**Government General Degree College Mohanpur**
**Vill- Srirampur, P. O- Siyalsai, Dist- Paschim Medinipur**
**West Bengal- 721436**

# Department of Physiology

## Session 2018-19

### Physiology General (CBCS pattern )

| Semester | Period of Semester | Time of University Examination | Course Code | Paper | Name of the Faculty | Brief Description of the Topic | Teaching hour per week |
|---|---|---|---|---|---|---|---|
| I | July to December | End of December | CC1 [DSC-1A] | DSC1AT (Theory) | Prasenjit Chaudhuri | 1. Cellular Physiology<br>2. Biophysical Principles<br>3. Biochemistry<br>4. Digestive system<br>5. Metabolism | 4 |
| | | | | DSC1AP (Practical) | Prasenjit Chaudhuri | 1. Fresh tissue experiments<br>2. Identification of permanent slides: | 4 |
| II | January to June | End of June | CC4 [DSC-1B] | DSC1BT (Theory) | Prasenjit Chaudhuri | 1. Blood and body fluid<br>2. Immune System<br>3. Cardiovascular System<br>4. Respiratory System | 4 |
| | | | | DSC1BP (Practical) | Prasenjit Chaudhuri | 1. Haematology<br>2. Human Experiment | 4 |

### Physiology General (3 Tier Examination Pattern )

| Part | Period of Semester | Time of University Examination | Paper | Name of the Faculty | Brief Description of the Topic | Total Lectures |
|---|---|---|---|---|---|---|
| II | July to June | End of June | Paper II (Theory) | Prasenjit Chaudhuri | 1. Nerve-Muscle Physiology<br>2. Nervous System<br>3. Skin and Regulation of Body Temperature<br>4. Sensory Physiology<br>5. Endocrine System<br>6. Reproductive Physiology | 110 |
| | | | Paper III (Practical) | Prasenjit Chaudhuri | 1. Histology<br>2. Biochemistry<br>3. Experimental Physiology<br>4. Human Experiments | 100 |

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|---|---|---|---|---|---|---|
| | | | | | 5. Diet Survey Report<br>6. Excursion | |
| III | July to June | End of June | Paper IVA (Theory) | Prasenjit Chaudhuri | 1. Application of Physiology<br>2. Clinical Biochemistry and Molecular Biology<br>3. Environmental Physiology<br>4. Microbiology and Immunology<br>5. Work and Sports Physiology<br>6. Biostatistics and Modern Instrumentation (Biomedical) &<br>7. Basic Concepts of Computer<br>8. Community Health Management | 70 |
| | | | Paper IVB (Practical) | Prasenjit Chaudhuri | 1. Haematological Tests<br>2. Clinical Pathology<br>3. Human Experiments | 30 |

## Session 2019-20

### Physiology General (CBCS pattern )

| Semester | Period of Semester | Time of University Examination | Course Code | Paper | Name of the Faculty | Brief Description of the Topic | Teaching hour per week |
|---|---|---|---|---|---|---|---|
| I | July to December | End of December | CC1 [DSC-1A] | DSC1AT (Theory) | Prasenjit Chaudhuri | 1 Biophysical Principles<br>2 Biochemistry<br>3 Metabolism | 2 |
| | | | | | Dakshayani Mahapatra | 1 Cellular Physiology<br>2 Digestive system | 2 |
| | | | | DSC1AP (Practical) | Prasenjit Chaudhuri | Identification of permanent slides: | 2 |
| | | | | | Dakshayani Mahapatra | Fresh tissue experiments | 2 |
| II | January to June | End of June | CC4 [DSC-1B] | DSC1BT (Theory) | Prasenjit Chaudhuri | 1. Blood and body fluid<br>2. Immune System | 2 |
| | | | | | Dakshayani Mahapatra | 1. Cardiovascular System<br>2. Respiratory System | 2 |

