

**GOVT. D. B. GIRLS PG COLLEGE,  
RAIPUR**

**CHHATTISGAH**

**Afiliated**

**With**

**PT. RAVISHANKAR SHUKLA UNIVERSITY, RAIPUR**

**SYLLABUS  
2020-21**

**UNIFIED SYLLABUS  
FOR CHHATTISGARH UNIVERSITIES  
SESSION  
2020 – 2021, 2021 – 2022, 2022 - 2023  
B.Sc. I, II, & III YEAR**

Several handwritten signatures in blue ink are located at the bottom of the page. There are approximately five distinct signatures, some of which appear to be initials or abbreviated names.

**B. Sc. I ZOOLOGY (2020-2021)**  
**PAPER-I**  
**CELL BIOLOGY AND INVERTEBRATE**  
**(Paper code – 0813)**  
**M.M. 50**

**Unit:I**

1. The cell (Prokaryotic and Eukaryotic)
2. Organization of Cell-extranuclear and nuclear
- 3 (Plasma membrane, Endoplasmic reticulum, Golgi bodies, Ribosome, Mitochondria, Lysosomes).
- 4 Nucleus , Chromosome, DNA and RNA

**Unit:II**

1. Cell division (Mitosis and Meiosis).
2. An elementary idea of Cancer cells and cell transformation.
3. An elementary idea of Immunity Innate & Acquired Immunity, Lymphoid organ , Cells of Immune system, Antigen, Antibody and their interaction.

**Unit:III**

General characters and classification of Phylum **Protozoa, Porifera** and **Coelenterata** up to orders

- 1 Protozoa-Type study-Paramecium.
- 2 Porifera- Type study-Sycon.
- 3 Coelenterata-Type study-Obelia.

**Unit: IV**

General characters and classification of Phylum **Helminthes, Annelida** and **Arthropoda** up to orders

1. Platyhelminthes and Nematelminthes-Type Study- Fasciola. And Ascaris
2. Annelida-Type Study- Pheretima.
3. Arthropoda- Type Study-Palaemon.

**Unit:V**

General characters and classification of Phylum **Mollusca** and **Echinodermata** up to orders

1. Mollusca- Type Study-Pila.
2. Echinodermata- Type Study- Asterias (Starfish).

  
2/20/20  
[Signatures]

**B. Sc. I ZOOLOGY (2020-2021)**  
**PAPER-II**  
**VERTEBRATES AND EMBRYOLOGY**  
**(Paper code – 0814)**  
**M.M. 50**

**Unit: I**

1. Classification of Hemichordata
2. Hemichordata – Type study - Balanoglossus
3. Classification of Chordata up to Order.
4. Protochordata-Type study-Amphioxus.
5. A comparative account of Petromyzon and Myxine.

**Unit-II**

1. Fishes-Skin & Scales, migration in fishes, Parental care in Fishes.
2. Amphibia-Parental care, Neoteny.
3. Reptilia- Poisonous & Non-poisonous Snakes, Poison apparatus, snake venom and Extinct Reptiles

**Unit:III**

1. Birds- Flight Adaptation, Migration and Perching Mechanism. Discuss-Birds are glorified reptiles.
2. Mammals-Comparative account of Prototheria, Metatheria, Eutheria and Affinities.
3. Aquatic Mammals and their adaptation

**Unit:IV**

1. Fertilization
2. Gametogenesis, Structure of Gamete and Types of Eggs
3. Cleavage.
4. Development of Frog upto formation of three germ layers
5. Parthenogenesis.

**Unit:**

**V**

1. Embryonic induction, Differentiation and Regeneration.
2. Development of Chick (a) Up to formation of three germ layer,(b) Extra-embryonic membranes.
3. Placenta in mammals.

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**B. Sc. I, ZOOLOGY (2020-2021)**  
**PRACTICAL WORK**  
**M.M. 50**

The practical work will, in general be based on the syllabus prescribed in theory and the candidates will be required to show knowledge of the following:-

1. Alternate methods of dissection of earthworm
2. Alternate methods of dissection of cockroach, palaemon, pila
3. Alternate methods of Minor dissection—appendages of prawn & hastate plate, mouth parts of insects, radulla of pila.
4. Alternative methods of mounting –setae, spermatheca, septal nephridia, nerve ring & ovary of earthworm/parapodia of nereis, salivary gland of cockroach, ctenidium of pila, malpighian tubules.
5. Cytological preparation-onion root tip “squash preparation” for mitosis/Grasshopper testis squash for meiosis.
6. Osteology-Frog & Rabbit.
7. Museum specimen invertebrate & vertebrate, frog embryology.
8. Slides-Chick embryology, cytology, mammal histology, bird feather & invertebrate slides.

**Scheme of Practical Exam**

**Time: 3hrs**

1. Alternate methods of Major dissection	8 Marks
2. Alternate methods of Minor dissection	6 Marks
3. Mounting	5 Marks
4. Cytological Preparation	5 Marks
5. Spots-8 (Slides-4, Specimens-2 & Bones-2)	16 Marks
6. Sessional	10 Marks

**TOTAL PRACTICAL MARKS 50**

**APPROVED BY THE BOARD OF STUDIES  
IN THE CAPACITY OF**

**NAME**

**SIGNATURE**

Prof. Ajit Hundet

Chairman

Prof. Seema Gupta

V.C. Nominee

Prof. V. K. Gupta

Principal's Nominee

Prof. Maya Shedpure

Member

Dr. K.K. Harris

Member

Mrs. Priya Dewangan

Member

Ms. Uma Gupta

Member

Dr. Richa Tikariha

Member

Ms (CR) M.Sc. III sem.

Member