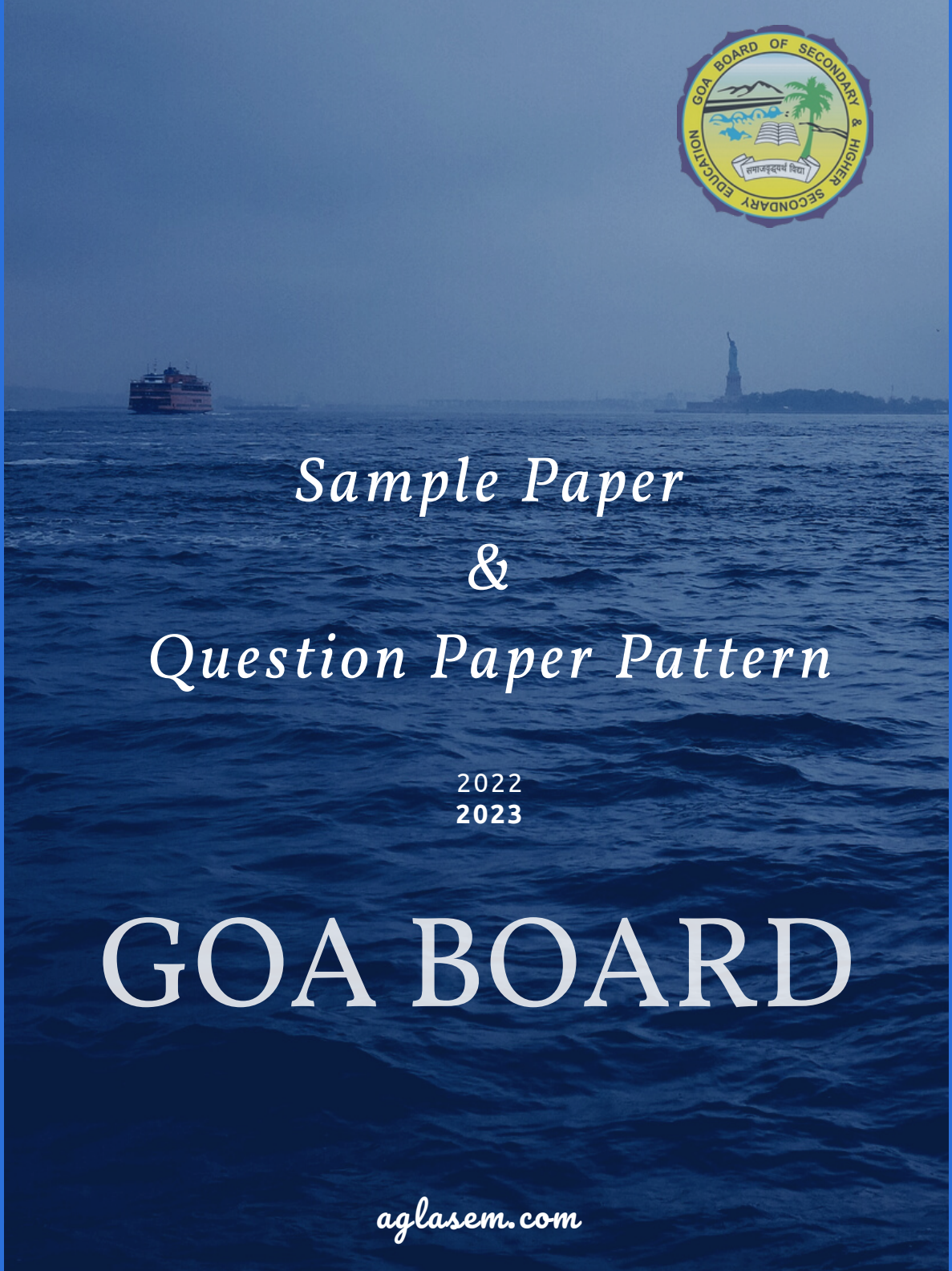


Sample Paper
&
Question Paper Pattern

2022
2023

GOA BOARD

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Goa Board of Secondary and Higher Secondary Education

Alto – Betim, Goa

Model Paper

Subject : Biology **Std : XI**

Time : 1 Hour **Maximum marks : 20**

Year 2021 -22

Instructions :

(i) All questions are compulsory.

(ii) Draw diagrams in lead pencil only.

(iii) The question paper consists of three (3) Sections A, B and C.

- **Section A has 04 questions of 01 mark each.**
- **Section B has 05 questions of 02 marks each.**
- **Section C has 02 questions of 03 marks each.**

(iv) The total number of questions is 11.

(v) There is no overall choice, however an internal choice is provided in one question of Section C.

(vi) Multiple choice questions should be attempted only once, if attempted more than once it will not be evaluated. Choose the correct option and rewrite on the answer-sheet.

Section A (1 mark each)

1) In Liverworts reduction division takes place in _____.

- the asexual buds called gemmae
- the sporophyte capsule
- the leafy stage protonema
- the leaf like sporophylls

2) If a small part of the flat worm *Planaria* is cut, it grows back. This characteristic is called ____.