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|---|---|---|---|---|---|---|---|
| | | | | DSC1BP (Practical) | Prasenjit Chaudhuri | Haematology | 2 |
| | | | | | Dakshayani Mahapatra | Human Experiment | 2 |
| III | July to December | End of December | CC3 [DSC1C] | DSC-1CT (Theory) | Prasenjit Chaudhuri | Nervous system | 2 |
| | | | | | Dakshayani Mahapatra | 1. Nerve –Muscle Physiology<br>2. Skin and Body Temperature Regulation | 2 |
| | | | | DSC-1CP (Practical) | Prasenjit Chaudhuri | 1. Staining of Node(s) of Ranvier (AgNO3).<br>2. Staining of skeletal and cardiac muscles by Methylene Blue stain<br>3. Reaction time by stick drop test<br>4. Short term memory test (shape, picture word). | 2 |
| | | | | | Dakshayani Mahapatra | 1. Measurement of grip strength<br>2. Recording of body temperature<br>3. Experiments on superficial (plantar) and deep (knee jerk) reflex<br>4. Two point discrimination test. | 2 |
| IV | January to June | End of June | | DSC-1DT (Theory) | Prasenjit Chaudhuri | Sensory Physiology<br>Endocrine Physiology | 2 |
| | | | | | Dakshayani Mahapatra | Reproductive System<br>Renal Physiology | 2 |
| | | | | DSC-1DP (Practical) | Prasenjit Chaudhuri | 1. Silver nitrate preparation of corneal cell space.<br>2. Identification of normal and abnormal constituents of urine.<br>3. Tests for Urinary deposits.<br>4. Estimation of albumin in urine.<br>5. Detection of specific gravity of urine. | 2 |

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| | | | | | Dakshayani Mahapatra | 1. Staining and identification of kidney and ureters<br>2. Study of estrous cycle.<br>3. Determination of visual acuity by Snellen's chart / Landolt's chart<br>4. Determination of colour blindness by Ishihara chart.<br>5. Exploration of conductive and perceptive deafness by tuning fork method.<br>6. Sperm count and sperm motility in rat. | 2 |
| | | | SEC2T (Instrumentation Techniques in Biology) | | Prasenjit Chaudhuri | 1. Microscopy<br>2. Staining Method<br>3. Optical Method | 1 |
| | | | | | Dakshayani Mahapatra | 1. Chromatography<br>2. Biotechnology and Immunological techniques | 1 |

## Physiology General (3 Tier Examination Pattern )

| Part | Period of Semester | Time of University Examination | Paper | Name of the Faculty | Brief Description of the Topic | Total Lectures |
|---|---|---|---|---|---|---|
| III | July to June | End of June | Paper IVA (Theory) | Prasenjit Chaudhuri | 1. Application of Physiology<br>2. Clinical Biochemistry and Molecular Biology<br>3. Work and Sports Physiology<br>4. Biostatistics and Modern Instrumentation (Biomedical) &<br>5. Community Health Management | 50 |
| | | | | Dakshayani Mahapatra | 1. Environmental Physiology<br>2. Microbiology and Immunology<br>3. Basic Concepts of Computer | 20 |
| | | | Paper IVB (Practical) | Prasenjit Chaudhuri | 1. Haematological Tests<br>2. Clinical Pathology | 20 |
| | | | | Dakshayani Mahapatra | Human Experiments | 10 |

## Session 2020-21

### Physiology General (CBCS pattern )

| Semester | Period of Semester | Time of University Examination | Course Code | Paper | Name of the Faculty | Brief Description of the Topic | Teaching hour per week |
|---|---|---|---|---|---|---|---|
| I | July to December | End of December | CC1 [DSC-1A] | DSC1AT (Theory) | Prasenjit Chaudhuri | 1 Biophysical Principles<br>2 Biochemistry<br>3 Metabolism | 2 |
| | | | | | Dakshayani Mahapatra | 1 Cellular Physiology<br>2 Digestive system | 2 |
| | | | | DSC1AP (Practical) | Prasenjit Chaudhuri | Identification of permanent slides: | 2 |
| | | | | | Dakshayani Mahapatra | Fresh tissue experiments | 2 |
| II | January to June | End of June | CC4 [DSC-1B] | DSC1BT (Theory) | Prasenjit Chaudhuri | 1. Blood and body fluid<br>2. Immune System | 2 |
| | | | | | Dakshayani Mahapatra | 1. Cardiovascular System<br>2. Respiratory System | 2 |
| | | | | DSC1BP (Practical) | Prasenjit Chaudhuri | Haematology | 2 |
| | | | | | Dakshayani Mahapatra | Human Experiment | 2 |
| III | July to December | End of December | CC3 [DSC1C] | DSC-1CT (Theory) | Prasenjit Chaudhuri | Nervous system | 2 |
| | | | | | Dakshayani Mahapatra | 1. Nerve –Muscle Physiology<br>2. Skin and Body Temperature Regulation | 2 |
| | | | | DSC-1CP (Practical) | Prasenjit Chaudhuri | 1. Staining of Node(s) of Ranvier (AgNO3).<br>2. Staining of skeletal and cardiac muscles by Methylene Blue stain<br>3. Reaction time by stick drop test<br>4. Short term memory test (shape, picture word). | 2 |

