

**THE MAHATMA GANDHI UNIVERSITY
UNDERGRADUATE PROGRAMMES (HONOURS)
SYLLABUS**

MGU-UGP (Honours)

(2024 Admission Onwards)



Faculty: Science

Expert Committee: Clinical Nutrition and Dietetics

Subject: Human Physiology

**Mahatma Gandhi University
Priyadarshini Hills
Kottayam – 686560, Kerala, India**

Syllabus Index

Name of the Minor: **Human Physiology**

Semester 1

| Course Code | Title of the Course | Type of the Course DSC, MDC, SEC etc. | Credit | Hours/ week | Hour Distribution /week | | | |
|--------------|----------------------|--|--------|----------------|-------------------------|---|---|---|
| | | | | | L | T | P | O |
| MG1DSCHPY100 | Basics of Physiology | DSC B | 4 | 5 | 3 | 0 | 2 | 0 |

Semester: 2

| Course Code | Title of the Course | Type of the Course DSC, MDC, SEC etc. | Credit | Hours/ week | Hour Distribution /week | | | |
|--------------|------------------------------------|--|--------|----------------|-------------------------|---|---|---|
| | | | | | L | T | P | O |
| MG2DSCHPY100 | Physiology of Human Control System | DSC B | 4 | 5 | 3 | 0 | 2 | 0 |

MGU-UGP (HONOURS)

Syllabus

Semester: 3

| Course Code | Title of the Course | Type of the Course DSC, MDC, SEC etc. | Credit | Hours/ week | Hour Distribution /week | | | |
|--------------|--------------------------|--|--------|----------------|-------------------------|---|---|---|
| | | | | | L | T | P | O |
| MG3DSCHPY200 | Essentials of Physiology | DSC B | 4 | 5 | 3 | 0 | 2 | 0 |

Semester: 4

| Course Code | Title of the Course | Type of the Course DSC, MDC, SEC etc. | Credit | Hours/ week | Hour Distribution /week | | | |
|--------------|--------------------------|--|--------|----------------|-------------------------|---|---|---|
| | | | | | L | T | P | O |
| MG4DSCHPY200 | Essentials of Physiology | DSC C | 4 | 5 | 3 | 0 | 2 | 0 |

Syllabus



Mahatma Gandhi University
Kottayam

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|-------------------------------|--|---------|----------|-----------|--------|-------------|
| Programme | | | | | | |
| Course Name | BASICS OF PHYSIOLOGY | | | | | |
| Type of Course | DSC B | | | | | |
| Course Code | MG1DSCHPY100 | | | | | |
| Course Level | 100-199 | | | | | |
| Course Summary | The Basics of Physiology course is designed to provide students with a fundamental understanding of how the human body functions at the cellular, tissue, organ, and organ system levels, Cytology, Histology and Haematology. | | | | | |
| Semester | 1 | Credits | | | 4 | Total Hours |
| Course Details | Learning Approach | Lecture | Tutorial | Practical | Others | |
| | | 3 | 0 | 1 | 0 | 75 |
| Pre-requisites, if any | Basic knowledge in science | | | | | |

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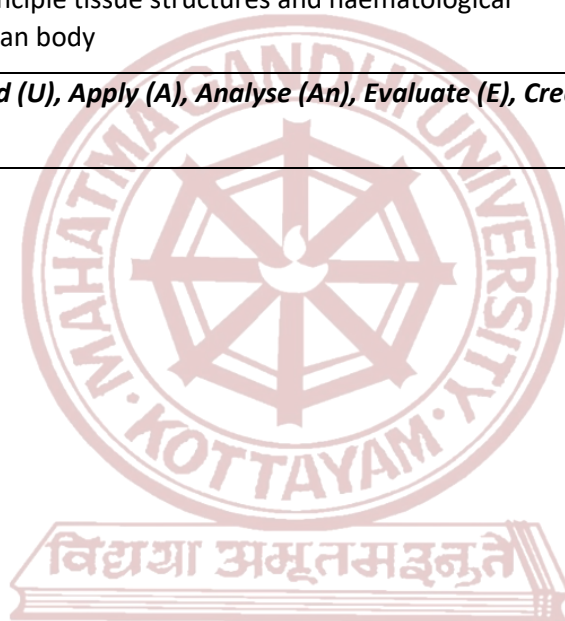
Syllabus

