

GOVERNMENT COLLEGE FOR WOMEN, HISAR
LESSON PLAN (JULY 2026 TO NOVEMBER/DECEMBER 2026)

Name of Teacher: Dr. Karuna Bamel

Class: B.Sc. 1st Year (Sem-I)

Subject: Zoology DSC (Animal Diversity of Non-Chordates)

Subject Code: C26ZOO101T / C26ZOO101P

Credits: 3 + 1 = 4 External Marks: 50 (Th) + 20 (Pr) = 70 Internal Marks: 20 (Th) + 10 (Pr) = 30 Total Marks: 100

Date	Week	Topics to be covered
03.08.2026 to 08.08.2026	Week 1	Theory: Phylum Protozoa - General characters and classification up to classes. Practical: Permanent mounts of Protozoa (Amoeba, Euglena, Paramecium).
10.08.2026 to 15.08.2026	Week 2	Theory: Locomotion in Protozoa (pseudopodial, flagellar, and ciliary); Reproduction (binary fission and conjugation). Practical: Study of Sycon (Porifera) & T.S./L.S. slides, spicules
17.08.2026 to 22.08.2026	Week 3	Theory: Life cycle of Plasmodium. Practical: Porifera specimens - Hyalonema, Euplectella and Sycon.
24.08.2026 to 29.08.2026	Week 4	Theory: Phylum Porifera - General characters, classification up to classes, canal systems (Ascon, Sycon, Leucon). Practical: Coelenterata specimens - Obelia, Physalia, Aurelia, Tubipora, Metridium
31.08.2026 to 05.09.2026	Week 5	Theory: Types of spicules and their formation in Porifera. Practical: Obelia permanent slide.
07.09.2026 to 12.09.2026	Week 6	Theory: Phylum Coelenterata - General characters, classification up to classes, polymorphism in Siphonophores. Practical: Helminths specimens - Taenia solium, Ascaris lumbricoides (male & female dimorphism).
14.09.2026 to 19.09.2026	Week 7	Theory: Coral reef types, formation, ecological significance, threat factors & climate change impacts. Practical: Helminths slides - Cysticercus larva, T.S. of Ascaris (male & female).
21.09.2026 to 26.09.2026	Week 8	Theory: Phylum Platyhelminthes & Aschelminthes - General characters, classification, life cycle of Taenia solium. Practical: Annelida specimens - Aphrodite, Nereis, Heteronereis.
28.09.2026 to 03.10.2026	Week 9	Theory: Life cycle of Wuchereria bancrofti and parasitic adaptations in helminths. Practical: Annelida specimens - Pheretima (earthworm), Hirudinaria (leech).

Date	Week	Topics to be covered
05.10.2026 to 10.10.2026	Week 10	Theory: Test & Assignment
12.10.2026 to 17.10.2026	Week 11	Theory: Phylum Annelida - General characters, classification, Metamerism & its evolutionary significance. Practical: Arthropoda specimens - Palaemon, Cancer, Limulus.
19.10.2026 to 24.10.2026	Week 12	Theory: Structural diversity of trochophore larva; Excretion mechanisms (Nephridial system). Practical: Arthropoda specimens - Palaemon, Scolopendra, Julus, Periplaneta.
26.10.2026 to 31.10.2026	Week 13	Theory: Phylum Arthropoda - General characters, classification, vision, types of metamorphosis in insects, respiration types. Practical: Mollusca specimens - Chiton, Dentalium, Pila.
11.11.2026 to 14.11.2026	Week 14	Theory: Phylum Mollusca - General characters, classification, mechanism & significance of torsion/detorsion in Gastropoda. Practical: Mollusca specimens - Unio, Sepia, Octopus.
16.11.2026 to 21.11.2026	Week 15	Theory: Biological process of pearl formation. Practical: Echinodermata & Hemichordata - Pentaceros, Ophiothrix, Echinus.
23.11.2026 to 28.11.2026	Week 16	Theory: Phylum Echinodermata - General characters, classification, water-vascular system in Asteroidea, Larval forms of echinoderms & developmental stages; Evolutionary affinities of Echinodermata with Chordates. Practical: Echinodermata & Hemichordata - Cucumaria, Balanoglossus.
30.11.2026 to 04.12.2026	Week 17	Revision



