

### Chapterwise details for HSC Exam Feb/Mar 2020-21.

Sr. No.	Chapter Number and Name	Portion non-evaluative for March 2020 -21 examination
1	Chapter 1 Reproduction in lower and higher plants	1.1: Asexual reproduction
2	Chapter 2 Reproduction in lower and higher animals	2.1: Asexual reproduction in animals
3	Chapter 3 Inheritance and Variation	-----
4	Chapter 4 Molecular Basis of Inheritance	<b>No topic is deleted from this chapter</b>
5	Chapter 5 Origin and Evolution of life	5.1: Origin of life : (Protobiogenesis) 5.2: Chemical Evolution of Life 5.3: Organic Evolution 5.4: Darwinism 5.5: Mutation Theory 5.7: Mechanism of organic evolution 5.8: Hardy-Weinberg's principle 5.9: Adaptive Radiation 5.10: Evidences of organic evolution 5.11: Speciation 5.12: Geological time scale

6	Chapter 6 Plant water relations	6.4 Absorption of water by roots from soil 6.5 Water potential 6.6 Plasmolysis 6.7 Path of water across the root 6.8 Mechanism of absorption of water 6.9 Translocation of water 6.10 Transport of mineral ions 6.11 Transport of food 6.12 Transpiration 6.13 Structure of stomatal apparatus
7	Chapter 7 Plant growth	7.1 Plant growth 7.2 Phases of growth 7.3 Conditions of growth 7.4 Growth rate and types of growth 7.5 Growth curve 7.6 Differentiation, dedifferentiation and redifferentiation 7.7 Development 7.8 Plasticity 7.10 Photoperiodism 7.11 Vernalization 7.12 Mineral nutrition 7.13 Nitrogen cycle
8	<b>Chapter 8</b> Respiration and circulation	8.5: Modified respiratory movements, Artificial ventilation, ventilator FROM 8.16: Angiography, heart transplant, silent heart attack

9	Chapter 9 Control and coordination	From 9.6: Reflex action and chart 9.15: Types of reflex actions 9.7: Receptors
10	Chapter 10 Human health and diseases	-----
11	Chapter 11 Enhancement of food production	11.2 Plant breeding 11.3 Tissue culture 11.4 Single cell protein 11.6 Animal husbandry
12	Chapter 12 Biotechnology	No topic is deleted from this chapter
13	Chapter 13 Organisms and population	No topic is deleted from this chapter
14	Chapter 14 Ecosystems and energy flow	14.1 Ecosystem 14.2 Energy flow 14.3 Ecological pyramids 14.4 Nutrient cycles 14.6 Ecosystem services
15	Chapter 15 Biodiversity conservation and Environmental issues	15.7 Environmental issues a. Air pollution and control measures b. Noise pollution and control measures c. Water pollution and its control, Thermal pollution, Measures to reduce sewage water, Solid waste management 15.8 Greenhouse effect and global warming 15.9 Ozone depletion 15.10 Deforestation

The following pattern of practical examination is being proposed from academic year 2020—21 for following reasons.

3. The experiments related to dissections need to be avoided.

4. A similar pattern is followed by CBSE in their examination.

While conducting the experiments and examination please ensure the following:-

6. Maintain physical distance.
7. Avoid practicals where use of microscope is necessary (as microscopes are shared by many students).
8. While conducting biochemical experiments pipetting by mouth is to be strictly avoided.
9. Spotting can be conducted by use of material visible to naked eyes and by display of figures, charts, photographs, etc.
10. All other guidelines given by government from time to time.

### Scheme of practical examination to be conducted for XII std Feb/Mar 2020-21

Time: 3 hrs

Marks:30

Sr. No.	Experiment	Marks
Q.1	Major experiment	04
Q.2	Minor experiment	03
Q.3	Minor experiment	03
Q.4	Spotting	10
Q.5	Project	05
Q.6	Viva voce	02
Q.7	Certified complete Journal	03
Total	Total	30

Please note :-

3. Only following experiments are to be conducted for XI std (academic year 2020 – 21)

4. Practical examination to be conducted as internal evaluation at the institutional level for year-end Practical exam. Feb/Mar 2020-21.

A. List of major experiments to be performed for Q. 1

1. Dissect and display floral whorls (section of ovary and pollen grain mounting is not expected).
2. Isolation of DNA from given sample.

B. List of minor experiments to be performed for Q. 2

1. To study the population density by quadrat method.
2. To study osmosis by potato osmoscope.

C. List of minor experiments to be performed for Q.3

1. To study soil sample for its type.
2. To study water sample for its pH.

D. List of spottings for Q.4 (A to J)

- A. Study of adaptation of pollination by insects/wind from coloured photograph/diagram of suitable flowers.
- B. Study of meiosis (photographs/ diagrams).
- C. Study of bagging or tagging or emasculation (specimens/ photographs/ diagrams).
- D. Study of plant from xeric and aquatic habitat (specimens/ photographs/ diagrams).
- E. Demonstration of paper chromatography or To four leaf experiment.
- F. Study of anatropous / orthotropous ovule through photographs/ diagrams.
- G. Study of common disease causing organisms (specimens/photographs/ diagrams).
- H. Study of human brain (model/ photographs/ diagrams).
- I. Study of pedigree chart or study of V. S. of blastula, T. S. of testis, T. S. of ovary (photographs/ diagrams).
- J. Study of animals found in xeric and aquatic habitat (specimens/photographs/ diagrams)

E. Project for Q.5

A suitable project to be allotted by teacher and submission in form of written report (4 to 6 pages) is expected.

E. Viva voce for Q.6

Based on major and minor experiments.

F. Journal for Q.7

Complete and duly signed by teacher with institute's stamp.