COURSE OUTCOMES (CO)

| CO NO. | Expected Course Outcome | Learning Domains * | PO NO. |
|--------|---|--------------------|--------|
| CO1 | Discuss the organizational levels of human body, cytology and histology | U | 1 |
| CO2 | Differentiate between different body fluids and blood parameters | U | 1 |
| CO3 | Explain the anatomy of the musculo-skeletal system. | U | 1 |
| CO4 | Identify the principle tissue structures and haematological aspects of human body | A | 2, 3 |

**Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)*

COURSE CONTENT



MGU-UGP (HONOURS)

Syllabus

| Module | Unit | Course Description | Hours | CO NO. |
|--------|------|---|-----------|------------|
| 1 | | Organization Levels of Human Body | 15 | CO1 |
| | 1.1 | Levels of organization – cellular level, tissue level, organ and organ system level. Homeostasis- role of various systems of the body in homeostasis, components of homeostatic system, mechanism of action of homeostatic system. | 4 | |
| | 1.2 | Cell – structure and functions, basic mechanism of transport. | 3 | |
| | 1.3 | Types of Cell junction – occluding junction, communicating junction, anchoring junction. Types of Cell signalling – paracrine signalling, autocrine signalling, endocrine signalling, signalling through cell to cell contact. | 4 | |
| | 1.4 | Types of Tissues - classification, structure, location and functions. | 4 | |
| 2 | | Body Fluids | 15 | CO2 |
| | 2.1 | Body fluids -composition, significance and compartments of body fluids, tissue fluids and oedema. | 3 | |
| | 2.2 | Blood - properties, functions and composition of blood, physiological and pathological variations in blood cells, blood clotting PCV, blood indices, blood groups, blood transfusion. | 6 | |
| | 2.3 | Anatomy of the lymphatic system - lymphatic capillaries and vessels, primary and secondary lymphoid organs, functions of lymphatic system. | 4 | |
| | 2.4 | Lymph - composition, functions and formation. | 2 | |
| 3 | | Musculo- Skeletal System | 15 | |
| | 3.1 | Physiology of bone - composition, functions, classification and structure, types of cells in bone and bone tissues. | 4 | |
| | 3.2 | Skeletal system - axial and appendicular skeletal system. Structural classification of joints - Fibrous , cartilaginous and synovial joints. | 4 | |

| | | | | |
|--|-----|--|---|-------------|
| | 3.3 | Muscles - Basic properties of muscles, classification of muscles - depending upon striations, depending upon control, depending upon situation. | 3 | CO 3 |
| | 3.4 | Types of muscles - structure, properties and functions | 4 | |

PRACTICAL

| Module | Unit | Course Description | Hours | CO NO. |
|----------|------|---|-----------|------------|
| | | Histology and haematology | 30 | CO4 |
| | 4.1 | Microscope and its uses | 4 | |
| | 4.2 | Microscopic examination of prepared slides- examine and draw the tissues: Squamous, ciliated and columnar epithelia. Bone and cartilage Smooth, cardiac and striated muscle Nervous tissues | 10 | |
| | 4.3 | Testing of blood groups | 4 | |
| | 4.4 | Determination of bleeding time | 2 | |
| | 4.5 | Determination of clotting time | 2 | |
| | 4.6 | Determination of Blood pressure | 2 | |
| | 4.7 | Determination of pulse rate (at rest and after exercise) | 4 | |
| | 4.8 | Measurement of body temperature | 2 | |
| 4 | | | | |
| 5 | | Teachers specific content | | |