Teacher's Signature



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GOVERNMENT COLLEGE FOR WOMEN, HISAR
LESSON PLAN (JULY 2026 TO NOVEMBER/DECEMBER 2026)

Name of Teacher: Dr. Karuna Bamel

Class: B.Sc. 2nd Year (Sem-III)

Subject: Zoology (Biomolecules and Mammalian Physiology)

Subject Code: C24ZOO301T / C24ZOO301P

Credits: 3 + 1 = 4 External Marks: 50 (Th) + 20 (Pr) = 70

Internal Marks: 20 (Th) + 10 (Pr) = 30

Total Marks: 100

Date	Week	Topics to be covered
03.08.2026 to 08.08.2026	Week 1	Theory: Introduction, classification, structure, function & general properties of proteins. Practical: Qualitative tests for identification of simple sugars.
10.08.2026 to 15.08.2026	Week 2	Theory: Nomenclature, classification & mechanisms of enzyme action; factors affecting enzyme activity, enzyme inhibition. Practical: Qualitative tests for disaccharides and polysaccharides.
17.08.2026 to 22.08.2026	Week 3	Theory: Vitamins and Minerals. Practical: Human salivary amylase activity - Effect of temperature.
24.08.2026 to 29.08.2026	Week 4	Theory: Bio-membrane transport (Active & Passive), osmotic pressure, pH and buffers. Practical: Human salivary amylase activity - Effect of pH and concentration.
31.08.2026 to 05.09.2026	Week 5	Theory: Classification, structure, function & properties of carbohydrates and lipids. Practical: Estimation of abnormal constituents of urine (Albumin).
07.09.2026 to 12.09.2026	Week 6	Theory: Digestion of proteins, carbohydrates, lipids. Practical: Estimation of abnormal constituents of urine (Sugar, ketone bodies).
14.09.2026 to 19.09.2026	Week 7	Theory: Muscles: Ultra-structure of skeletal muscle, neuromuscular junction, bio-chemical & physical events of contraction. Practical: Demonstration and use of Kymograph unit.
21.09.2026 to 26.09.2026	Week 8	Theory: Single muscle twitch, tetanus, fatigue, tone, oxygen debt, Cori's cycle, single unit smooth muscles. Practical: Demonstration and use of Respirometer.
28.09.2026 to 03.10.2026	Week 9	Theory: Circulation: Origin, conduction, regulation of heartbeat; cardiac cycle; Blood & lymph composition. Practical: Haematin crystal preparation.
05.10.2026 to 10.10.2026	Week 10	Theory: Coagulation mechanism of blood, factors, anticoagulants, haemopoiesis; Test and Assignment Practical: Estimation of Hemoglobin (Hb).

Date	Week	Topics to be covered
12.10.2026 to 17.10.2026	Week 11	Theory: Respiration: Gas exchange & transport, lung volumes, O ₂ dissociation curve, Bohr's effect, Chloride shift, Myoglobin. Practical: Differential Leukocyte Count (DLC) of human blood.
19.10.2026 to 24.10.2026	Week 12	Theory: Excretion: Ammoniotelic, ureotelic, uricotelic patterns, ornithine cycle, urine formation. Practical: Total RBC and WBC count using Hemocytometer.
26.10.2026 to 31.10.2026	Week 13	Theory: Counter-current mechanism of urine formation, osmoregulation, micturition. Practical: Study of permanent slides of endocrine glands (Pituitary, Thyroid, Adrenal, Pancreas).
11.11.2026 to 14.11.2026	Week 14	Theory: Neural Integration: Impulse propagation (medullated/non-medullated), synaptic transmission, synaptic delay, fatigue, neurotransmitters. Practical: Blood antigens and antibodies: Blood group testing.
16.11.2026 to 21.11.2026	Week 15	Theory: Functions of endocrine glands and hormonal disorders.
23.11.2026 to 28.11.2026	Week 16	Theory: Reproduction: Spermatogenesis, capacitation, oogenesis, ovulation, corpus luteum, oestrous-anoestrous cycle, Menstrual cycle, fertilization, implantation, gestation, parturition.
30.11.2026 to 04.12.2026	Week 17	Revision



