

Studentpad

ZOOLOGY FULL PORTION PAPER 2022-23

Time : 150 Min

Zoology : Full Portion Paper

Marks : 200

01) Sarcomere is the function unit of contraction in a muscle fibre. Find the portion of myofibril that constitute a sarcomere.

- A) The portion of myofibril between two successive 'A' band.
- B) The portion of myofibril between two successive 'Z' line.
- C) The portion of myofibril between two successive 'I' band.
- D) The portion of myofibril between two successive 'M' line.

02) Nearlya... million MTPs are performed in a year all over the world which accounts to ...b... of the total number of conceived pregnancies in a year. Find a and b.

- A) a-45 to 50, b-1/5th
- B) a-40 to 50, b-1/4th
- C) a-45 to 50, b-1/4th
- D) a-40 to 50, b-1/5th

03) Sea horse is

- A) Reptile
- B) Fish
- C) Bird
- D) Mammal

04) In liver, which compound is converted into which form?

- A) Ammonia, nitrate
- B) Ammonia, urea
- C) Nitrate, ammonia
- D) Urea, ammonia

05) Hypersecretion of growth hormone in adults does not cause further increase in height, due to

- A) epiphyseal plates close after adolescence
- B) bones lose their sensitivity to growth hormone in adults
- C) growth hormone becomes inactive in adults.
- D) muscle fibres do not grow in size after birth

06) Ontogenically pancreas and liver are

- A) mesodermal
- B) ectodermal
- C) endodermal
- D) none of these

07) Carcinoma is

- A) cancer of epithelial cells
- B) cancer of lymphocytes
- C) cancer of connective tissue
- D) cancer of WBC

08) T cells are responsible for

- A) innate
- B) active immunity

- C) humoral immunity
- D) cell mediated immunity

09) Find the correct statement for respiration in humans.

- A) Neural signals from pneumotoxic centre in pons region of brain can increase the duration of inspiration.
- B) Cigarette smoking may lead to inflammation of bronchi.
- C) Workers in grinding and stone- breaking industries may suffer, from lung fibrosis.
- D) About 90% of carbon dioxide (CO_2) is carried by haemoglobin as carbamino haemoglobin.

10) Acromegaly results after adolescence due to excess production of one of the following hormones

- A) Insulin
- B) Thyroxin
- C) Prolactin
- D) STH

11) Except _____, all of the following events are involved in the spermiogenesis.

- A) formation of proximal and distal centrioles
- B) formation of mitochondrial sheath
- C) formation of acrosome
- D) shortening of sperm

12) A plasmid

- A) Cannot replicate
- B) Shows dependent assortment
- C) Lives together with chromosome
- D) Can replicate independently

13) In erythroblastosis fetalis, which factors of the mother pass through placenta into the foetus

- A) Rh antibodies
- B) Rh antigens
- C) ABO antibodies
- D) Agglutinins

14) **Statement 1:** Leeches secrete hirudin from their salivary glands.

Statement 2: Hirudin is anticoagulating agent.

- A) Both Statement 1 and Statement 2 are true but Statement 2 is not the correct explanation of Statement 1
- B) Both Statement 1 and Statement 2 are true and the Statement 2 is correct explanation of the Statement 1
- C) The Statement 1 is true, but the Statement 2 is false
- D) The Statement 1 is false but the Statement 2 is true

15) **Statement 1:** Alcohols are not digested in human body.

Statement 2: Alimentary canal absorbs alcohol directly.

A) Both Statement 1 and Statement 2 are true but Statement 2 is not the correct explanation of Statement 1

B) Both Statement 1 and Statement 2 are true and the Statement 2 is correct explanation of the Statement 1

C) This Statement 1 is true, but the Statement 2 is false

D) Both Statement 1 and Statement 2 are false

16) Choose the correct option: Fight -or - flight reactions cause activation of

A) the kidney, leading to suppression of renin-angiotensin-aldosterone pathway

B) the parathyroid glands, leading to increased metabolic rate

C) the adrenal medulla, leading to increased secretion of epinephrine and norepinephrine

D) the pancreas leading to a reduction in the blood sugar levels.

