

"Sex-linked genes" refer to genes:-

- ☐ present on the sex chromosomes
- ☐ controlling both primary and secondary sexual characters
- ☐ controlling secondary sexual characters
- ☐ present in a particular sex

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The hormone which is called as fight, flight and fright hormone is:-

- ☐ Epinephrine
- ☐ Prolactin
- ☐ progesterone
- ☐ Relaxin

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The hormone that regulates menstrual cycle in human:-

- ☐ FSH and Testosterone
- ☐ FSH, LH and Estradial
- ☐ Insulin and Glucagon
- ☐ Thyroxine and Cortisol

**10 of 100**

100 PU\_2016\_129\_E

Which one of the following is not the function of liver?

- ☐ It produces granulocytes
- ☐ It stores triglycerides
- ☐ It produces bile juice which helps in digestion

- ☐ It disposes off the worn out RBCs

**11 of 100**

101 PU\_2016\_129\_E

Which is not a locomotory organ in Protozoa?

- ☐ Flagella
- ☐ Pseudopodium
- ☐ Cilia
- ☐ Setae

**12 of 100**

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In mammals, histamine is secreted by:-

- ☐ Lymphocytes
- ☐ Fibroblasts
- ☐ Histocytes
- ☐ Mast cells

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What is the characteristic of metanephric kidney?

- ☐ Henle's loop
- ☐ Hypotonic urine production
- ☐ Excess secretion of uric acid
- ☐ Hormone production

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The most abundant lipids in eukaryotic cell membranes are:-

- ☐ Lipopolysacchrides
- ☐ Cholesterol
- ☐ Glycolipids
- ☐ Phospholipids

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Best method of variability is:-

- ☐ Standard deviation
- ☐ Mean
- ☐ Mode

- ☐ Median

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116 PU\_2016\_129\_E

During food chain maximum energy is stored in:-

- ☐ decomposers
- ☐ primary consumers
- ☐ producers
- ☐ secondary consumers

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Unwinding of DNA is done by:-

- ☐ topoisomerase
- ☐ helicase
- ☐ exonuclease
- ☐ ligase

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The gall stones are formed of:-

- ☐ Cholesterol
- ☐ Growing infected tissue
- ☐ Sodium crystals
- ☐ Calcium

**19 of 100**

133 PU\_2016\_129\_E

Mendelian recombinations are due to:-

- ☐ independent assortment of genes
- ☐ mutation
- ☐ dominant characters
- ☐ linkage

**20 of 100**

180 PU\_2016\_129\_E

Kahn test is otherwise called:-

- ☐ Flocculation
- ☐ Complement system
- ☐ Precipitation

- ☐ Agglutination

**21 of 100**

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Formation of RNA from DNA is:-

- ☐ translation
- ☐ transcription
- ☐ replication
- ☐ recombination

**22 of 100**

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Cohorts are:-

- ☐ Different aged young
- ☐ Same aged young
- ☐ Recruits
- ☐ Reproductive elements

**23 of 100**

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Jaundice is a disease of:-

- ☐ kidneys
- ☐ liver
- ☐ duodenum
- ☐ pancreas

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Bacterial resistance to antibiotics is a generic trait that is carried in the bacteria cell in:-

- ☐ intron
- ☐ chromosome
- ☐ centromere
- ☐ plasmid

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Secretin stimulates the secretion of:-

- ☐ pancreatic bicarbonate
- ☐ acid secretion
- ☐ gall bladder contents

- ☐ liver bile juice

**26 of 100**

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The nuclear spindle is formed in:-

- ☐ Meiotic division only
- ☐ Mitotic and meiotic divisions
- ☐ Amitotic division only
- ☐ Mitotic division only

**27 of 100**

112 PU\_2016\_129\_E

During expiration, the diaphragm:-

- ☐ shows no change
- ☐ expands
- ☐ becomes dome shaped
- ☐ becomes flattened

**28 of 100**

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Pheromone is secreted by:-

- ☐ prostate gland
- ☐ cowpers gland
- ☐ bulbourethral gland
- ☐ anal gland

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201 PU\_2016\_129\_E

Insertion or deletion of a nucleotide in a class of mutation resulting in a sequence of codon that makes nonsensical polypeptide chain is called:-

- ☐ lethal mutation
- ☐ inversion
- ☐ transversion
- ☐ frame shift mutation

**30 of 100**

188 PU\_2016\_129\_E

Most vitamins are:-

- ☐ Precursors to coenzymes
- ☐ Covalently linked to enzymes

- ☐ Synthesizes by humans
- ☐ Precursors to proteins

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The antibody produced during primary response is:-

- ☐ Ig M
- ☐ Ig E
- ☐ Ig A
- ☐ Ig D

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The primary germ layers are:-

- ☐ ectoderm, mesoderm and endoderm
- ☐ mesoderm, endoderm only
- ☐ ectoderm, endoderm only
- ☐ ectoderm, mesoderm only

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The ovarian follicle are derived from:-

- ☐ corpus luteum
- ☐ spermatozoa
- ☐ corpus albicans
- ☐ oogonia

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Colonial habit is seen in:-

- ☐ mosquitoes
- ☐ white ants
- ☐ bed bugs
- ☐ locusts

**35 of 100**

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All veins carry oxygenated blood except:-

- ☐ Pulmonary vein
- ☐ Hepatic vein

- ☐ Renal artery
- ☐ Hepatic portal vein

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The T cell which suppresses the immune response is:-

- ☐ T s cells
- ☐ T b cells
- ☐ T d cells
- ☐ T c cells

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209 PU\_2016\_129\_E

Which enzyme catalyzes the unwinding of DNA helix during replication?

- ☐ DNA-polymerase
- ☐ Helicase
- ☐ Topoisomerase
- ☐ Primase

**38 of 100**

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F1 particles are also known as:-

- ☐ Ribosomes
- ☐ Lysosomes
- ☐ Oxysones
- ☐ Centrosome

**39 of 100**

217 PU\_2016\_129\_E

Organ of flight in bats is:-

- ☐ feathers
- ☐ wings
- ☐ cuticular flaps
- ☐ patagia

**40 of 100**

105 PU\_2016\_129\_E

The respiratory centre is located in the:-

- ☐ Lungs
- ☐ Diencephalon



- ☐ Mid brain
- ☐ Medulla oblongata

**41 of 100**

144 PU\_2016\_129\_E

Chloride shift is related to the collection of:-

- ☐ Hb
- ☐ CO
- ☐ O<sub>2</sub>
- ☐ CO<sub>2</sub>

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156 PU\_2016\_129\_E

Islets of Langerhans in pancreas secretes:-

- ☐ Glucagon alone
- ☐ Insulin alone
- ☐ Thyroxin
- ☐ Insulin and Glucagon

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Which of the following amino acids has single codon?

- ☐ Arginine
- ☐ Tryptophan
- ☐ Valine
- ☐ Isoleucine

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The mammalian counterpart of avian bursa of fabricus is the:-

- ☐ spleen
- ☐ bone marrow
- ☐ thymus
- ☐ liver

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Radio Immuno Assay is used to measure the:-

- ☐ proteins
- ☐ respiratory rate

- ☐ serum hormones
- ☐ excretion rate

**46 of 100**

113 PU\_2016\_129\_E

Which of the following sets of nerves are purely sensory?

- ☐ I , VI and VII
- ☐ I, II and VIII
- ☐ I, IX and X
- ☐ IV, V and IX

**47 of 100**

184 PU\_2016\_129\_E

In which animal species specific greetings like head rubbing is seen:-

- ☐ House-sparrow
- ☐ Cats
- ☐ Lizard
- ☐ Man

**48 of 100**

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Ketone bodies are formed due to metabolism of:-

- ☐ Glycogen in liver
- ☐ Glycogen in muscles
- ☐ Fats in liver
- ☐ Fats in muscle

**49 of 100**

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Person with diabetes mellitus do not produce sufficient:-

- ☐ glucagon
- ☐ sugar
- ☐ epinephrine
- ☐ insulin

**50 of 100**

205 PU\_2016\_129\_E

Proteins that are used only outside the cell are synthesized:-

- ☐ on the rough endoplasmic reticulum
- ☐ on free ribosomes

- ☐ in the mitochondria
- ☐ on the smooth endoplasmic reticulum

**51 of 100**

148 PU\_2016\_129\_E

In a simple random sampling:-

- ☐ Selection is dependent on individual characteristic
- ☐ All have equal chance of getting selected
- ☐ Suitable for large heterogenous population
- ☐ Only possible when complete sampling frame is not available

**52 of 100**

213 PU\_2016\_129\_E

Which histone protein is involved in the transition between the solenoid form and the extended nucleosome form?