Teacher's Signature



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GOVERNMENT COLLEGE FOR WOMEN, HISAR
LESSON PLAN (JULY 2026 TO NOVEMBER/DECEMBER 2026)

Name of Teacher: Dr. Karuna Bamel

Class: B.Sc. 3rd Year (Sem-V)

Subject: Zoology (Evolution and Developmental Biology)

Subject Code: C24ZOO501T / C24ZOO501P

Credits: 3 + 1 = 4 External Marks: 50 (Th) + 20 (Pr) = 70

Internal Marks: 20 (Th) + 10 (Pr) = 30

Total Marks: 100

Date	Week	Topics to be covered
20.07.2026 to 25.07.2026	Week 1	Theory: Major events in history of life, Lamarckism, Darwinism, Neo-Darwinism. Practical: Study of homology and analogy from suitable specimens/pictures.
27.07.2026 to 01.08.2026	Week 2	Theory: Artificial selection, Biological species concept: Advantages and limitations. Practical: Charts: Phylogeny of horse with diagrams/cut outs of limbs and teeth of horse ancestors.
03.08.2026 to 08.08.2026	Week 3	Theory: Modes of speciation: Allopatric and Sympatric speciation. Practical: Charts: Darwin's finches with diagrams/cut out of beaks of different species.
10.08.2026 to 15.08.2026	Week 4	Theory: Organic variations, Isolating mechanisms. Practical: Frog developmental stages - Cleavage stages and Blastula (permanent slides).
17.08.2026 to 22.08.2026	Week 5	Theory: Natural selection and its types. Practical: Frog developmental stages - Gastrula and Neurula (whole mounts & sections).
24.08.2026 to 29.08.2026	Week 6	Theory: Macro-evolutionary principles. Practical: Frog developmental stages - Tail bud stage, tadpole external and internal gill stages.
31.08.2026 to 05.09.2026	Week 7	Theory: Mass extinction and role of extinction in evolution. Practical: Study of different types of placenta - histological sections through permanent slides.
07.09.2026 to 12.09.2026	Week 8	Theory: Phylogeny of horse - Evolutionary trends and ancestors. Practical: Study of placenta through photomicrographs.
14.09.2026 to 19.09.2026	Week 9	Theory: Introduction and scope of development; Gametogenesis: Spermatogenesis and Oogenesis in mammals. Practical: Study of placental development in humans by ultrasound scans.
21.09.2026 to 26.09.2026	Week 10	Theory: Mid-Term Revision & Internal Assessment Test.

Date	Week	Topics to be covered
		Practical: Examination of gametes (frog/rat) - sperm & ova through permanent slides.
28.09.2026 to 03.10.2026	Week 11	Theory: Vitellogenesis in birds. Practical: Examination of gametes through photomicrographs.
05.10.2026 to 10.10.2026	Week 12	Theory: Fertilization: External (amphibian) and Internal (mammals). Practical: Revision of Evolutionary charts and specimens.
12.10.2026 to 17.10.2026	Week 13	Theory: Cleavage patterns and types of cleavage. Practical: Revision of Frog developmental stage slides.
19.10.2026 to 24.10.2026	Week 14	Theory: Fate map construction, types of morphometric movements, fate of germ layers. Practical: Revision of Placental types and ultrasound scan analysis.
26.10.2026 to 31.10.2026	Week 15	Theory: Neurulation of frog embryo.
11.11.2026 to 14.11.2026	Week 16	Theory: Implantation of embryo in human. Practical: Mock Practical Exam - Identification & Spotting.
16.11.2026 to 21.11.2026	Week 17	Theory: Different types of placenta.
23.11.2026 to 28.11.2026	Week 18	Formation of human placenta and its functions.
30.11.2026 to 04.12.2026	Week 19	Comprehensive Revision of Evolution & Developmental Biology Syllabus.



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