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|--|--|
| <p>Teaching and Learning Approach</p> | <p>Classroom Procedure (Mode of transaction)</p> <p>Direct Instructions:</p> <ul style="list-style-type: none"> ● Lecture ● E-learning <p>Interactive Instructions:</p> <ul style="list-style-type: none"> ● Group Assignment ● Library Work and Group Discussion ● Practical |
| <p>Assessment Types</p> | <p>MODE OF ASSESSMENT</p> <p>A. Continuous Comprehensive Assessment (CCA)</p> <p>Theory-25 Marks</p> <ul style="list-style-type: none"> ● Internal Test ● Assignment/ Oral presentation ● Quiz ● In- class discussion and involvement <p>Practical-15 Marks</p> <ul style="list-style-type: none"> ● Internal Test ● Record ● Lab involvement |
| | <p>B. End Semester Examination</p> <p>Theory -50 Marks</p> <ul style="list-style-type: none"> ● Section A - MCQ - 6/6 (6x1=6 marks) ● Section B - Short Answer - 2/4 (2x2=4 marks) ● Section C - Short Essay - 4/6 (4x5=20 marks) ● Section D – Essay – 2/4 (2x10=20 marks) <p>Practical -35 Marks</p> <ul style="list-style-type: none"> ● Lab test – 20 marks ● Record – 5 marks ● Viva – 10 marks |

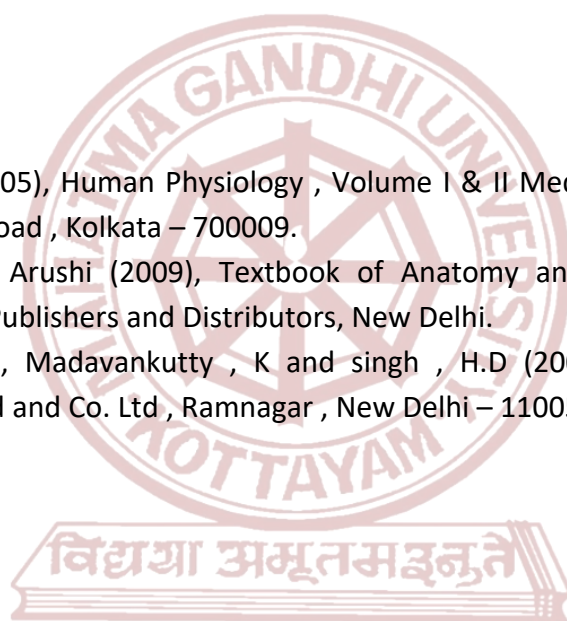
REFERENCES

1. Chandra Sekar C.N, (2007), Manipal Manual of Physiology, 1st Edition, CBS publishers and Distributors, New Delhi.

2. Gyton and Hall (2000), Textbook of Medical Physiology, 10th edition, Harcourt Asia LTD Singapore.
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SUGGESTED READINGS

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2. Indu Khurana and Arushi (2009), Textbook of Anatomy and Physiology for Health Professionals, CBS Publishers and Distributors, New Delhi.
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Syllabus