- ☐ H1
- ☐ H4
- ☐ H2B
- ☐ H3

**53 of 100**

104 PU\_2016\_129\_E

Deficiency of vitamin D causes:-

- ☐ Xerophthalmia
- ☐ Pellagra
- ☐ Nyctalopia
- ☐ Osteomalacia

**54 of 100**

153 PU\_2016\_129\_E

The method of permanent birth control in female is:-

- ☐ Vasectomy
- ☐ Tubectomy
- ☐ Copper 'T'
- ☐ Contraceptive pills

**55 of 100**

136 PU\_2016\_129\_E

One of the following is not a flightless bird?

- ☐ Emu

- ☐ Apteryx
- ☐ Rheas
- ☐ Psittacula

**56 of 100**

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The changes in male sex cells just before their liberation as mature gametes are called:-

- ☐ spermiogenesis
- ☐ Spermatogenesis
- ☐ Oogeneis
- ☐ gametogenesis

**57 of 100**

117 PU\_2016\_129\_E

Nitrogen is an important constituent of:-

- ☐ phospholipids
- ☐ lipids
- ☐ carbohydrates
- ☐ protein

**58 of 100**

193 PU\_2016\_129\_E

Catadromous fishes migrate:-

- ☐ To freshwater from sea
- ☐ From river to sea
- ☐ From sea to estuary
- ☐ From estuary to sea

**59 of 100**

173 PU\_2016\_129\_E

The following are primary lymphoid organs except:-

- ☐ thymus
- ☐ bone marrow
- ☐ lymph node
- ☐ bursa of fabricius

**60 of 100**

192 PU\_2016\_129\_E

An antiglobin test is:-

- ☐ Widal

- ☐ Combs test
- ☐ ELIZA
- ☐ RIA

**61 of 100**

224 PU\_2016\_129\_M

The 'Suicidal' bag of an animal cell is:-

- ☐ Dictyosome
- ☐ Spherosome
- ☐ Endosome
- ☐ Lysosome

**62 of 100**

253 PU\_2016\_129\_M

A fish which migrate from sea to fresh water for spawning are called as:-

- ☐ Anadromous
- ☐ Stenohaline
- ☐ Euryhaline
- ☐ Catadromous

**63 of 100**

240 PU\_2016\_129\_M

Filtration under pressure is called:-

- ☐ semisolid filtration
- ☐ extract-filtration
- ☐ ultra-filtration
- ☐ micro-filtration

**64 of 100**

225 PU\_2016\_129\_M

The coiled filament of chromosome is called:-

- ☐ Centroneme
- ☐ Chromomere
- ☐ Chromonema
- ☐ Satellite

**65 of 100**

256 PU\_2016\_129\_M

Round worms are:-

- ☐ Pseudocoelomate

- ☐ Eucoelomate
- ☐ Haemocoelomate
- ☐ Acoelomate

**66 of 100**

257 PU\_2016\_129\_M

Food derived by killing other organism is:-

- ☐ Predation
- ☐ Amensalism
- ☐ Parasitism
- ☐ Protocooperation

**67 of 100**

249 PU\_2016\_129\_M

Which are more numerous:-

- ☐ Primary consumer
- ☐ Tertiary consumer
- ☐ Quaternary consumer
- ☐ Secondary consumer

**68 of 100**

220 PU\_2016\_129\_M

Term not related to amoeba is:-

- ☐ import
- ☐ holozoic
- ☐ circumvalation
- ☐ autotrophic

**69 of 100**

221 PU\_2016\_129\_M

Regeneration happens in:-

- ☐ tails in lizards
- ☐ fish fins
- ☐ beak in birds
- ☐ all the above

**70 of 100**

248 PU\_2016\_129\_M

Identify the zooplankton.

- ☐ Corals

- ☐ Jelly fishes
- ☐ Hydra
- ☐ Marine protozoans

**71 of 100**

229 PU\_2016\_129\_M

Size of ribosomes and their subunits are given in:-

- ☐ Svedberg unit
- ☐ Angstrom
- ☐ Microns
- ☐ Daltons

**72 of 100**

228 PU\_2016\_129\_M

Ribosomes are chemically composed of:-

- ☐ Protein
- ☐ Lipid only
- ☐ RNA and protein
- ☐ DNA

**73 of 100**

233 PU\_2016\_129\_M

Lysosomes contain destructure enzymes called:-

- ☐ Hydrolases
- ☐ Esterases
- ☐ protease
- ☐ Transferases

**74 of 100**

236 PU\_2016\_129\_M

The stress response is primarily controlled by:-

- ☐ Thyroid gland
- ☐ Hypothalamus
- ☐ Kidneys
- ☐ Adrenal gland

**75 of 100**

252 PU\_2016\_129\_M

Ladder type of nervous system present in:-

- ☐ Coelenterates

- ☐ Earth worm
- ☐ Flat worms
- ☐ Mollusks

**76 of 100**

244 PU\_2016\_129\_M

Cave dwelling animals have:-

- ☐ No pigment in the skin
- ☐ Upper surface dark and light lower surface
- ☐ Dark skin
- ☐ Light skin