17) Mark the true about RBCs in humans.

A) They carry about 20-25 per cent of CO_2

B) They transport 99.5 per cent of O_2 .

C) They do not carry CO_2 at all.

D) They transport about 80 per cent oxygen only and the rest 20 per cent of it is transported in dissolved state in blood plasma.

18) Snake, a terrestrial animal that excretes nitrogen wastes in the form of uric acid, is known as

A) ureotelic

B) uricotelic

C) ammonotelic

D) not confirmed for any type

19) Match the columns and choose the exact combination

A	Ommatidia	(i)	Articulation with thorax
B	Trochanter	(ii)	For vision
C	Coxa	(iii)	Forming exoskeleton
D	Sclerites	(iv)	Fused with large stout femur

A) A-(iii) B-(i) C-(ii) D -(iv)

B) A-(ii) B-(iv) C-(i) D -(iii)

C) A-(i) B-(ii) C-(iii) D -(iv)

D) A-(iv) B-(iii) C-(i) D -(ii)

20) During the transportation of gases, to maintain the ionic balance, what is the shifting of chloride ions?

A) Blood to lungs

B) Plasma to RBCs

C) Lungs to blood

D) RBCs to plasma

21) In recombinant DNA technique, what is the term vector?

A) A plasmids that can transfer foreign DNA into a living cell

B) A plasmids that can join different DNA fragments

C) A cosmids that can cut DNA at specific base sequence

D) A cosmids that can degrade harmful proteins

22) The liver of carnivorous is larger than the herbivorous because in carnivorous

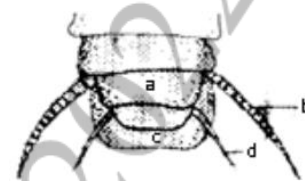
A) Their body is also big

B) The problem of phagocytosis by Kupffer cells are more

C) The diet contains much more proteins so liver has to do more work

D) None of the above

23) The diagram represents the reproductive organs of male cockroach. Choose the correct combination of labelling.



A) a-8th sternum, b-anal style, c-10th tergum d-anal cercus

B) a-anal style, b-anal cercus, c-10th tergum d-8th sternum

C) a-10th tergum, b-anal cercus, c- anal style, d-8th sternum

D) a-8th sternum, b-anal cercus, c-10th tergum d-anal

24) _____ is not a sensory structures in cockroach.

A) Eyes

B) Antennae

C) Anal cerci

D) Proventriculus

25) Sarcolemma is the covering of

A) Bone marrow

B) Muscle fibres

C) Nerve fibres

D) Liver, kidney and stomach

26) Low Ca^{++} in the body fluid may be the cause of ____ disease.

A) tetany

B) anaemia

C) gout

D) angina pectoris

27) Which of the following would most likely disrupt by the injury localised to the hypothalamus?

A) Co-ordination during locomotion

B) Short- term memory

C) Executive functions, such as decision making

D) Regulation of body temperature

28) Name the disease which mainly affects mucous membrane of urinogenital tract. In males, burning feeling on passing urine, after a yellow discharge occurs, that is accompanied by fever, headache and feeling of illness.

- A) AIDS
- B) Phenylketonuria
- C) Gonorrhoea
- D) None of these

29) Mark the true statement for Bt toxin.

- A) Bt protein exists as active toxin in the Bacillus.
- B) The concerned Bacillus has antitoxins
- C) The inactive protein gets converted into active form in the insect gut.
- D) Activate toxin enters ovaries of pest and sterilise them.

30) Which is activated in stress condition?

- A) Sympathetic
- B) Parasympathetic
- C) Whole ANS
- D) Somatic

31) What is the alternate name for the yellow spot in retina?