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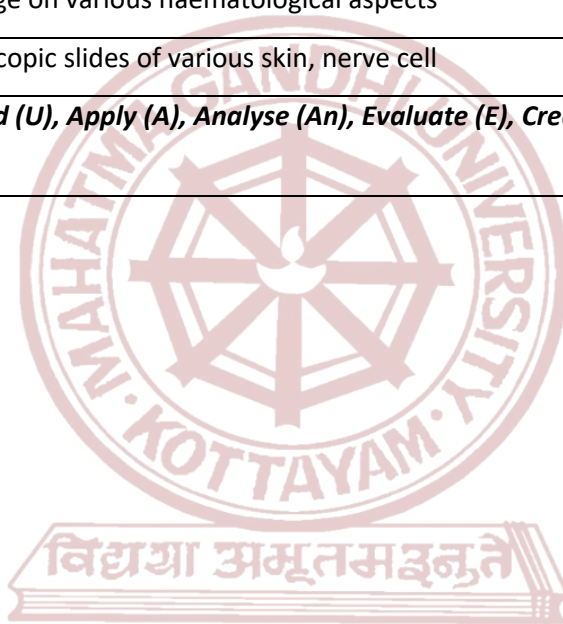
| | | | | | | |
|-------------------------------|--|---------|----------|-----------|--------|-------------|
| Programme | | | | | | |
| Course Name | PHYSIOLOGY OF HUMAN CONTROL SYSTEM | | | | | |
| Type of Course | DSC B | | | | | |
| Course Code | MG2DSCHPY100 | | | | | |
| Course Level | 100-199 | | | | | |
| Course Summary | The course is designed to provide students an overview of various sensory organs and their functions, endocrine glands and their secretions, control and coordination of human body by nervous system. | | | | | |
| Semester | 2 | Credits | | | 4 | Total Hours |
| Course Details | Learning Approach | Lecture | Tutorial | Practical | Others | |
| | | 3 | 0 | 1 | 0 | 75 |
| Pre-requisites, if any | Basic knowledge in science | | | | | |

Syllabus

COURSE OUTCOMES (CO)

| CO NO. | Expected Course Outcome | Learning Domains * | PO NO. |
|--------|---|--------------------|--------|
| CO1 | Identify the structure and function of various sense organs and common disorders related to sense organs | U | 1 |
| CO2 | Discuss the structure and function of the human nervous system, role of neurons, neurotransmitters and electrical impulses in the nervous system. | U | 1 |
| CO3 | Describe the major endocrine glands and their functions in regulating body functions. | U | 1 |
| CO4 | Apply knowledge on various haematological aspects | A | 2 |
| CO5 | Identify microscopic slides of various skin, nerve cell | A | 2 |

***Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)**



MGU-UGP (HONOURS)

Syllabus

COURSE CONTENT

| Module | Unit | Course Description | Hours | CO NO. |
|--------|------|---|-----------|------------|
| 1 | | Special Senses | 15 | CO1 |
| | 1.1 | Sensation of vision - structure of eye, visual process, disorders of vision. | 3 | |
| | 1.2 | Sensation of olfaction - structure of nose, mechanism of olfaction, abnormalities of olfactory senses. | 3 | |
| | 1.3 | Sensation of hearing - structure of ear, mechanism of hearing, auditory defects. | 3 | |
| | 1.4 | Sensation of taste - structure of tongue, taste buds, pathway for taste, taste sensation, abnormalities of taste sensation. | 3 | |
| | 1.5 | Skin - structure, functions of skin, temperature regulation, disorders of skin. | 3 | |
| 2 | | Nervous System | 15 | CO2 |
| | 2.1 | Divisions of nervous system - CNS, PNS, functions of nervous system. | 8 | |
| | 2.2 | Structure of neuron, classification of nerve fibres, synapse, neurotransmitters. | 4 | |
| | 2.3 | Transmission of impulses, reflex activity. | 3 | |
| 3 | | Endocrine System | 15 | CO3 |
| | 3.1 | Endocrine glands - secretions and functions of hypothalamus, pituitary and pineal gland. | 6 | |
| | 3.2 | Secretions and functions of thyroid and parathyroid gland. | 3 | |
| | 3.3 | Secretions and functions of adrenal gland and pancreas. | 3 | |
| | 3.4 | Secretions and functions of ovary and testes | 3 | |

PRACTICAL

| Module | Unit | Course Description | Hours | CO NO. |
|--------|------|---|-----------|---------------------|
| 4 | | Haematology and Microscopic Examination of Slides | 30 | CO4, CO5 |
| | 4.1 | Preparation of blood smear | 6 | |
| | | Estimation of Haemoglobin | 4 | |
| | 4.2 | Haematocrit (PCV) | 4 | |
| | 4.3 | Mean Corpuscular Volume (MCV), Mean Corpuscular Haemoglobin (MCH), Mean Corpuscular Haemoglobin Concentration (MCHC), Colour Index (CI) | 4 | |
| | 4.4 | Microscopic examination of prepared slides- examines and draw- Skin | 2 | |
| | 4.5 | Identify and draw using models - parts of eye, ear, brain | 6 | |
| | 4.6 | Examine the different types of tastes | 4 | |
| 5 | | Teacher specific content | | |