**77 of 100**

241 PU\_2016\_129\_M

Buffer salts present in the blood are:-

- ☐ Potassium
- ☐ Sodium and potassium
- ☐ Cobalt
- ☐ Sodium

**78 of 100**

245 PU\_2016\_129\_M

Blubber is a characteristic of:-

- ☐ Aquatic mammals
- ☐ Cartilaginous fishes
- ☐ Bony fishes
- ☐ Reptiles

**79 of 100**

232 PU\_2016\_129\_M

Circular DNA in eukaryotes are found in:-

- ☐ Mitochondria
- ☐ Stomata
- ☐ Schwann cells
- ☐ Bundle of His

**80 of 100**

237 PU\_2016\_129\_M

Pepsin enzyme converts protein into:-

- ☐ Glycoprotein



- ☐ Glycopeptides
- ☐ Emulsified protein
- ☐ Polypeptides

**81 of 100**

285 PU\_2016\_129\_D

Body does not show any segmentation in:-

- ☐ Cockroach
- ☐ Frog
- ☐ Earth worm
- ☐ Star fish

**82 of 100**

276 PU\_2016\_129\_D

Under bright light animals become:-

- ☐ Tanned
- ☐ Blue coloured
- ☐ Dark coloured
- ☐ Light coloured

**83 of 100**

261 PU\_2016\_129\_D

Which of the following process require energy:-

- ☐ Transformation
- ☐ Restriction digestion
- ☐ Hybridization
- ☐ Ligation

**84 of 100**

281 PU\_2016\_129\_D

Which one has a real existence:-

- ☐ Phylum
- ☐ Class
- ☐ Genus
- ☐ Species

**85 of 100**

296 PU\_2016\_129\_D

Which one is not a fossil fuel:-

- ☐ Uranium

- ☐ Coal
- ☐ Natural gas
- ☐ Petrol

**86 of 100**

297 PU\_2016\_129\_D

The main factor responsible for water pollution is:-

- ☐ Detergent
- ☐ Industrial waste
- ☐ NH<sub>3</sub>
- ☐ Smoke

**87 of 100**

268 PU\_2016\_129\_D

Decomposers are always:-

- ☐ Heterotrophs
- ☐ Autotrophs
- ☐ Primary consumers
- ☐ Saprotrophs

**88 of 100**

284 PU\_2016\_129\_D

The water holding capacity of which soil is maximum:-

- ☐ Silt
- ☐ Clay
- ☐ Sand
- ☐ Coarse sand

**89 of 100**

272 PU\_2016\_129\_D

Animals period of inactivity in summer is:-

- ☐ Hibernation
- ☐ Dormancy
- ☐ Resting
- ☐ Aestivation

**90 of 100**

288 PU\_2016\_129\_D

Reserve food in protozoans is:-

- ☐ Starch

- ☐ fat
- ☐ Protein
- ☐ Glycogen

**91 of 100**

265 PU\_2016\_129\_D

Ammonia is the waste product of:-

- ☐ Cartilage fishes
- ☐ Insects
- ☐ sponges
- ☐ snail

**92 of 100**

273 PU\_2016\_129\_D

Coral reefs are formed by the association of algae and:-

- ☐ Coelenterates
- ☐ Poriferans
- ☐ Protozoa
- ☐ Fungi

**93 of 100**

269 PU\_2016\_129\_D

The source of energy in an ecosystem:-

- ☐ Glucose
- ☐ DNA
- ☐ ATP
- ☐ Sun

**94 of 100**

289 PU\_2016\_129\_D

Captive breeding of endangered animal species is carried out in:-

- ☐ Laboratories
- ☐ Zoological parka
- ☐ National parks
- ☐ Sanctuaries

**95 of 100**

293 PU\_2016\_129\_D

The indicator species for water pollution is:-

- ☐ Tubifex

- ☐ Fishes
- ☐ Mollusks
- ☐ Zooplankton

**96 of 100**

260 PU\_2016\_129\_D

The first step in the PCR is:-

- ☐ Annealing
- ☐ Cooling
- ☐ Denaturation
- ☐ Primer extension

**97 of 100**

280 PU\_2016\_129\_D

Plant and animal classification is given by:-

- ☐ Charles Darwin
- ☐ Gregor John Mendel
- ☐ Carl Van Linnaeus
- ☐ Aristotle

**98 of 100**

292 PU\_2016\_129\_D

Ozone hole was discovered over:-

- ☐ Europe
- ☐ India
- ☐ Africa
- ☐ Antarctica

**99 of 100**

277 PU\_2016\_129\_D

The respiratory, circulatory and excretory organs are absent in:-

- ☐ Sponges
- ☐ Liver flukes
- ☐ Tapeworm
- ☐ Thread worm

**100 of 100**

264 PU\_2016\_129\_D

Tissue grade organization is organized from:-

- ☐ Cnidaria

- ☐ Porifera
- ☐ Protozoa
- ☐ Platyhelminthes

Sr No.	PhD Zoology
1	In the series 357,363,369,..... What will be the 10th term?
Alt1	405
Alt2	411
Alt3	413
Alt4	417

2	Choose word from the given options which bears the same relationship to the third word, as the first two bears: Moon: Satellite :: Earth : ?
Alt1	Sun
Alt2	Planet
Alt3	Solar System
Alt4	Asteroid

3	Door is related to Bang in the same way as Chain is related to .....?.....
Alt1	Thunder
Alt2	Clinch
Alt3	Tinkle
Alt4	Clank

4	Select the lettered pair that has the same relationship as the original pair of words: Emollient: Soothe
Alt1	Dynamo: Generate
Alt2	Elevation: Level
Alt3	Hurricane: Track
Alt4	Precipitation: Fall

5	Which of the following is the same as Count, List, Weight?
Alt1	Compare
Alt2	Sequence
Alt3	Number
Alt4	Measure

6	Spot the defective segment from the following:
Alt1	The downtrodden
Alt2	needs
Alt3	to be uplifted
Alt4	on a war footing

7	Choose the meaning of the idiom/phrase from among the options given: A close shave
Alt1	a nice glance
Alt2	a narrow escape
Alt3	an intimate
Alt4	a triviality

8	Lightning ----- in the same place twice.
Alt1	doesn't hit
Alt2	never strikes
Alt3	never attacks
Alt4	never falls

9	Choose the option closest in meaning to the given word: FLIPPANT
Alt1	serious
Alt2	unsteady
Alt3	irreverent
Alt4	caustic

10	Choose the antonymous option you consider the best: OBSOLETE
Alt1	obscure
Alt2	hackneyed
Alt3	current
Alt4	grasp

11	Akash scored 73 marks in subject A. He scored 56% marks in subject B and X marks in subject C. Maximum marks in each subject were 150. The overall percentage marks obtained by Akash in all the three subjects were 54%. How many marks did he score in subject C ?
Alt1	84
Alt2	86
Alt3	79
Alt4	73

12	A person starts from his house and travels 6 Km towards the West, he then travelled 4 Km towards his left and then travels 8 Km towards west and 3 Km towards South. Finally he turns right and travels 5 Km. What is the horizontal distance he has travelled from his house ?
Alt1	7 Km
Alt2	15 Km
Alt3	23 Km
Alt4	19 Km

13	If 1st Jan 2012 is a Tuesday then on which day of the week will 1st Jan 2013 fall ?
Alt1	Wednesday
Alt2	Thursday
Alt3	Friday
Alt4	Saturday

14	One morning after sunrise, Reeta and Kavita were talking to each other face to face at University. If Kavita's shadow was exactly to the right of Reeta, which direction was Kavita facing ?
Alt1	North
Alt2	South
Alt3	East

Alt4	West
------	------

15	In an exam every candidate took History (or)Geography(or)both. 74.8%took History and 50.2% took Geography. If the Total number of candidates is 1500,how many took History and Geography both?
Alt1	400
Alt2	350
Alt3	750
Alt4	375

16	Which word includes the larger % of Vowels?
Alt1	GOOGLE
Alt2	AMAZON
Alt3	FACE BOOK
Alt4	DOE

17	A= Least prime >24; B=Greatest prime <28; Then
Alt1	A>B
Alt2	A<B
Alt3	A=B
Alt4	None

18	CL X VIII refers
Alt1	861
Alt2	701
Alt3	168
Alt4	107

19	Which of the following is larger than $\frac{3}{5}$ ?
Alt1	$\frac{1}{2}$
Alt2	$\frac{39}{50}$
Alt3	$\frac{7}{25}$
Alt4	$\frac{59}{100}$

20	Mr. Babu travelled 1200 km by air which formed $\frac{2}{5}$ of his trip. One third of the whole trip, he travelled by car and the rest of the journey was by train. What was the distance travelled by train?
Alt1	600km
Alt2	700 km
Alt3	800 km
Alt4	900 km

21	The phylum in which all the representative animals are marine is
Alt1	Cnidaria



Alt2	Porifera
Alt3	Annelida
Alt4	Echinodermata

22	Which one of the following is an exotic Indian fish
Alt1	<i>Heteropneustes fossilis </i>
Alt2	<i>Cyprinus carpio</i>
Alt3	<i>Catla catla</i>
Alt4	<i>Labeo rohita</i>

23	The structure “lantern of Aristotle” is found in
Alt1	<i>Nereis</i>
Alt2	<i>Echinus</i>
Alt3	<i>Taenia</i>
Alt4	<i>Chaetopterus</i>

24	Pollen basket in worker honey bee is present in the
Alt1	Metathoracic legs
Alt2	Mesothoracic legs
Alt3	Prothoracic legs
Alt4	Mandible

25	In sponges, the food is stored in
Alt1	Trophocytes
Alt2	Archeocytes
Alt3	Desmocytes
Alt4	Thesocytes

26	A reason for maternal inheritance of a character is due to genes present in
Alt1	Nucleolus
Alt2	Mitochondria
Alt3	Cytoplasm
Alt4	Lysosomes

27	Which statement about post-translational events is FALSE?
Alt1	Protein targeting involves signal sequences in the nascent polypeptides.
Alt2	Proteins can be modified by acetylation, phosphorylation and glycosylation.

Alt3	Signal peptidase removes one or two amino acids from the amino terminus of some proteins.
Alt4	Some mRNAs encode polypeptides.

28	Which one of the following elements is essentially required for blood coagulation?
Alt1	Calcium.
Alt2	Sodium.
Alt3	Potassium.
Alt4	Iron.

29	Trypsinogen is activated by
Alt1	HCl.
Alt2	Enterokinase.
Alt3	Bile.
Alt4	Chymotrypsin.

30	Emulsification of fatty substances is the function of
Alt1	Lipase enzyme.
Alt2	Bilirubin and biliverdin.
Alt3	HCl.
Alt4	Sodium salts of glycocholic and taurocholic acids.

31	In circulating blood, $\text{CO}_2$ is carried by haemoglobin in the form of
Alt1	Sodium bicarbonate.
Alt2	Potassium bicarbonate.
Alt3	Carboamino compound.
Alt4	Methaemoglobin.

32	What one of the following matches is correct?
Alt1	Lamarck's theory - Struggle for existence.
Alt2	Biogenetic law - Recapitulation theory.
Alt3	Lamarck's theory - Theory of continuity of germplasm.
Alt4	Darwin's theory - Use and disuse of organs.

33	Which of the following is not a green house gas?
Alt1	$\text{CO}_2$
Alt2	Water vapour
Alt3	Methane

Alt4	Ozone
------	-------

  

34	A species that has a disproportionately large effect on its environment relative to its abundance and if removed from habitat the habitat is dramatically changed is called
Alt1	Abundant species
Alt2	Keystone species
Alt3	Dominant species.
Alt4	Umbrella species.

  

35	A population following the growth equation ( $dN/dt = rN$ ) will neither increase nor decrease when
Alt1	$r = 0$
Alt2	$r = 1$
Alt3	$r = 0.5$
Alt4	$r = >0$ but $< 1$

  

36	An area is declared "Hot Spot" when
Alt1	It has 1500 or more endemic species and 75 % of its original habitat is lost.
Alt2	It has 1500 or more endangered species and 75 % of its habitat is lost.
Alt3	It has more than 2000 varieties of species.
Alt4	Most of the species inhabiting the area is facing the risk of extinction.

