पुष्पा International School
Shree Swaminarayan Gurukul, Zundal

HALF YEARLY EXAMINATION 2020					
Student Name					
Date	**5-11-2020**	**Grade**	**XI**	**Roll No.**	**SET A**
Subject	**Biology**	**Marks**	**70**	**Teacher's Sign**	**Time : 3 Hours**

General instructions

1. **There are a total of 27 questions and five sections in each question paper. All questions are compulsory.**
2. **Section A contains 1 to 5 multiple choice questions of one mark each.**
   Section B contains question numbers 6 to 12 short answer type I questions of two marks each.
   Section C contains questions numbers from 13 to 21 ,short answer type II questions of three marks each.
   Section D contains question numbers from 22 to 24 , case based short answer type questions of three marks each.
   Section E contains question numbers from 25 o 27 , long answer type questions of five marks each.
3. **There is no overall choice in the question paper. However internal choices are provided in questions of one mark, one question of two marks , two questions of three marks and all three questions of five marks. An examinee is to attempt any one o the question out of the two given in question paper with the same question number.**

SECTION A

1 All eukaryotic unicellular organisms belong to
(a) Monera
(b) Protista
(c) Fungi
(d) Bacteria

OR

The five-kingdom classification was proposed by

(a) R.H. Whittaker
(b) C. Linnaeus
(c) A. Roxberg
(d) Virchow

2 . Which of the following sugars have the same number of carbon as present in glucose?
(a) Fructose

(b) Erythrose

(c) Ribulose

(d) Ribose

OR

An acid soluble compound formed by phosphorylation of nucleoside is called
(a) Nitrogen base
(b) Adenine
(c) Sugar phosphate
(d) Nucleotide.

3 Amino acids have both an amino group and a carboxyl group in their structure. Which amongst the following is an amino acid?

(a) Formic acid
(b) Glycerol
(c) Glycolic acid
(d) Glycine

4 Many elements are found in living organisms either free or in the form of compounds. One of the following is not, found in living organisms**.**

(a) Silicon
(b) Magnesium
(c) Iron
(d) Sodium

5 Meiosis in diploid organisms results in

(a) Production of gametes
(b) Reduction in the number of chromosomes
(c) Introduction of variation
(d) All of the above

SECTION B

6 There is a myth that immediately after heavy rains in forest, mushrooms appear in large number and make a very large ring or circle, which may be several metres in diameter. These are called as 'Fairy rings'. Can you explain this myth of fairy rings in biological terms**?**

OR

At a stage of their cycle, ascomycetes fungi produce the fruiting bodies like apothecium, perithecium or cleistothecium. How are these three types of fruiting bodies different from each other**?**

7 . Sort out the animals on the basis of their symmetry (radial or bilateral) coelenterates, ctenophores, annelids, arthropods, and echinoderms.

8 Diatoms are also called as 'pearls of ocean', why? What is diatomaceous earth?

9 What is the function of a polysome?

10 . Differentiate between: Open circulatory system and closed circulatory system

11 Cyanobacteria and heterotrophic bacteria have been clubbed together in Eubacteria of kingdom Monera as per the "Five Kingdom Classification" even though the two are vastly different from each other. Is this grouping of the two types of taxa in the same kingdom justified? If so, why?

12 What does 'S' refer in a 70S & an 80S ribosome? . Mention a single membrane bound organelle which is rich in hydrolytic enzymes.

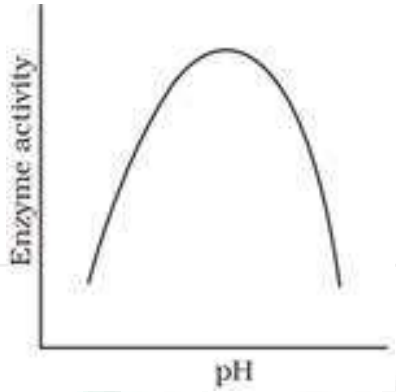
SECTION C

13 Give three major differences between chordates and non-chordates and draw a schematic sketch of a chordate showing those features..

14. Briefly give the contributions of the scientists **Schleiden and Schwann** in formulating the cell theory.

OR

Enzymes are proteins. Proteins are long chains of amino acids linked to each other by peptide bonds. Amino acids have many functional groups in their structure. These functional groups are, many of them at least, ionisable. As they are weak acids and bases in chemical nature, this ionization is influenced by pH of the solution. For many enzymes, activity is influenced by surrounding pH. This is depicted in the curve given, explain briefly.



15 Comment on the cartwheel structure of centriole.

16 What are plasmids? Describe their role in bacteria?

17 What are histones? What are their functions?

18 There has been an increase in the number of chambers in heart during evolution of vertebrates. Give the names of the class of vertebrates having two, three or four chambered heart..

19. Nucleic acids exhibit secondary structure, justify with example.

20 Explain the association of carbohydrate to the plasma membrane and its significance.

OR

. What are the various stages of meiotic prophase-I? Enumerate the chromosomal events during each stage?

21 Describe various forms of lipid with a few examples.

SECTION Ds

22 . What is the relationship between germinal layers and the formation of body cavity in case of coelomate, acoelomates and pseudocoelomates?

23 Structure and function are correlatable in living organisms. Can you justify this by taking plasma membrane as an example?

24 What are different classes of enzymes? Explain any two with the type of reaction they catalyse.

SECTION E

25 What are the reasons that you can think of for the arthropods to constitute the largest group of the animal kingdom? OR

Could the number of eggs or young ones produced by an oviparous and viviparous mother be equal? Why?

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26 Describe the structure of the following with the help of labelled diagrams.

(i) Nucleus (ii) Centrosome

OR

What is a centromere? How does the position of centromere form the basis of classification of chromosomes. Support your answer with a diagram showing the position of centromere on different types of chromosomes.

27 Explain the composition of triglycerides. jSfflTriacylglycerols (triglycerides) are the esters of glycerol with fatty acids.

OR

a) Can you describe what happens when milk is converted into curd or yoghurt, from your understanding of proteins.

b) What are gums made of ? Is fevicol different ?.