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|---|---|---|---|---|---|---|---|
| | | | | | Dakshayani Mahapatra | 5. Measurement of grip strength<br>6. Recording of body temperature<br>7. Experiments on superficial (plantar) and deep (knee jerk) reflex<br>8. Two point discrimination test. | 2 |
| IV | January to June | End of June | | | Prasenjit Chaudhuri | Sensory Physiology<br>Endocrine Physiology | 2 |
| | | | | | Dakshayani Mahapatra | Reproductive System<br>Renal Physiology | 2 |
| | | | | DSC-1DT (Theory) | Prasenjit Chaudhuri | 1. Silver nitrate preparation of corneal cell space.<br>2. Identification of normal and abnormal constituents of urine.<br>3. Tests for Urinary deposits.<br>4. Estimation of albumin in urine.<br>5. Detection of specific gravity of urine. | 2 |
| | | | | | Dakshayani Mahapatra | 1. Staining and identification of kidney and ureters<br>2. Study of estrous cycle.<br>3. Determination of visual acuity by Snellen's chart / Landolt's chart<br>4. Determination of colour blindness by Ishihara chart.<br>5. Exploration of conductive and perceptive deafness by tuning fork method.<br>6. Sperm count and sperm motility in rat. | 2 |
| | | | SEC2 (Instrumentation Techniques in Biology) | DSC-1DP (Practical) | Prasenjit Chaudhuri | 1. Microscopy<br>2. Staining Method<br>3. Optical Method | 1 |
| | | | | | Dakshayani Mahapatra | 1. Chromatography<br>2. Biotechnology and Immunological techniques | 1 |
| V | July to December | End of December | DSE-1A [Community Nutrition and | DSE 1AT (Theory) | Prasenjit Chaudhuri | 1. Socio-ecology of Nutrition<br>2. Epidemiology<br>3. Population problem | 2 |

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| | | | Public Health] | | Dakshayani Mahapatra | 1. Basic concept of Nutrition<br>2. Food guide<br>3. Diet survey<br>4. Malnutrition | 2 |
| | | | | DSE 1AP (Practical) | Prasenjit Chaudhuri | 1. Quantitative estimation of glucose, sucrose by Benedict's method<br>2. Estimation of lactose from milk by Benedict's methods.<br>3. Estimation of amino nitrogen through formol titration methods.<br>4. Field Survey Report | 2 |
| | | | | | Dakshayani Mahapatra | 1. Estimation of Chloride by Mohr's methods.<br>2. Qualitative analysis of pulse, rice, milk to test the presence of carbohydrates, protein, fat<br>3. Qualitative identification of lipids and cholesterol.<br>4. Qualitative assessment of noise by sound level meter. | 2 |
| | | | SEC-3 [Maternal and Child Nutrition | SEC-3 [Maternal and Child Nutrition] | Prasenjit Chaudhuri | 1. Unit III- Infant and young child care and Malnutrition<br>2. Unit IV- Maternal and Child care policies and programme. | 1 |
| | | | | | Dakshayani Mahapatra | 1. Unit I- Nutrition during Pregnancy<br>2. Unit II- Breastfeeding and Nutrition of infant | 1 |
| VI | January to June | End of June | DSE-1B [Developmental aspects of embryo and foetus] | DSE-1BT [Developmental aspects of embryo and foetus] | Prasenjit Chaudhuri | 1. General concepts and Stem cell<br>2. Gametogenesis<br>3. Fertilization in mammals.<br>4. Cleavage | 2 |
| | | | | | Dakshayani Mahapatra | 1. Blastula<br>2. Morphogenetic movements<br>3. Gastrulation<br>4. Organogenesis : Development of eye | 2 |
| | | | | DSE-1BP (Practical) | Prasenjit Chaudhuri | Hematoxylin and Eosin staining of testicular, ovarian tissue sections. | 2 |