MGU-UGP (HONOURS)

Syllabus

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| <p>Teaching and Learning Approach</p> | <p>Classroom Procedure (Mode of transaction)</p> <p>Direct Instructions:</p> <ul style="list-style-type: none"> ● Lecture ● E-learning <p>Interactive Instructions:</p> <ul style="list-style-type: none"> ● Group Assignment ● Library Work and Group Discussion ● Practical |
| <p>Assessment Types</p> | <p>MODE OF ASSESSMENT</p> <p>A. Continuous Comprehensive Assessment (CCA)</p> <p>Theory-25 Marks</p> <ul style="list-style-type: none"> ● Internal Test ● Assignment/ Oral presentation ● Quiz ● In- class discussion and involvement <p>Practical-15 Marks</p> <ul style="list-style-type: none"> ● Internal Test ● Record ● Lab involvement |
| | <p>B. End Semester Examination</p> <p>Theory -50 Marks</p> <ul style="list-style-type: none"> ● Section A - MCQ - 6/6 (6x1=6 marks) ● Section B - Short Answer - 2/4 (2x2=4 marks) ● Section C - Short Essay - 4/6 (4x5=20 marks) ● Section D – Essay – 2/4 (2x10=20 marks) <p>Practical -35 Marks</p> <ul style="list-style-type: none"> ● Lab test - 20 marks ● Record – 5 marks ● Viva – 10 marks |

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MGU-UGP (HONOURS)

Syllabus



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|-------------------------------|--|---------|----------|-----------|--------|-------------|
| Programme | | | | | | |
| Course Name | ESSENTIALS OF PHYSIOLOGY | | | | | |
| Type of Course | DSC B | | | | | |
| Course Code | MG3DSCHPY200 | | | | | |
| Course Level | 200-299 | | | | | |
| Course Summary | The essentials of human anatomy and physiology course provides a comprehensive explanation of the structure and function of the human body | | | | | |
| Semester | 4 | Credits | | | 4 | Total Hours |
| Course Details | Learning Approach | Lecture | Tutorial | Practical | Others | |
| | | 3 | 0 | 1 | 0 | 75 |
| Pre-requisites, if any | Basic knowledge in science | | | | | |

MGU-UGP (HONOURS)

Syllabus

COURSE OUTCOMES (CO)

| CO NO | Expected Course Outcome | Learning Domains * | PO NO |
|--|--|--------------------|-------|
| CO1 | Identify the anatomy of the respiratory system, the mechanism of breathing, exchange and transport of gases. | U | 1 |
| CO2 | Explain the anatomy and physiology of the cardiovascular system. | U | 1 |
| CO3 | Discuss the anatomy and function of the digestive and excretory system, processes of digestion, absorption, and elimination. mechanism of urine formation. | U | 1 |
| CO4 | Discuss the basic principles of immunology and evaluate the impact of vaccination on public health and disease prevention. | An | 1 |
| CO5 | Examine the haematological aspects of the human body. | A | 2 |
| CO6 | Distinguish between the normal and abnormal constituents of urine. | An | 2 |
| *Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap) | | | |

COURSE CONTENT



MGU-UGP (HONOURS)

