UNIVERSITY OF THE PUNJAB

B.A. / B.Sc. Part – I
Annual Examination - 2017

Roll No. .....

Subject: Zoology-I
PAPER: A (Principles in Animal Life)

TIME ALLOWED: 2 hrs.
MAX. MARKS: 15

Attempt this Paper on Separate Answer Sheet provided.

Part -II (Subjective Type)

Attempt any THREE questions of the Following: **3+3+3**

Q. 3. Attempt any three questions out of following

a. Mitochondria are power house of cells

b. Write a note on the control of the cell cycle

c. Write a note on the variation in chromosome number.

d. Write a note on Lamarck's theory of inheritance of acquired characters.

e. Describe the allopatric species.

Part -III

Attempt any ONE question:

Q.4 Explain the process of DNA replication in Eukaryotes 6

Q.5 Give a comprehensive account of the first phase of nutrient metabolism i.e. Glycolysis. 6

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Subject: Zoology-I
PAPER: A (Principles in Animal Life)

TIME ALLOWED: 1 hr.
MAX. MARKS: 20

NOTE: 1. Cutting and overwriting is not allowed in objective part (Part-I)
2. In Part-I all questions are compulsory. Answer these questions on the questions sheet only.
3. Answer any three (3) questions from part – II and any one question from Part – III on separate answer sheet provided.

IMPORTANT NOTE: Attempt Part-I in the given time of 1 hour and hand over to the Centre Superintendent. The Centre Superintendent will provide you Answer sheet for Part-II and Part-III.

Part -I

For Part-I Time Allowed: 1hr & Max. Marks: 2

Q. 1. Multiple choice questions (Tick mark the right answer)
0.5×20=10

1. A major storage form of glucose in animals is
a. Glycogen b. Starch c. Cellulose d. All of the above

2. When teo amino acids bon, they form a unit called
a. Disaccharide b. Dipeptide c. Disulfide d. None of the above

3. RNA may be present in
a. Nucleus b. Cytoplasm c. Plasma membrane d. Both A &B

4. All eukaryotes have cells with a membrane bound nucleus containing
a. RNA b. DNA c. Protein d. Lipids

5. The process that forces small molecules across selectively permeable membrane with the aid of hydrostatic pressure is
a. Diffusion b. Active transport
c. Filtration d. Osmosis

6. Rough endoplasmic reticulum appears rough because of
a. Ribosomes b. Lysosomes c. Golgi apparatus d. Mitochondria

7. Each centriole is composed of _____ microtubules.
a. 7 triplets b. 9 triplets
c. 7 doublets d. 7 triplets

8. The membrane that separats the nucleus from the cytoplasm and is continuous with E.R. is
a. Plasma Membrane b. Cell membrane c. Nuclear membrane d. Nuclear envelop

9. Ca^{2+}, Mg^{2+}, Mn^{2+}, Cu^{2+} and Zn^{2+} are examples of
a. Enzyme b. Coenzyme c. Cofactors d. Substrate

10. The initial sequence of catabolic reaction to breakdown the glucose is
a. Kreb's Cycle b. Glycolysis c. ETC d. All of above

11. During mitosis which of the following along with microtubule refers to mitotic spindle
a. Asters b. Spindle c. Centrioles d. All of above

12. During Prophase-I, homologous chromosomes line up side-by side in a process known as
a. Tetrad b. Synapsis c. Synaptic cleft d. Crossing over

13. An organism carrying two identical genes for a given trait is known as
a. Identical twin b. Heterozygous c. Homozygous d. Mutated

P.T.O.

14. In genetics, a cross involving 2 pairs of genes and 2 traits is known as
a. Dominance b. Multiple allele c. Dihybrid cross d. Monohybrid cross

15. Preparing and examining the slides and photographs of metaphase chromosome is knwn as
a. Karyokinesis b. Karyophore c. Cytokinesis d. Karyotyping

16. Mutation that involves 2 breaks followed by broken ends rejoining with the central fragment flip flopped is known as
a. Inversions b. Duplications c. Deletions d. All of the above

17. Which of the following RNA brings amino acid during translation
a. mRNA b. rRNA c. tRNA d. All of above

18. cDNA is obtained from which of the following molecule after reverse transcription
a. mRNA b. rRNA c. tRNA d. DNA

19. The book "*Origin of species by means of Natural selection*" was published by
a. Lamarck b. Darwin c. HMS Beagle d. All of above

20. Where fresh water meets seawater and the salinity of seawater is diluted _____ occurs
a. Estuaries b. Neritic ecosystem c. Benthic d. Lentic

Q. 2. Write the precise answer in the blanks provided **0.5×20=10**

1. Mesozoic era has _____ periods.
2. Structure derived from common ancestry are known as _____
3. When two unrelated organisms adapt to similar conditions, resulting in superficial similarities in structure, the type of evolution is known as _____.
4. The study of function of organisms and their parts is known as _____.
5. Ornithology refers to the study of _____.
6. The _____ is equal to the number of neutrons and protons in the atom's nucleus.
7. The individual building blocks of the proteins are _____.
8. The ability of the plasma membrane to let some substances in and keep others out is called _____.
9. The _____ is a complex, membrane bound labyrinth of flattened sheets, sacs and tubules.
10. Osteocytes are also known as _____ cells.
11. Primary consumers are preyed on by other animals the _____.
12. Enzyme, substrate binding changes the enzyme's shape, which is called as _____.
13. In energy required steps of glycolysis the number of ATPs used are _____.
14. In redox reaction, the molecule that gives up electron is _____.
15. During _____, the shortening of the microtubules in the mitotic spindle pulls each daughter chromosomes apart from its copy towards opposite pole.
16. At the end of first meiotic division no centromere division occurs and each chromosome still consists of two chromatids and is called as _____.
17. In genetics, the factors, that can hide the expression of another factor are known as _____.
18. The visual expression of alleles in an organism is called as _____.
19. The sequence of organisms through which energy moves in an ecosystem is a _____
20. The dominant members of a community often change a community in predictable ways n a process called _____.