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| | | | | | Dakshayani Mahapatra | 1. Identification of spermatocytes, spermatids, Graafian follicle, Corpus Luteum.<br>2. Demonstration of preserved mammalian embryo. | 2 |

## Session 2021-22

### Physiology General (CBCS pattern )

| Semester | Period of Semester | Time of University Examination | Course Code | Paper | Name of the Faculty | Brief Description of the Topic | Teaching hour per week |
|---|---|---|---|---|---|---|---|
| I | July to December | End of December | CC1 [DSC-1A] | DSC1AT (Theory) | Prasenjit Chaudhuri | 1 Biophysical Principles<br>2 Biochemistry<br>3 Metabolism | 2 |
| | | | | | Dakshayani Mahapatra | 1 Cellular Physiology<br>2 Digestive system | 2 |
| | | | | DSC1AP (Practical) | Prasenjit Chaudhuri | Identification of permanent slides: | 2 |
| | | | | | Dakshayani Mahapatra | Fresh tissue experiments | 2 |
| II | January to June | End of June | CC4 [DSC-1B] | DSC1BT (Theory) | Prasenjit Chaudhuri | 1. Blood and body fluid<br>2. Immune System | 2 |
| | | | | | Dakshayani Mahapatra | 1. Cardiovascular System<br>2. Respiratory System | 2 |
| | | | | DSC1BP (Practical) | Prasenjit Chaudhuri | Haematology | 2 |
| | | | | | Dakshayani Mahapatra | Human Experiment | 2 |
| III | July to December | End of December | CC3 [DSC1C] | DSC-1CT (Theory) | Prasenjit Chaudhuri | Nervous system | 2 |
| | | | | | Dakshayani Mahapatra | 1. Nerve –Muscle Physiology<br>2. Skin and Body Temperature Regulation | 2 |

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|---|---|---|---|---|---|---|---|
| | | | | DSC-1CP (Practical) | Prasenjit Chaudhuri | 1. Staining of Node(s) of Ranvier (AgNO3).<br>2. Staining of skeletal and cardiac muscles by Methylene Blue stain<br>3. Reaction time by stick drop test<br>4. Short term memory test (shape, picture word). | 2 |
| | | | | | Dakshayani Mahapatra | 1. Measurement of grip strength<br>2. Recording of body temperature<br>3. Experiments on superficial (plantar) and deep (knee jerk) reflex<br>4. Two point discrimination test. | 2 |
| IV | January to June | End of June | | DSC-1DT (Theory) | Prasenjit Chaudhuri | Sensory Physiology<br>Endocrine Physiology | 2 |
| | | | | | Dakshayani Mahapatra | Reproductive System<br>Renal Physiology | 2 |
| | | | | DSC-1DP (Practical) | Prasenjit Chaudhuri | 1. Silver nitrate preparation of corneal cell space.<br>2. Identification of normal and abnormal constituents of urine.<br>3. Tests for Urinary deposits.<br>4. Estimation of albumin in urine.<br>5. Detection of specific gravity of urine. | 2 |
| | | | | | Dakshayani Mahapatra | 1. Staining and identification of kidney and ureters<br>2. Study of estrous cycle.<br>3. Determination of visual acuity by Snellen's chart / Landolt's chart<br>4. Determination of colour blindness by Ishihara chart.<br>5. Exploration of conductive and perceptive deafness by tuning fork method.<br>6. Sperm count and sperm motility in rat. | 2 |
| | | | SEC2 (Instrumentation | | Prasenjit Chaudhuri | 1. Microscopy<br>2. Staining Method<br>3. Optical Method | 1 |