Syllabus

| Module | Unit | Course Description | Hours | CO NO. |
|--------|------|---|-----------|---------------------|
| 1 | | Respiratory and Cardiovascular System | 20 | CO1, CO2 |
| | 1.1 | Anatomy of respiratory system- upper respiratory tract and lower respiratory tract, primary respiratory functions and non-respiratory functions of respiratory system. | 2 | |
| | 1.2 | Mechanism and regulation of respiration- inspiration and expiration, respiratory pressures, respiratory volumes and lung capacities, artificial respiration, regulation of respiration- nervous regulation and chemical regulation (brief) | 4 | |
| | 1.3 | Exchange and transport of gases- external respiration and internal respiration, transport of oxygen and carbon dioxide | 4 | |
| | 1.4 | Cardiovascular system- anatomy of heart, blood vessels: arteries, capillaries and veins | 4 | |
| | 1.5 | Divisions of circulation- systemic and pulmonary circulation, conductive system of heart | 2 | |
| | 1.6 | Cardiac rhythm- Cardiac cycle, normal ECG, heart sounds, blood pressure | 4 | |
| 2 | | Digestive and Excretory System | 15 | CO3 |
| | 2.1 | Anatomy of digestive system- primary and accessory digestive organs, walls of GI tract, movement of GI tract | 3 | |
| | 2.2 | Digestion and absorption- GI hormones, digestion and absorption | 4 | |
| | 2.3 | Anatomy and functions of excretory system- structure and functions of kidney and nephron | 3 | |
| | 2.4 | Mechanism of urine formation- Mechanism of urine formation, GFR, factors affecting GFR and urine formation, composition of normal urine, abnormal constituents of urine, micturition, counter current mechanism. | 5 | |
| | | Immune System | 10 | CO 4 |
| | 3.1 | Immunity- definition and types of immunity- innate immunity and acquired immunity. | 3 | |
| | 3.2 | Specific immune responses- antibody mediated immunity (humoral) and cell mediated immunity. Cells of immune system- B and T lymphocytes, antigen presenting cells, mast cells. | 4 | |

| | | | | |
|----------|-----|---|---|--|
| 3 | 3.3 | Antigen - Structure and functional classification. Antibodies - structure, functions and classes of antibodies. Hypersensitivity - Classification of hypersensitivity (Allergy). Immunization - passive and active immunization. | 3 | |
|----------|-----|---|---|--|

PRACTICAL

| Module | Unit | Course Description | Hours | CO NO. |
|----------|------|---|-----------|--------------------------|
| 4 | | Analysis of urine and blood sample | 30 | CO5 CO6 |
| | 4.1 | Enumeration of RBC | 4 | |
| | 4.2 | Enumeration of WBC | 4 | |
| | 4.3 | Determination of ESR | 2 | |
| | 4.4 | Analysis of saliva- amylase, mucin, calcium, inorganic phosphate | 4 | |
| | 4.5 | Physical characteristics in pathological conditions- volume, appearance, colour, odour. | 2 | |
| | 4.6 | Test for abnormal constituents in urine- blood, protein, reducing sugar, bile salts, and bile pigments. | 8 | |
| | 4.7 | Model identification and diagrammatic representation Section of human heart Section of human kidney Histology of artery and vein | 6 | |
| 5 | | Teacher specific content | | |

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| <p>Teaching and Learning Approach</p> | <p>Classroom Procedure (Mode of transaction)</p> <p>Direct Instructions:</p> <ul style="list-style-type: none"> ● Lecture ● E-learning <p>Interactive Instructions:</p> <ul style="list-style-type: none"> ● Group Assignment ● Library Work and Group Discussion ● Practical |
| <p>Assessment Types</p> | <p>MODE OF ASSESSMENT</p> <p>A. Continuous Comprehensive Assessment (CCA)</p> <p>Theory-25 Marks</p> <ul style="list-style-type: none"> ● Internal Test ● Assignment/ Oral presentation ● Quiz ● In- class discussion and involvement <p>Practical-15 Marks</p> <ul style="list-style-type: none"> ● Internal Test ● Record ● Lab involvement |
| | <p>B. End Semester Examination</p> <p>Theory -50 Marks</p> <ul style="list-style-type: none"> ● Section A - MCQ - 6/6 (6x1=6 marks) ● Section B - Short Answer - 2/4 (2x2=4 marks) ● Section C - Short Essay - 4/6 (4x5=20 marks) ● Section D – Essay – 2/4 (2x10=20 marks) <p>Practical -35 Marks</p> <ul style="list-style-type: none"> ● Lab test – 20 marks ● Record – 5 marks ● Viva – 10 marks |