  

37	The major secretory product of pineal gland is
Alt1	Mesotocin.
Alt2	Melanin.
Alt3	Melatonin.
Alt4	Prolactin.

  

38	The blood in Cockroach contains
Alt1	Haemoglobin.
Alt2	Haemocyanine.
Alt3	Haemovanadin.
Alt4	No respiratory pigment.

  

39	Which one of the following features is NOT appropriate for Vitamin C?
Alt1	Water soluble.
Alt2	Anti-Scurvy.
Alt3	Anti-Beriberi.

Alt4	Hexose derivative .
------	---------------------

40	The death of the last individual of a species is called
Alt1	Extinction.
Alt2	Clad.
Alt3	Neither extinction, nor clad.
Alt4	Species diversity.

41	Red Data Book provides a list of
Alt1	Advanced animals and plants.
Alt2	Rare, endangered or endemic species.
Alt3	Disease resistant animals.
Alt4	Extinct plants and animals.

42	What is the animal symbol of W. W. F (World Wildlife Fund) ?
Alt1	Red Panda.
Alt2	Giant Panda.
Alt3	Tiger.
Alt4	Kangaroo.

43	Which group of vertebrates comprises the highest number of endangered species?
Alt1	Fishes.
Alt2	Reptiles.
Alt3	Birds.
Alt4	Mammals.

44	Duck-billed platypus is considered as a link between
Alt1	Reptiles and birds.
Alt2	Reptiles and mammals.
Alt3	Echinoderms and chordates.
Alt4	Reptiles and amphibians.

45	In human dosage compensation the only gene which is not transcriptionally silent in the inactivated X chromosome is
Alt1	HPRT.

Alt2	XIST.
Alt3	Tim.
Alt4	XIC.

46	Which one of the following sub-cellular organelle is relatively more abundant in a primarily lipid synthesizing cell?
Alt1	Rough surfaced ER.
Alt2	Smooth surfaced ER.
Alt3	Ribosomes.
Alt4	Lysosomes.

47	In the DNA, nonsense codons are
Alt1	UUA,UUG,UUU
Alt2	UAG,UAA,UGA
Alt3	AUA,AUG,UGA
Alt4	AAA,AAG,AAU

48	Mayr's biological concepts of species is mainly based on
Alt1	Morphological traits.
Alt2	Reproductive isolation.
Alt3	Modes of reproduction.
Alt4	Morphology and Reproduction.

49	In the mammalian testis, the hormone inhibin is produced by
Alt1	Leydig cells.
Alt2	Sertoli cells.
Alt3	Mature spermatozoa.
Alt4	Spermatids.

50	Which of the following enzymes is the first to mix with food in the digestive tract?
Alt1	Pepsin.
Alt2	Trypsin.
Alt3	Lipase.
Alt4	Ptyaline.

51	During the transportation of gases, to maintain the ionic balance, chloride ions shift from
Alt1	RBCs to plasma
Alt2	Plasma to RBCs
Alt3	Lungs to blood
Alt4	Blood to lungs

52	Phenotype of an organism is the result of
Alt1	Genotype and environment interactions
Alt2	Mutations and linkages
Alt3	Cytoplasmic effects and nutrition
Alt4	Environmental changes and sexual dimorphism

53	Apoptosis term is related to
Alt1	Abnormal cell growth
Alt2	Programmed cell death
Alt3	Cell morphogenesis
Alt4	Cell differentiation

54	In which year, the National Biodiversity Authority (NBA) was established to implement India's Biological Diversity Act
Alt1	2002
Alt2	2003
Alt3	2004
Alt4	2005

55	A double stranded DNA has 30% cytosine. What is the percentage of adenine in it?
Alt1	0.6
Alt2	0.3
Alt3	0.2
Alt4	0.1

56	Which of the following is the main cause of allopatric speciation?
Alt1	Geographical isolation
Alt2	Reproductive isolation
Alt3	Allochronism
Alt4	None of these

57	The epithelium that helps in gamete formation is
Alt1	Simple squamous epithelium
Alt2	Simple columnar epithelium
Alt3	Simple cuboidal epithelium
Alt4	Ciliated columnar epithelium

58	Which of the following is not an ecosystem service provided by invertebrates?
Alt1	Decomposition of plant and animal tissues
Alt2	Pollination of plants
Alt3	Suppression of herbivorous pests of crops
Alt4	Vectors and intermediate hosts of parasites that attack humans

59	Which of the following are not social behaviors displayed by some invertebrates?
Alt1	Parental care
Alt2	Channel surfing

Alt3	Communal nesting
Alt4	Cooperation in brood care between parents and offspring

60	In which type of wildlife management the wildlife is protected from hunting mainly during breeding season and is enforced by law and if violated is punishable and termed as illegal?:
Alt1	Closed season
Alt2	Open wildlife season
Alt3	Custodial management
Alt4	Limited entry zone

61	The first larvae of Penaeus
Alt1	Zoea
Alt2	Nauplius
Alt3	Mysis
Alt4	Protozoa

62	What is a microscope's ability to distinguish between separate objects that are close together?
Alt1	Magnification
Alt2	Contrast
Alt3	Resolving power
Alt4	Scanning power

63	Sodium ions are "pumped" from a region of lower concentration to a region of higher concentration in the nerve cells of humans. This process is an example of
Alt1	Diffusion
Alt2	Passive transport
Alt3	Osmosis
Alt4	Active transport

64	Notochord is found in the tail region of
Alt1	Chordata
Alt2	Urochordata
Alt3	Cephalochordata
Alt4	Vertebrata

65	The chemical factors that determine traits are called
Alt1	Alleles
Alt2	Traits
Alt3	Genes
Alt4	Characters

66	What principle states that during gamete formation genes for different traits separate without influencing each other's inheritance?
Alt1	Principle of dominance
Alt2	Principle of independent assortment
Alt3	Principle of probabilities
Alt4	Principle of segregation

67	Which of the following cells undergo meiosis?
Alt1	Sperm cells
Alt2	Skin cells
Alt3	Liver cells
Alt4	All of these

68	An example of aestivating fish
Alt1	Lepidosiren paradoxa
Alt2	Etroplus suratensis
Alt3	Sardinella longiceps
Alt4	Mugil cephalus

69	A chronospecies is
Alt1	A population that will eventually become a new species, given enough time
Alt2	A species that, though reproductively isolated, looks exactly like another species
Alt3	A label used for a stage of a single species evolving over time
Alt4	A measure of how many new species appear in a given period of time

70	The origin of a new species first requires
Alt1	Reduced gene flow
Alt2	Increased gene flow
Alt3	Reduced mutation rates
Alt4	Increased mutation rates.

71	Which of the following is used to determine what traits are primitive and what traits are derived in an analysis of closely related species?.
Alt1	A molecular clock
Alt2	An outgroup
Alt3	A phenetic approach
Alt4	An adaptive radiation model

72	Twins made from two individual zygotes (dizygotic twins):
Alt1	are related genetically as the monozygotic twins
Alt2	share 0% genetic similarities
Alt3	are similar in 100% of genetic sequences
Alt4	are related genetically as non-twin siblings.

73	Which of the following is not a major factor in the success of the Arthropoda (insects, crustaceans, spiders, etc.)?
Alt1	Paired jointed appendages
Alt2	A chitinous exoskeleton
Alt3	Body segmentation and the fusion of body segments into functional regions of the body (head, thorax, abdomen)
Alt4	Radial symmetry

74	Surgical removal of Gall bladder in man would lead to
----	---



Alt1	Impairment of digestion of fat
Alt2	Jaundice
Alt3	Increased acidity in intestine
Alt4	None of these

75	Autecology deals with:
Alt1	Study of individual organism
Alt2	Study of group of organisms--
Alt3	Study of autotrophs
Alt4	Study of heterotrophs

76	Which one of the following animals is an Ectothermic Homeotherm?
Alt1	Lantern fish
Alt2	Whale
Alt3	Fruit Bat
Alt4	Owl

77	DNA repair is <u>not</u> associated with
Alt1	DNA ligase
Alt2	DNA exonuclease
Alt3	DNA endonuclease
Alt4	DNA helicase

78	Why mitochondrial DNA (mtDNA) is often used for studying relatedness in animal populations by population geneticists?
Alt1	mtDNA mutates at a slow rate than nuclear DNA
Alt2	mtDNA is uniparental as it passed on from mother to child without any recombination between pairs of chromosomes
Alt3	mtDNA codes for mitochondrial proteins
Alt4	Single nucleotide polymorphisms are very few in the hypervariable regions of mitochondria