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| | | | Techniques in Biology) | | Dakshayani Mahapatra | 3. Chromatography<br>4. Biotechnology and Immunological techniques | 1 |
| V | July to Decemberrr | End of December | DSE-1A [Community Nutrition and Public Health] | DSE 1AT (Theory) | Prasenjit Chaudhuri | 1. Socio-ecology of Nutrition<br>2. Epidemiology<br>3. Population problem | 2 |
| | | | | | Dakshayani Mahapatra | 1. Basic concept of Nutrition<br>2. Food guide<br>3. Diet survey<br>4. Malnutrition | 2 |
| | | | | DSE 1AP (Practical) | Prasenjit Chaudhuri | 1. Quantitative estimation of glucose, sucrose by Benedict's method<br>2. Estimation of lactose from milk by Benedict's methods.<br>3. Estimation of amino nitrogen through formol titration methods.<br>4. Field Survey Report | 2 |
| | | | | | Dakshayani Mahapatra | 1. Estimation of Chloride by Mohr's methods.<br>2. Qualitative analysis of pulse, rice, milk to test the presence of carbohydrates, protein, fat<br>3. Qualitative identification of lipids and cholesterol.<br>4. Qualitative assessment of noise by sound level meter. | 2 |
| | | | SEC-3 [Maternal and Child Nutrition | SEC-3 [Maternal and Child Nutrition] | Prasenjit Chaudhuri | 1. Unit III- Infant and young child care and Malnutrition<br>2. Unit IV- Maternal and Child care policies and programme. | 1 |
| | | | | | Dakshayani Mahapatra | 1. Unit I- Nutrition during Pregnancy<br>2. Unit II- Breastfeeding and Nutrition of infant | 1 |
| VI | January to June | End of June | DSE-1B [Developmental aspects of | DSE-1BT [Developmental aspects of embryo | Prasenjit Chaudhuri | 1. General concepts and Stem cell<br>2. Gametogenesis<br>3. Fertilization in mammals.<br>4. Cleavage | 2 |

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| | | | embryo and foetus] | and foetus] | Dakshayani Mahapatra | 1. Blastula<br>2. Morphogenetic movements<br>3. Gastrulation<br>4. Organogenesis : Development of eye | 2 |
| | | | | DSE-1BP (Practical) | Prasenjit Chaudhuri | Hematoxylin and Eosin staining of testicular, ovarian tissue sections. | 2 |
| | | | | | Dakshayani Mahapatra | 1. Identification of spermatocytes, spermatids, Graafian follicle, Corpus Luteum.<br>2. Demonstration of preserved mammalian embryo. | 2 |

## Session 2022-23

### Physiology General (CBCS pattern )

| Semester | Period of Semester | Time of University Examination | Course Code | Paper | Name of the Faculty | Brief Description of the Topic | Teaching hour per week |
|---|---|---|---|---|---|---|---|
| I | July to December | End of December | CC1 [DSC-1A] | DSC1AT (Theory) | Prasenjit Chaudhuri | 1 Biophysical Principles<br>2 Biochemistry<br>3 Metabolism | 2 |
| | | | | | Dakshayani Mahapatra | 1 Cellular Physiology<br>2 Digestive system | 2 |
| | | | | DSC1AP (Practical) | Prasenjit Chaudhuri | Identification of permanent slides: | 2 |
| | | | | | Dakshayani Mahapatra | Fresh tissue experiments | 2 |
| II | January to June | End of June | CC4 [DSC-1B] | DSC1BT (Theory) | Prasenjit Chaudhuri | 1. Blood and body fluid<br>2. Immune System | 2 |
| | | | | | Dakshayani Mahapatra | 1. Cardiovascular System<br>2. Respiratory System | 2 |
| | | | | DSC1BP (Practical) | Prasenjit Chaudhuri | Haematology | 2 |
| | | | | | Dakshayani Mahapatra | Human Experiment | 2 |