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B.A. / B.Sc. Part – I
Annual Examination - 2017

Subject: Zoology-I | **TIME ALLOWED: 1 hr.**
PAPER: B (Invertebrates Diversity) | **MAX. MARKS: 20**

Attempt Part – I on the question sheet and Part – II on the Answer Sheet Provided.

IMPORTANT NOTE: Attempt this part in the given time of 1 hour and handover to the Centre Superintendent. Who will provide you answer sheet for Part – II.

PART-I
OBJECTIVE PORTION

Q.1. Tick ( ) the correct option from the MCQs given below: (1/2x 20 =10)

1. Phylum Microspora have about

   a. 1200 species b. 850 Species c. 600 Species d. 400 Species

2. The study of the kind and diversity of organism and evolutionary relationship among them is called:

   a. Classification b. Systematic c. Arrangement d. Nomenclature

3. The members of Eubactteria are stated to be :

   a. False bacteria b. True bacteria c. multicellular organism d. decomposer

4. Phylum Ciliphora have about

   a. 8000 Species b. 9000 Species c. 10000 Species d. 12000 Species

5. In diploblastic organization the body parts are organized into layers derived from:

   a. Two embryonic layers b. Three embryonic layers c. Four embryonic layers
   d. one embryonic layer

6. Groups of organism believed to have had separate origin are said to be:

   a. Polyphyletic b. Monophyletic c. Triphyletic d. a & b

7. Super class Rhizopoda has about

   a. 5000 Species b.4000 Species c.3000 Species d. 2000 Species

8. Mutualism is symbiotic relationship in which both species:

   a. Benefit b. Lose c. Harmed d. no loss no gain

9. A parasite name *Trypanosoma brucci* belong to class:

   a. Zoomastigophora b. Phytomastigophora c. Rhizopoda d. Monogenea

10. The number of species in phylum Platyhelmintes are over:

    a. 20,000 species b. 25,000 species c. 30,000 species. d. 35,000

11. Phylum Myxozoa have about

    a. 1500 Species b. 1250 Species c. 1000 Species d. 800 Species

12. Scloex in *Diphyllobothrium latum* is used as:

    a. holdfast b. organ of movement c. food intake d. defense

13. Super Class Actinopoda have about

    a. 4000 Species b. 3000 Species c.2000 Species d. 1000 Species

14. The species Phylum Mollusca include nearly:

    a. 200,000 living species. b. 100,000 living species. c.150, 000 living species.
    d. 250,00 living Specie

P.T.O.

15. In class Calcarea the spicules are composed of

a. Calcium b. Calcium carbonate c. Calcium sulphate d. Calcium bicarbonate

16. The two convex halves of the shell are called:

a. Parts b. Valves c. Portions d. portions

17. In class Hexactinellida speciules are composed of

a. sand b. silica c. $CaCO_3$ d. Calcium

18. Octopuses are:

a. Sessile b. sedentary animals c. Active animals d. Slow moving animals

19 . Mostly the Members of class polychaeta are :

a. Marine b. Freshwater c. terrestrial d. both a & b

20. Members of class Demospongiae are

a. Dull coloured sponges b. Brightly coloured sponges c. Red coloured sponges d. Brilliantly coloured sponged

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Q.2 Fill in the blanks (½ x 20 =10)

1. Class gastropoda occupy a wide variety of marine, freshwater and ----------habitat

2. The class to which Leech belong is ----------

3. The exoskeleton is also called as ----------

4. Nearly all gastropod have flattened foot that is often ----------

5. The horseshoe crab is included in class----------.

6. Most gastropods feed by scraping algae using their ----------

7. The gas exchange always involves the ----------in gastropod.

8. The gastropod has an ----------circulatory system.

9. The lobsters belong to the largest crustacean order ----------

10. Every kind of individual in an insect colony is called as a ----------

11. Primitive gastropod possessed ------- -nephrida

12. Trochphore larva develop into another larva called ----------larva

13. The oldest part of the shell of class bivalvia is called ------

14. Trochophore larva measures ----------mm

15. Glochidium larva of freshwater calm measures ----------mm

16. Sea urchin is specialized for living in ----------

17. Ancestral cephalopod probably had a ----------shell.

18. The Cuttle fish shell is called ----------bone.

19. The shell of squid is reduced to an internal chitinous structure called the -------

20. *Amoeba proteus* belong to super class----------

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PART-II
SUBJECTIVE PORTION

Q.3 Give brief answer to any ten of the followings: (1x10=10)

1. What are characters of Phylum Apicomplexa.
2. What is process of multiple fission?
3. What is binary fission?.
4. What is function of Pseudopodia?
5. Write about reproduction in Euglena?
6. What are symbiotic ciliates?
7. Describe conjugation in paramecium.
8. What are three types of proglottids?
9. What is schizogony?
10. What is oncosphere ?
11. What is botherium?.
12. What is beef tapeworm?

Q.4 Write note on any one of the following two questions. (5)

(a) Sporozoa b) Platyheminthes.

END OF QUESTION PAPER