79	Hardy-Weinberg equilibrium assumes significance for the following, <u>except</u>
Alt1	a large population
Alt2	random mating
Alt3	no natural selection
Alt4	genetic drift

80	Cell fractionation require all, <u>except</u>
Alt1	Centrifuge
Alt2	HPLC
Alt3	Dialysis
Alt4	Cryostat

81	Most commonly used animal for the production of secondary antibody for immulogical techniques is _____
Alt1	Mice
Alt2	Goat
Alt3	Rabbit
Alt4	Horse

82	Which one of the following is <i>not</i> related to the tiger reserve or project tiger of India?
Alt1	Sunderbans
Alt2	Kaziranga
Alt3	Manas
Alt4	Bandipur

83	Classical example of a hormone that is being regulated by open loop feedback is _____
Alt1	Prolactin
Alt2	FSH
Alt3	LH
Alt4	Calcitonin

84	Self-ligation of restriction enzyme digested plasmid DNA can be avoided by using
Alt1	AMV reverse transcriptase
Alt2	T4 DNA ligase
Alt3	calf intestine phosphatase
Alt4	T7 Polymerase

85	Which one of the following chemical compounds/drugs depolymerizes actin filaments?
Alt1	Cytochalasin B
Alt2	Colchicine
Alt3	Phalloidin
Alt4	Cyclodextrin

86	Which cell organelles have the capacity to undergo pleomorphism or polymorphism?
Alt1	Glyoxisome and Peroxisome
Alt2	Lysosome and Mitochondria
Alt3	Ribosome and Chloroplast
Alt4	Endoplasmic reticulum and Golgi complex

87	Unique property of lysosomal proteins is
Alt1	always enclosed in clathrin-coated vesicles
Alt2	phosphorylated mannose residues
Alt3	O-linked glycosylation of asparagine residues
Alt4	functional at alkaline pH

88	Spermatozoa lacking acrosome is found only in _____
Alt1	Snake
Alt2	Fish

Alt3	Frog
Alt4	Quail

89	Function of a eukaryotic protein can be abolished if point mutation is executed in the region of
Alt1	TATA box of 5'UTR promoter
Alt2	first nucleotide of a codon in the first exon
Alt3	third nucleotide of a codon in the first exon
Alt4	targeting poly adenylation signal in 3'UTR

90	Which one of the following statements is <u>incorrect</u> with reference to gamete maturation?
Alt1	Both Meiosis I and II will be completed before fertilization in male gametes.
Alt2	Meiosis I alone will be completed before fertilization in female gamete and the Meiosis II will occur after fertilization
Alt3	<i>In vitro</i> fertilization can be performed without the completion of capacitation of male gametes.
Alt4	Resumption of meiosis for female gamete maturation is not related to puberty.

91	Which one of following group of amino acids is the site for glycosylation?
Alt1	Glycine or alanine
Alt2	Glutamine or arginine
Alt3	Tryptophan or phenylalanine
Alt4	Asparagine, serine or threonine

92	The phenotypic expression of one gene is affected by another gene is known as _____
Alt1	Epigenetics
Alt2	Epistasis
Alt3	Homeostasis
Alt4	Heterosis

93	Continuation of glycolysis during fermentation is dependent mainly on
Alt1	production of 2 molecules of ATP
Alt2	recycling NAD <sup>+</sup>
Alt3	recycling NADH
Alt4	utilization of 2 molecules of ADP

94	As per Morgan's law of recombination, when a grey normal wild type Drosophila (female) is crossed with black vestigial (male), 944 flies are black vestigial, 965 are wild type, 206 are grey vestigial and 185 are black normal. Find the recombinant frequency.
Alt1	0.30
Alt2	0.17
Alt3	0.34
Alt4	0.15

95	Which one of the following endocrine glands has originated from two different germ layers?
Alt1	Adrenal
Alt2	Pituitary

Alt3	Thyroid
Alt4	Pineal

96	Most of the deserts in the world occur at 30 degree north and 30 degree south latitude. This can be best explained by _____
Alt1	the pattern of global climate change in the last century
Alt2	the pattern of continental drift during last millions of years
Alt3	the pattern of atmospheric circulation above and below the equator
Alt4	the pattern of mountain ranges that occur at those latitudes

97	Somatotrophin is responsible for _____
Alt1	Breast growth during pregnancy
Alt2	Postnatal lactation
Alt3	Milk ejection just after parturition
Alt4	Postnatal depression and stress

98	A couple having blood group A with Rh negative (Father) and B with Rh positive (Mother) have a girl child with blood group O, Rh positive. What will be the genetic allele combination of the parents in terms of the blood group? What would be the percentage of having a child with blood group O, Rh positive?
Alt1	$I^A I^A$ , Rh <sup>-</sup> and $I^B i$ , Rh <sup>+</sup> & 25%
Alt2	$I^A I^A$ , Rh <sup>-</sup> and $I^B i$ , Rh <sup>+</sup> & 25%
Alt3	$I^A i$ , Rh <sup>-</sup> and $I^B i$ , Rh <sup>+</sup> & 50%
Alt4	$I^A i$ , Rh <sup>-</sup> and $I^B i$ , Rh <sup>-</sup> & 25%

99	Each repeat unit of the nuclear ribosomal gene cluster of eukaryotes contains
Alt1	a terminator for RNA Polymerase I
Alt2	a promoter for RNA polymerase I
Alt3	an ATG start codon and also a Polyadenylation signal
Alt4	at least one tRNA gene

100	Brown fat degradation is associated with
Alt1	shivering thermogenesis and glycolysis
Alt2	non-shivering thermogenesis and gluconeogenesis
Alt3	non-shivering thermogenesis and beta-oxidation
Alt4	shivering thermogenesis and glycogenolysis

Examination: **Ph.D. Zoology****Section 1 - Section 1****Question No.1**

4.00

**Bookmark** ☒

Short lived immunity acquired by foetus from mother through placenta is

- ☐ Innate nonspecific immunity
- ☐ Passive immunity
- ☐ Active immunity
- ☐ Cellular immunity

**Question No.2**

4.00

**Bookmark** ☐

**Statement:** Apart from it's entertainment value of Television, it's educational value cannot be ignored

**Assumptions:**

I. People take Television to be the means of entertainment only.

II. The educational value of Television is not realized properly

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

**Question No.3**

4.00

**Bookmark** ☒

Correct the error in the italicized part of the sentence by choosing the most appropriate options

Job was a tiny man, barely five feet tall, with a *spright walk*

- ☐ a sprightly walking
- ☐ spright walk
- ☐ a sprightly walk
- ☐ spright walkingly

**Question No.4**

4.00

**Bookmark** ☐

What process is used to identify possible ribosome substrates?

- ☐ RNA SELEX
- ☐ DNA SELEX
- ☐ DNA BLAST
- ☐ RISC

**Question No.5**

4.00

**Bookmark** ☐

Crumb : Bread ::

- ☐ Flower : Vase
- ☐ Splinter : Wood
- ☐ Tea : Cup
- ☐ Water : Bucket

**Question No.6**

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.

What is the profession of Sunita?

- ☐ Chartered Accountant
- ☐ Principal
- ☐ Teacher
- ☐ Cannot be determined

**Question No.7**

4.00

**Bookmark** ☐

She studies very hard for the exams, \_\_\_\_\_?

- ☐ isn't it?
- ☐ does she?
- ☐ doesn't she?
- ☐ is it?

**Question No.8**

4.00

**Bookmark** ☐

Sleeping sickness is caused by the vector

- ☐ Phlebotomus
- ☐ Simulium
- ☐ Xenopsylla
- ☐ Glossina

**Question No.9**

4.00

**Bookmark** ☐

The most important function of loop of Henle is

- ☐ secretion of a variety of substances from the urine
- ☐ creation of the glomerular filtrate
- ☐ reabsorption of a variety of substances from the urine
- ☐ creation of a strong osmotic gradient in the medulla

**Question No.10**

4.00

**Bookmark** ☐

Disorder of adrenal cortex cause

- ☐ Addison's disease and Cushing syndrome
- ☐ Hashimoto's disease, gull's disease
- ☐ Cretinism, addison's disease
- ☐ Simple goitre, cretinism

**Question No.11**

4.00

**Bookmark** ☐

Unfolding of regular secondary protein structure causes

- ☐ No change in the entropy of the protein
- ☐ Large decrease in the entropy of the protein
- ☐ Little increase in the entropy of protein
- ☐ Large increase in the entropy of the protein

**Question No.12**

4.00

**Bookmark** ☒

FASTA identifies identical matching words using the

- ☐ Substitution matrix
- ☐ Hashing procedure
- ☐ Blocks
- ☐ Motifs

**Question No.13**

4.00

**Bookmark** ☐

Examples for egg laying mammals

- ☐ Thecodonts, pelycosaurs
- ☐ Echidna, thecodonts
- ☐ Duck billed platypus, echidna
- ☐ Therapsid, thecodonts

**Question No.14**

4.00

**Bookmark** ☐

Which of the following functions is NOT served by the plasma proteins ?