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|---|---|---|---|---|---|---|---|
| III | July to December | End of December | CC3 [DSC1C] | DSC-1CT (Theory) | Prasenjit Chaudhuri | Nervous system | 2 |
| | | | | | Dakshayani Mahapatra | 1. Nerve –Muscle Physiology<br>2. Skin and Body Temperature Regulation | 2 |
| | | | | DSC-1CP (Practical) | Prasenjit Chaudhuri | 1. Staining of Node(s) of Ranvier (AgNO3).<br>2. Staining of skeletal and cardiac muscles by Methylene Blue stain<br>3. Reaction time by stick drop test<br>4. Short term memory test (shape, picture word). | 2 |
| | | | | | Dakshayani Mahapatra | 1. Measurement of grip strength<br>2. Recording of body temperature<br>3. Experiments on superficial (plantar) and deep (knee jerk) reflex<br>4. Two point discrimination test. | 2 |
| IV | January to June | End of June | | DSC-1DT (Theory) | Prasenjit Chaudhuri | Sensory Physiology<br>Endocrine Physiology | 2 |
| | | | | | Dakshayani Mahapatra | Reproductive System<br>Renal Physiology | 2 |
| | | | | DSC-1D (Practical) | Prasenjit Chaudhuri | 1. Silver nitrate preparation of corneal cell space.<br>2. Identification of normal and abnormal constituents of urine.<br>3. Tests for Urinary deposits.<br>4. Estimation of albumin in urine.<br>5. Detection of specific gravity of urine. | 2 |
| | | | | | Dakshayani Mahapatra | 1. Staining and identification of kidney and ureters<br>2. Study of estrous cycle.<br>3. Determination of visual acuity by Snellen’s chart / Landolt’s chart<br>4. Determination of colour blindness by Ishihara chart.<br>5. Exploration of conductive and perceptive deafness by tuning fork method.<br>6. Sperm count and sperm motility in rat. | 2 |

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| | | | SEC2 (Instrumentation Techniques in Biology) | | Prasenjit Chaudhuri | 4. Microscopy<br>5. Staining Method<br>6. Optical Method | 1 |
| | | | | | Dakshayani Mahapatra | 1. Chromatography<br>2. Biotechnology and Immunological techniques | 1 |
| V | July to December | End of December | DSE-1A [Community Nutrition and Public Health] | DSE 1AT (Theory) | Prasenjit Chaudhuri | 1. Socio-ecology of Nutrition<br>2. Epidemiology<br>3. Population problem | 2 |
| | | | | | Dakshayani Mahapatra | 1. Basic concept of Nutrition<br>2. Food guide<br>3. Diet survey<br>4. Malnutrition | 2 |
| | | | | DSE 1AP (Practical) | Prasenjit Chaudhuri | 1. Quantitative estimation of glucose, sucrose by Benedict's method<br>2. Estimation of lactose from milk by Benedict's methods.<br>3. Estimation of amino nitrogen through formol titration methods.<br>4. Field Survey Report | 2 |
| | | | | | Dakshayani Mahapatra | 1. Estimation of Chloride by Mohr's methods.<br>2. Qualitative analysis of pulse, rice, milk to test the presence of carbohydrates, protein, fat<br>3. Qualitative identification of lipids and cholesterol.<br>4. Qualitative assessment of noise by sound level meter. | 2 |
| | | | SEC-3 [Maternal and Child Nutrition | SEC-3 [Maternal and Child Nutrition] | Prasenjit Chaudhuri | 1. Unit III- Infant and young child care and Malnutrition<br>2. Unit IV- Maternal and Child care policies and programme. | 1 |
| | | | | | Dakshayani Mahapatra | 1. Unit I- Nutrition during Pregnancy<br>2. Unit II- Breastfeeding and Nutrition of infant | 1 |
| VI | January to June | End of June | DSE-1B [Developmental aspects of | DSE-1BT [Developmental aspects of embryo | Prasenjit Chaudhuri | 1. General concepts and Stem cell<br>2. Gametogenesis<br>3. Fertilization in mammals.<br>4. Cleavage | 2 |

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|---|---|---|---|---|---|---|---|
| | | | embryo and foetus] | and foetus] | Dakshayani Mahapatra | 5. Blastula<br>6. Morphogenetic movements<br>7. Gastrulation<br>8. Organogenesis : Development of eye | 2 |
| | | | | | Prasenjit Chaudhuri | Hematoxylin and Eosin staining of testicular, ovarian tissue sections. | 2 |
| | | | | | Dakshayani Mahapatra | 1. Identification of spermatocytes, spermatids, Graafian follicle, Corpus Luteum.<br>2. Demonstration of preserved mammalian embryo. | 2 |