- A) Corpus lutea
- B) Canalis centralis
- C) Fovea centralis
- D) Macula lutea

32) When _____, a dicotyledonous plant forms crown gall.

- A) a specific part of DNA from the Ri plasmid gets integrated with the plant chromosomes
- B) Agrobacterium tumefaciens comes in contact with the plants
- C) a specific part of DNA from the Ti plasmid gets integrated with the plant chromosome
- D) Agrobacterium rhizogenes comes in contact with the plant

33) _____ present in the inner lining of the kidney.

- A) Amoebocyte
- B) Podocyte
- C) Choanocyte
- D) Nephrocyte

34) **Statement 1:** The long term effects of natural selection are at the level of gene and population.

Statement 2: The long term effects of natural selection is not on individual level.

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- D) Both Statement 1 and Statement 2 are false

35) In transgenics, how the expression of transgene

in target tissue is determined?

- A) Transgene
- B) Enhancer
- C) Promotor
- D) Reporter

36) _____ is hormone - releasing IUD.

- A) LNG-20
- B) Multiload 375
- C) Cu7
- D) Lippes loop

37) The lumbar region of the vertebral column in man is made up of _____ vertebrae.

- A) 7 vertebrae
- B) 1 fused vertebra
- C) 12 vertebrae
- D) 5 vertebrae

38) Which is the layer lining the lumen of the human alimentary canal?

- A) Sub-mucosa
- B) Serosa
- C) Muscularis
- D) Mucosa

39) Which of the following pairs, is correctly matched?

- A) Fibrous joint - Between phalanges
- B) Gliding joint - Between zygapophyses of the successive vertebrae
- C) Cartilaginous joint - Skull bones
- D) Hinge joint - Between vertebrae

40) The muscles immune to fatigue are

- A) Unstriated
- B) Striated
- C) Cardiac
- D) None of these

41) **Statement 1:** The copulatory organs of sharks and rays are called claspers.

Statement 2: Uterus is also called womb.

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42) Frog is

- A) Ammonotelic
- B) Aminotelic
- C) Ureotelic
- D) Uricotelic

43) In order to induce the bacterial uptake of plasmids, firstly treating with _____ the bacteria are made 'competent'.

- A) potassium chloride

- B) sodium chloride
- C) magnesium chloride
- D) calcium chloride

44) Housefly transmits all the diseases except

- A) Yellow fever
- B) Cholera
- C) Dysentery
- D) Typhoid

45) **Statement 1:** ATP contain deoxyribose sugar.

Statement 2: ATP is a nucleotide.

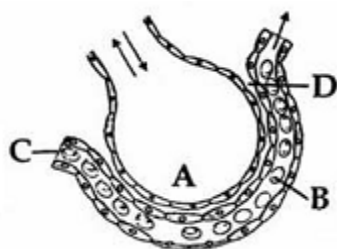
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46) The figure given below shows a small part of human lung where exchange of gases take place. Mark the option which represents labelled part (A, B, C or D) correctly identified along with its function.



- A) B: red blood cells- transport of CO_2 mainly
- B) A: alveolar cavity-main site of exchange of respiratory gases
- C) D: capillary wall- exchange of O_2 and CO_2 takes place here
- D) C: arterial capillary -passes oxygen to tissues

47) ATP is

- A) Nucleoside
- B) Nucleotide
- C) Nucleic acid
- D) Hormone

48) In which animals an uricotelic mode of excreting nitrogenous wastes is found?

- A) Reptiles and birds
- B) Birds and annelids
- C) Insects and amphibians
- D) Amphibians and reptiles

49) Choose the correct option: Populations are said to be sympatric when

- A) two populations live together and freely interbreed to produce sterile offspring
- B) two populations are physically isolated by natural barriers
- C) two populations share the same environment but cannot interbreed

D) two populations are isolated but occasionally come together to interbreed

50) _____ human organs is often called the "graveyard" of RBCs.

- A) Kidney
- B) Gall bladder
- C) Spleen
- D) Liver