- ☐ O<sub>2</sub> transport
- ☐ Buffering capacity of blood
- ☐ Blood clotting
- ☐ Hormone binding and transport

**Question No.15**

4.00

**Bookmark** ☐

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  $A \times B \times C \times D$ , which of the following statement is not necessarily true?

- ☐ B is the brother of A
- ☐ C is the brother of A
- ☐ A, B, C are male
- ☐ D is brother of C

**Question No.16**

4.00

**Bookmark** ☐

The Great Barrier Reef is constructed by animals belonging to the phylum

- ☐ Chordata
- ☐ Echinodermata
- ☐ Crustacea
- ☐ Cnidaria

**Question No.17**

4.00

**Bookmark** ☒

The Animal that is considered as “amplifier host” of the virus, in Japanese encephalitis is

- ☐ Man
- ☐ Cattle
- ☐ Horse
- ☐ Pig

**Question No.18**

4.00

**Bookmark** ☐

Study the following information carefully and answer the question below it

Lakshman passes through seven lanes to reach his school. He finds that ‘Truth lane’ is between his house and ‘Lie lane’. The third lane from his school is ‘Karma lane’. ‘Dharma lane’ is immediately before the ‘Yog lane’. He passes ‘Salvation lane’ at the end, ‘Lie lane’ is between ‘Truth lane’ and ‘Dharma lane’, the sixth lane from his house is ‘Devotion lane’.

If Lakshman’s house, each lane and his school are equidistant and he takes 2 minutes to pass one lane, then how long will he take to reach school from his house?

- ☐ 15 minutes
- ☐ 16 minutes
- ☐ 14 minutes
- ☐ 13 minutes

**Question No.19**

4.00

**Bookmark** ☐

Basic criteria used to determine the evolutionary branch of vertebrates?

- ☐ Presence of mandibles, presence of limbs, presence of osseous skeleton, presence of waterproof skin, presence of warm blood, presence of mammary glands
- ☐ Presence of mandibles, absence of limbs, absence of osseous skeleton, Presence of waterproof skin, absence of warm blood, Presence of mammary glands
- ☐ Absence of mandibles, presence of limbs, presence of osseous skeleton, absence of waterproof skin, presence of warm blood, absence of mammary glands
- ☐ Absence of mandibles, absence of limbs, absence of osseous skeleton, absence of waterproof skin, absence of warm blood, absence of mammary glands

**Question No.20**

4.00

**Bookmark** ☐

Water vascular system of Echinodermata consists of

- ☐ Pedicellaria calyx  
S-shaped stone canals
- ☐ Pedicellaria calyx  
Medreporite
- ☐ Teidmann’s bodies  
S-shaped stone canals
- ☐ Teidmann’s bodies  
Pedicellaria calyx

**Question No.21**

4.00

**Bookmark** ☐

Choose the best synonym of the italicized word.

Dr. Elango is in the habit of using *obsolete* words.

- ☐ outdated
- ☐ simple
- ☐ difficult
- ☐ wrong



**Question No.22**

4.00

**Bookmark** ☐

Which is wrong about nucleic acids?

- ☐ DNA is single stranded in some viruses
- ☐ RNA is double stranded occasionally
- ☐ Length of one helix is  $45\text{\AA}$  in B-DNA
- ☐ One turn of Z-DNA has 12 bases

**Question No.23**

4.00

**Bookmark** ☐

Being awarded the Best Singer in 2010 marked a \_\_\_\_\_ in her life.

- ☐ milestone
- ☐ memorial
- ☐ sign-post
- ☐ yardstick

**Question No.24**

4.00

**Bookmark** ☐

Which type of molecule forms the double layer of the plasma membrane?

- ☐ Phospholipids
- ☐ Ribosomes
- ☐ Deoxyribonucleic acid
- ☐ Ion channels

**Question No.25**

4.00

**Bookmark** ☒

Nidhi walks 10 metres in front and 10 metres to the right. Then every time turning to her left, she walks 5, 15 and 15 metres respectively. How far is Nidhi now from her starting point?

- ☐ 10 metres
- ☐ 5 metres
- ☐ 15 metres
- ☐ None of the above

**Question No.26**

4.00

**Bookmark** ☐

Hypophysation is done in major carps

- ☐ To increase their palatability
- ☐ To increase size
- ☐ To increase breeding in fisheries
- ☐ To increase their growth

**Question No.27**

4.00

**Bookmark** ☐

During which geological period was there an explosive increase in the number of many marine invertebrates phyla?

- ☐ Devonian
- ☐ Ordovician
- ☐ Permian
- ☐ Cambrian

**Question No.28**

4.00

**Bookmark** ☐

Find the odd one out?

- ☐ Deduction
- ☐ Withdrawal
- ☐ Deposit
- ☐ Debit

**Question No.29**

4.00

**Bookmark** ☒

This is the school where I studied till class 5.  
The underlined word is a

- ☐ adverb
- ☐ preposition
- ☐ pronoun
- ☐ adjective

**Question No.30**

4.00

**Bookmark** ☐

To distinguish Chikungunya from dengue fever, During an outbreak following test is used

- ☐ Hemagglutination Neutralization Test
- ☐ Hemagglutination Inhibition test
- ☐ Nucleic acid detection by PCR
- ☐ IgM capture ELISA

**Question No.31**

4.00

**Bookmark** ☐

Coral reefs are of three types

- ☐ Holozoic reefs Barrier reefs Atoll
- ☐ Fringing reefs Barrier reefs Atoll
- ☐ Fringing reefs Barrier reefs Rhizopoda reefs
- ☐ Fringing reefs Development reefs Atoll

**Question No.32**

4.00

**Bookmark** ☐

What three structures present among all chordates?

- ☐ Vertebrate, notochord and regulatory network
- ☐ Dorsal neural tube, gangial system, receptor efferent
- ☐ Regulatory network, receptor efferent, dorsal neural tube
- ☐ Branchial clefts, notochord and dorsal neural tube

**Question No.33**

4.00

**Bookmark** ☐

What is the key question in the field of statistical estimation?

- ☐ There is no key question in statistical estimation
- ☐ Based on my random sample, what is my estimate of normal distribution?
- ☐ Based on my random sample, what is my estimate of the population parameter?
- ☐ Is the value of my sample statistic unlikely enough for me to reject the null hypothesis?

**Question No.34**

4.00

**Bookmark** ☐

Margaret Dayhoff developed the first protein sequence database called

- ☐ Atlas of protein sequence and structure
- ☐ Protein sequence databank
- ☐ SWISS PROT
- ☐ PDB

**Question No.35**

4.00

**Bookmark** ☐

Adaptive immunity is mediated by B cells and T cells. B cells lack a typical receptor of its own. B cell receptor is often

- ☐ An IgE molecule
- ☐ An IgA molecule
- ☐ An IgM molecule
- ☐ An IgG molecule

**Question No.36**

4.00

**Bookmark** ☐

A post hoc test is

- ☐ A test to determine regression to the mean
- ☐ A follow up test to the independent t-test
- ☐ A follow-up test to the analysis of variance when there are three or more groups
- ☐ A test to compare two or more means in one overall test

**Question No.37**

4.00

**Bookmark** ☒

A toxin that blocked the voltage –gated sodium channels of neurons would

- ☐ slow down the depolarization phase of the action potential
- ☐ prevent depolarization after an action potential was triggered
- ☐ prevent action potentials by keeping the cell from depolarizing
- ☐ slow down the repolarization phase of the action potential

**Question No.38**

4.00

**Bookmark** ☐

The gene responsible for initiating male development in a fetus is

- ☐ *MIF* gene
- ☐ *STD* gene
- ☐ *XY* gene
- ☐ *SRY* gene

**Question No.39**

4.00

**Bookmark** ☐

Hormone most directly associated with stress response is

- ☐ Thyroxine ( T4)
- ☐ Tri iodothyronine (T3)
- ☐ Cortisol
- ☐ Growth hormone

**Question No.40**

4.00

**Bookmark** ☐

Genes between related organism exhibits high variation. The variations would maximally occur in

- ☐ Polyadenylation site
- ☐ Intron
- ☐ Exons
- ☐ Promoters

**Question No.41**

4.00

**Bookmark** ☐

Fat cells release fatty acids in response to

- ☐ low insulin levels
- ☐ high glucagon levels
- ☐ low glucagon levels
- ☐ high insulin levels

**Question No.42**

4.00

**Bookmark** ☒

Which of the following DNA binding domain contains leucine zipper?