- Reproduction
- Budding
- Regeneration
- Division

3) Write the Scientific name of Mango.

4) The Cyanobacteria *Anabaena* has specialized cells called Heterocysts. Give reason.

Section B (2 marks each)

5) Write the importance of roots and leaves of Gymnosperms.

6) Differentiate between Brown Algae and Red Algae.

7) Define the term Inflorescence and name the two major types.

8) On a field trip to study beach ecosystem, students observed that the Sea had turned red in colour. Identify the phenomenon and state its effect.

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9) Draw a neat diagram of the Structure of Mitochondrion.

Section C (3 marks each)

10) Explain the different types of flowers based on the position of floral parts on the thalamus.

11) Describe the structure of a chloroplast.

OR

11) Describe the structure of a Nucleus.

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Blueprint: Biology Model Paper : Std XI : Marks 20

Unit	Content Area	Marks	Objective												Total
			Knowledge			Understanding			Application			Skill			
			VSA	SA1	SA2	VSA	SA1	SA2	VSA	SA1	SA2	VSA	SA1	SA2	
			1	2	3	1	2	3	1	2	3	1	2	3	
Diversity In the living world	The living world	2	1(1)						1(1)						2
	Biological classification	3				1(1)				1(2)					3
	Plant kingdom	5		1(2)			1(2)		1(1)						5
Structural organization in plants and animals	Morphology of flowering plants	5		1(2)				1(3)							5
Cell – Structure and function	Cell: the unit of life	5			1(3) Or 1(3)								1(2)		5
		20	08			06			04			02			20

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Goa Board of Secondary and Higher Secondary Education
Biology Model Paper – Std XI – Answer Key

Year 2021-2022

<table>
<tr><th>Question No.</th><th>Answer</th><th>Marks</th><th>Total marks</th></tr>
<tr><td>1</td><td>The sporophyte capsule</td><td>1</td><td>1</td></tr>
<tr><td>2</td><td>Regeneration</td><td>1</td><td>1</td></tr>
<tr><td>3</td><td>Mangifera indica</td><td>1</td><td>1</td></tr>
<tr><td>4</td><td>Heterocysts are cells which fix atmospheric nitrogen</td><td>1</td><td>1</td></tr>
<tr><td>5</td><td>Roots are generally tap roots, may form mycorrhiza or coralloid roots
Leaves may be simple or compound, adapted to withstand extremes.
Needle like leaves reduce surface area, thick cuticle and sunken stomata reduce water loss.</td><td>1
1</td><td>2</td></tr>
<tr><td>6</td><td><table><tr><th>Brown Algae</th><th>Red Algae</th></tr><tr><td>1. Pigments are Chlorophyll a, c and fucoxanthin</td><td>1. Pigments are Chlorophyll a, d and phycoerythrin</td></tr><tr><td>2. Stored food is Mannitol and laminarin</td><td>2. Stored food is Floridean starch</td></tr><tr><td>3. Cell wall made of Cellulose and algin</td><td>3. Cell wall made of Cellulose, pectin and polysulphate esters</td></tr><tr><td>4. Asexual reproduction with Biflagellate zoospores</td><td>4. Asexual reproduction with non-motile spores</td></tr><tr><td>5. Phaeophyceae</td><td>5. Rhodophyceae</td></tr></table></td><td>Any 4 points</td><td>2</td></tr>
<tr><td>7</td><td>Inflorescence – The arrangement of flowers on the floral axis.
Racemose and Cymose</td><td>1
1</td><td>2</td></tr>
<tr><td>8</td><td>The phenomenon is Red tides/rapid multiplication of red dinoflagellates
Effect – Toxins released by such large number of dinoflagellates may kill other marine animals such as fishes.</td><td>1
1</td><td>2</td></tr>
<tr><td>10</td><td>Hypogynous – gynaecium occupies highest position, and other floral parts are below it. Ovary is superior. Ex. Mustard, China rose
Perigynous – gynaecium is in the centre, other floral parts arranged at the rim of the thalamus. Ovary half superior half inferior. Ex. Plum, rose
Epigynous – gynaecium fused with the thalamus, other floral whorls grow above the ovary. Ovary is inferior. Ex. Guava, Cucumber</td><td>1
1
1</td><td>3</td></tr>
<tr><td>11</td><td>Chloroplast – It may be lens-shaped, oval, spherical, discoid or ribbon like. It has a double membrane. Inner membrane is less permeable, space inside is called the stroma</td><td>1
1</td><td>3</td></tr>
</table>

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	Thyllakoids are flattened membranous sacs present in the stroma, arranged in piles called Grana. Chlorophyll pigments are present in the thyllakoids. Stroma lamellae are membranous flat tubules connecting the grana. The stroma contains enzymes required for synthesis of carbohydrates and proteins. Stroma also contains small double stranded DNA molecules and ribosomes.	1	
	OR		
11	Nucleus – Enclosed by a double membrane nuclear envelope, bears minute nuclear pores. Outer envelope is continuous with endoplasmic reticulum and bears ribosomes. Nuclear matrix or nucleoplasm contains nucleoli and chromatin Chromatin contains DNA and Histones, non histone proteins and RNA.	1 1 1	3

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