- ☐ Thyroid hormone receptor
- ☐ *Lac repressor*
- ☐ CRE
- ☐  $\lambda$  Cro

**Question No.43**

4.00

**Bookmark** ☒

A heterologous protein for its expression in the milk of a transgenic animal should be under the control of the promoter of the gene coding for

- ☐ B globin
- ☐ Preproinsulin
- ☐ B lactoglobulin
- ☐ Lac Z

**Question No.44**

4.00

**Bookmark** ☐

List out the subphyla of chordata

- ☐ Vertebrate, protochordata
- ☐ Protochordata, notochordata, cephalochordata
- ☐ Urochordata, cephalochordate, vertebrate
- ☐ Vertebrate, notochordata

**Question No.45**

4.00

**Bookmark** ☒

Which of the following statement is true regarding migration of bio molecules?

- ☐ The rate of migration is directly proportional to the resistance of the medium
- ☐ The rate of migration is inversely proportional to the current
- ☐ Low voltage is used for the separation of high molecular weight compounds
- ☐ The rate of migration is directly proportional to the current

**Question No.46**

4.00

**Bookmark** ☐

Which technique is most likely to be used by a molecular geneticist?

- ☐ Establishing crosses between genetic variants.
- ☐ Analysis of the amount of genetic variation in a population of individuals
- ☐ Production of a new mutant allele of an interesting gene.
- ☐ Identification of a previously unknown species

**Question No.47**

4.00

**Bookmark** ☐

What component is not involved in mRNA splicing

- ☐ 28S rRNA
- ☐ Consensus sequences at the 5' and 3' ends of the intron
- ☐ Spliceosome
- ☐ 2'OH group of the ribose sugar at splice site

**Question No.48**

4.00

**Bookmark** ☐

Classification of porifera on the basis of endoskeleton

- ☐ Oligochaeta  
Calcarea  
Demospongia
- ☐ Calcarea  
Demospongia  
Hexetinellida
- ☐ Demospongia  
Hexetinellida  
Hirudina
- ☐ Hirudina  
Polychaeta  
Archiannelida

**Question No.49**

4.00

**Bookmark** ☐

Paul Berg's gene splicing experiment created the first rDNA molecule which was a

- ☐ A T4 phage fragment incorporated into SV40 vector
- ☐ A lambda phage fragment incorporated into pSC 101 vector
- ☐ A lambda phage fragment incorporated into SV40 vector
- ☐ A T4 phage fragment incorporated into pSC 101 vector

**Question No.50**

4.00

**Bookmark** ☐

Early embryo are enclosed with

- ☐ Vitellin membrane
- ☐ Fertilization membrane
- ☐ Placenta
- ☐ Plasma membrane

**Question No.51**

4.00

**Bookmark** ☒

The N atoms at positions 3 and 9 of purine base are derived from the amide nitrogen of

- ☐ Asparagine
- ☐ Aspartate
- ☐ Glutamate
- ☐ Glutamine

**Question No.52**

4.00

**Bookmark** ☐

Number of species of Osteichthyes are

- ☐ 10, 000
- ☐ 15, 000
- ☐ 25,000
- ☐ 20,000

**Question No.53**

4.00

**Bookmark** ☒

Excretion organ and glands of mollusc are

- ☐ Coxal gland, renal gland, Keber's gland, organ of Bajonius
- ☐ Metanephridia, Velliger, trochophore
- ☐ Coxal gland, renal gland, trochophore, glochidium
- ☐ Coelomoduct, trochophore, glochidium

**Question No.54**

4.00

**Bookmark** ☒

Mineral associated with cytochrome is

- ☐ Ca
- ☐ Mg
- ☐ Cu
- ☐ Fe

**Question No.55**

4.00

**Bookmark** ☐

The recent development in the field of proteomics is

- ☐ MALDI-TOF mass spectroscopy
- ☐ Protein chip
- ☐ Metabonomics
- ☐ Bioinformatics

**Question No.56**

4.00

**Bookmark** ☐

The form of DNA that closely corresponds to average structure of DNA is

- ☐ C-form
- ☐ Z-form
- ☐ A-form
- ☐ B-form

**Question No.57**

4.00

**Bookmark** ☐

Messenger RNAs were not visible as discrete bands in your RNA gel because

- ☐ The molecular weight of mRNA varies tremendously
- ☐ The concentration of RNAs were too high
- ☐ mRNAs are much less stable than rRNAs
- ☐ mRNAs were not extracted

**Question No.58**

4.00

**Bookmark** ☐

Choose the best synonym of the italicized word.

Children of excessively indulgent parents often become very *recalcitrant*.

- ☐ indolent
- ☐ insolent
- ☐ disobedient
- ☐ dependent

**Question No.59**

4.00

**Bookmark** ☐

Which of the following membrane protein is involved in Hedgehog signaling?

- ☐ Frizzled
- ☐ Integrin
- ☐ RTK
- ☐ Patched

**Question No.60**

4.00

**Bookmark** ☐

Where are branchial clefts found in humans?

- ☐ Branchial clefts located in the anterior region of nostrils, present only during the embryonic stage and disappear later
- ☐ Branchial clefts located in the anterior region of spinal cord, present only during the embryonic stage and disappear later
- ☐ Branchial clefts located in the anterior region of cerebrum, present only during the embryonic stage and disappear later
- ☐ Branchial clefts located in the anterior region of pharynx, present only during the embryonic stage and disappear later

**Question No.61**

4.00

**Bookmark** ☐

Many of sensory stimuli of nervous system are converted into hormonal response

- ☐ Cerebrum
- ☐ Thalamus
- ☐ Hypothalamus
- ☐ Pons

**Question No.62**

4.00

**Bookmark** ☒

Protein containing PDZ domain play fundamental role in

- ☐ Protein phosphorylation
- ☐ Organizing the plasma membrane of the post synaptic cell
- ☐ Dimer formation
- ☐ Apoptosis

## Question No.63

4.00

Bookmark ☐

Many biomolecules are transported from nucleus to cytoplasm through nuclear pores. Which molecule is continuously transported from nucleus to cytoplasm?

- ☐ Ribosomes
- ☐ DNA
- ☐ RNA
- ☐ Protein

## Question No.64

4.00

Bookmark ☐

Endostatin

- ☐ Agonist of VEGF receptor
- ☐ Antagonist of VEGF receptor
- ☐ Inhibits angiogenesis
- ☐ Promotes angiogenesis

## Question No.65

4.00

Bookmark ☐

Which of the following is not the objective to perform sequence comparison?

- ☐ To observe patterns of conservation
- ☐ To study the physical properties of molecules
- ☐ To study evolutionary relationships
- ☐ To find the common motifs present in both sequences

## Question No.66

4.00

Bookmark ☐

Which of the following types of tissue cannot utilize fats as an energy source?

- ☐ Adipose tissue
- ☐ Muscle
- ☐ Neural tissue
- ☐ Liver

## Question No.67

4.00

Bookmark ☐

Choose the best antonym of the italicized word.

The deliberate *suavity* of Olaf's behavior made the emotions of the audience volatile.

- ☐ stupidity
- ☐ impetuosity
- ☐ politeness
- ☐ pleasantness

## Question No.68

4.00

Bookmark ☐

Blood Alcohol Concentration is a measurement of

- ☐ the number of alcohol deaths in the state
- ☐ the concentration of alcohol in the blood
- ☐ how long a person has been drinking alcohol
- ☐ how fast a person reacts after drinking alcohol



## Question No.69

4.00

Bookmark ☒

The particular set of cells that drives the respiratory rhythm is the

- ☐ medullary inflammatory neurons
- ☐ medullary inspiratory neurons
- ☐ medullary respiratory neurons
- ☐ medullary expiratory neurons

## Question No.70

4.00

Bookmark ☒

Pressor effect functions

- ☐ Involuntary muscles in the walls of the intestine, gall bladder, urinary bladder and blood vessels are stimulated to contract by ADH.
- ☐ Reabsorption of water from the glomerular filtrate is increased
- ☐ It promotes contraction of uterine muscle and contraction of the myoepithelial cells of the lactating breast.
- ☐ It stimulates the corpus luteum of the ovary to secrete progesterone hormone

## Question No.71

4.00

Bookmark ☐

There is no coding sequence ( CDS) for the 16S rRNA gene in *E. coli* because it is

- ☐ rapidly degraded by RNAses
- ☐ found only in eukaryotes
- ☐ not translated
- ☐ not transcribed

## Question No.72

4.00

Bookmark ☐

- ☐ 3
- ☐ 2
- ☐ 4
- ☐ 1

## Question No.73

4.00

Bookmark ☐

A can finish a work in 18 days and B can do the same work in half the time taken by A. Then, working together, what part of the same work they can finish in a day?

- ☐ 0 1/6
- ☐ 0 1/8
- ☐ 0 1/4
- ☐ 0 1/2

## Question No.74

4.00

Bookmark ☐

Crop farming and milk production is an example of

- ☐ Complementary enterprises
- ☐ Equitable enterprises
- ☐ Supplementary enterprises
- ☐ Competitive enterprises

**Question No.75**

4.00

**Bookmark** ☐

In mammalian females, two X chromosomes are present. Expression of genes on both chromosomes may lead to gene dosage imbalance. This problem is solved by a process called dosage compensation. Dosage compensation is achieved by

- ☐ Elimination of one X chromosome
- ☐ Hyperactivation of one X chromosome
- ☐ Methylation of one X chromosome
- ☐ Hypoactivation of both X chromosome

**Question No.76**

4.00

**Bookmark** ☐

Select the Pair that best represents the relationship that is given in the question:

Explore : Discover

- ☐ Books : Knowledge
- ☐ Think : Relate
- ☐ Tree : Wood
- ☐ Research : Learn

**Question No.77**

4.00

**Bookmark** ☐

BLAST uses a

- ☐ Substitution matrix
- ☐ Hashing procedure
- ☐ Ktups
- ☐ Scored matrix

**Question No.78**

4.00

**Bookmark** ☐

A segment of DNA has 120 adenine and 120 cytosine bases. The total number of nucleotides present in the segment is

- ☐ 240
- ☐ 480
- ☐ 60
- ☐ 120

**Question No.79**

4.00

**Bookmark** ☒

Basic characters of non- chordata

- ☐ Notochord - Absent in every stage of life cycle  
Gill slits – absent in every stage of life cycle  
Nervous system – ventral, double and solid  
Body wall- diploblastic  
Position of alimentary canal – ventral to dorsal
- ☐ Notochord - Present in any stage of life cycle  
Gill slits – Present in any stage of life cycle  
Nervous system – cord dorsal, single and hollow nerve  
Body wall- triploblastic  
Position of alimentary canal – ventral to dorsal
- ☐ Notochord - Absent in every stage of life cycle  
Gill slits – absent in every stage of life cycle  
Nervous system – ventral, double and solid  
Body wall- diploblastic  
Position of alimentary canal – dorsal to nerve cord
- ☐ Notochord - Absent in every stage of life cycle  
Gill slits – present in any stage of life cycle  
Nervous system – ventral, double and solid  
Body wall- diploblastic  
Position of alimentary canal – dorsal to nerve cord

**Question No.80**

4.00

**Bookmark** ☐

Eunuchoidism

- ☐ Excess of oestrogens secreted by tumours of ovaries and adrenal glands.
- ☐ Early maturation of ovaries and testes with production of ova
- ☐ Failure of testosterone secretion causes eunuchoidism
- ☐ Excessive development of male mammary glands

**Question No.81**

4.00

**Bookmark** ☐

A statistical test used to compare 2 or more group means is known as

- ☐ One-way analysis of variance
- ☐ t-test for correlation coefficients
- ☐ Post hoc test
- ☐ Simple regression

**Question No.82**

4.00

**Bookmark** ☐

Which one of the following is a uricotelic organism

- ☐ Reptiles
- ☐ Aquatic amphibians
- ☐ Mammals
- ☐ Bony fishes

**Question No.83**

4.00

**Bookmark** ☐

Species that occur in different geographical regions separated by special barrier are

- ☐ Sympatric
- ☐ Allopatric
- ☐ Alepatric
- ☐ Sibling

**Question No.84**

4.00

**Bookmark** ☐

When does bone start to replace cartilage?

- ☐ fifth week
- ☐ fourth month
- ☐ third month
- ☐ second month

**Question No.85**

4.00

**Bookmark** ☐

Which of the following is most useful in amplifying small stimuli in sensory neurons?

- ☐ Channel proteins
- ☐ Epinephrine
- ☐ G-protein complex
- ☐ Biogenic amines

**Question No.86**

4.00

**Bookmark** ☐

An application of the accounting principles to the business of farming

- ☐ Farm planning
- ☐ Farm accounting
- ☐ Farm budgeting
- ☐ Marketing

**Question No.87**

4.00

**Bookmark** ☐

If a diploid cell is treated with colchicines, then it becomes

- ☐ Diploid
- ☐ Tetraploid
- ☐ Monoploid
- ☐ Triploid

**Question No.88**

4.00

**Bookmark** ☐

Chlorofluorocarbon (CFC) remains in atmosphere for

- ☐ 10 to 20 years
- ☐ 80 to 90 years
- ☐ 22 to 111 years
- ☐ 30 to 50 years

**Question No.89**

4.00

**Bookmark** ☒

Examples for Arachnida

- ☐ *Limulus, Palameneus, Lycosa, Collumbella, Ixodes, Chorioptes*
- ☐ *Limulus, Glassina, Lepisma, Archaeranea, Ixodes, Cicadas*
- ☐ *Xenopsella, Palameneus, Lycosa, Collumbella, Photinus, Cicadas*
- ☐ *Limulus, Palameneus, Lycosa, Archaeranea, Ixodes, Chorioptes*

**Question No.90**

4.00

**Bookmark** ☐

Fluid mosaic model was proposed by

- ☐ Schleiden and Schwann
- ☐ Singer and Nicolsan
- ☐ Watson and Crick
- ☐ Robert Brown

**Question No.91**

4.00

**Bookmark** ☒

Of every 100 secondary oocytes that are exposed to sperm, how many infants are actually born live?

- ☐ About 95
- ☐ About 31
- ☐ Around 75
- ☐ Approximately 50

**Question No.92**

4.00

**Bookmark** ☐

The first step in colon carcinogenesis involves

- ☐ Loss of functional APC gene
- ☐ Loss of functional c-myc gene
- ☐ Loss of functional ras gene
- ☐ Both a and c

**Question No.93**

4.00

**Bookmark** ☐

Which one of the following genetic diseases is sex-linked?

- ☐ Hypertension
- ☐ Cystic fibrosis
- ☐ Tay-Sachs disease
- ☐ Royal haemophilia

**Question No.94**

4.00

**Bookmark** ☐

The production of complete animals from somatic cells of an animal is called

- ☐ Animal cloning
- ☐ Gene cloning
- ☐ Cell cloning
- ☐ Embryo cloning

**Question No.95**

4.00

**Bookmark** ☐

Sodium Antimony Stibogluconate is drug of choice in

- ☐ Dengue
- ☐ Japanese encephalitis
- ☐ Filariasis
- ☐ Kala azar

**Question No.96**

4.00

**Bookmark** ☐

Telomerase is active in

- ☐ *E. coli* cells
- ☐ All somatic cells ( regardless of their location in the body)
- ☐ *S. pneumoniae* cells
- ☐ Mouse testicular tissue

**Question No.97**

4.00

**Bookmark** ☐

**Statement:** Ten Candidates, who were on the waiting list could finally be admitted to the course.

**Assumptions:**

I. A large of number of candidates were on the waiting list.

II. Wait listed candidates do not ordinarily get admission.

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

**Question No.98**

4.00

**Bookmark** ☐

When their father died, their elder brother sold the old house and \_\_\_\_\_ in a small flat in a far-off suburb

- ☐ put them up
- ☐ set them down
- ☐ set them up
- ☐ put them down

**Question No.99**

4.00

**Bookmark** ☐

Study the following information carefully and answer the question below it

The Director of an MBA college has decided that six guest lectures on the topics of Motivation, Decision Making, Quality Circle, Assessment Centre, Leadership and Group Discussion are to be organised on each day from Monday to Sunday.

- (i) One day there will be no lecture (Saturday is not that day), just before that day Group Discussion will be organised.
- (ii) Motivation should be organised immediately after Assessment Centre.
- (iii) Quality Circle should be organised on Wednesday and should not be followed by Group Discussion
- (iv) Decision Making should be organised on Friday and there should be a gap of two days between Leadership and Group Discussion

Which of the following information is not required for the above lecture arrangements?

- ☐ Only (iii)
- ☐ All are required
- ☐ Only (ii)
- ☐ Only (i)

**Question No.100**

4.00

**Bookmark** ☒

The plasmid used by Cohen and Boyer for their transformation experiment was

- ☐ pSC 101
- ☐ PUC 17
- ☐ pBR 322
- ☐ *E. coli* plasmid