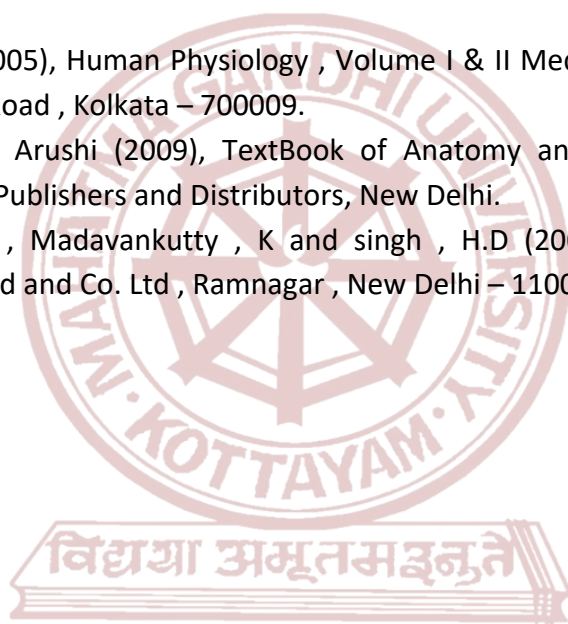
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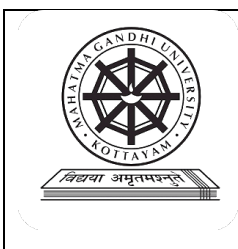
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MGU-UGP (HONOURS)

Syllabus



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Kottayam

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|-------------------------------|--|---------|----------|-----------|--------|-------------|
| Programme | | | | | | |
| Course Name | ESSENTIALS OF PHYSIOLOGY | | | | | |
| Type of Course | DSC C | | | | | |
| Course Code | MG4DSCHPY200 | | | | | |
| Course Level | 200-299 | | | | | |
| Course Summary | The essentials of human anatomy and physiology course provides a comprehensive explanation of the structure and function of the human body | | | | | |
| Semester | 4 | Credits | | | 4 | Total Hours |
| Course Details | Learning Approach | Lecture | Tutorial | Practical | Others | |
| | | 3 | 0 | 1 | 0 | 75 |
| Pre-requisites, if any | Basic knowledge in science | | | | | |

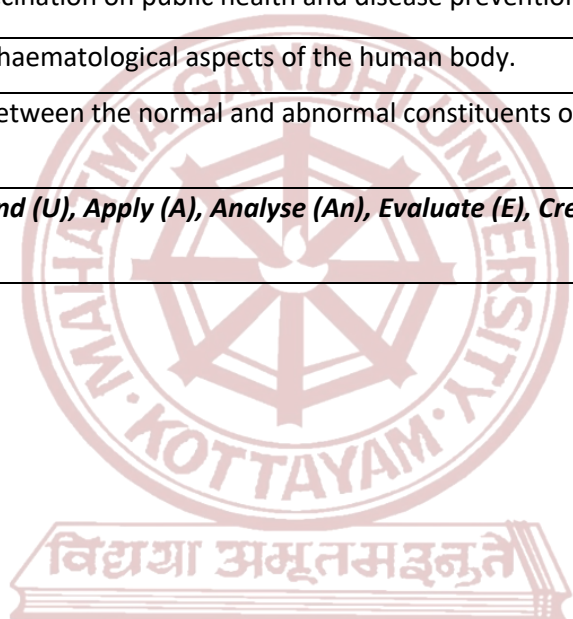
COURSE OUTCOMES (CO)

MGU-UGP (HONOURS)

Syllabus

| CO NO | Expected Course Outcome | Learning Domains * | PO NO |
|---|---|--------------------|-------|
| CO1 | Identify the anatomy of the respiratory system, the mechanism of breathing, exchange and transport of gases. | U | 1 |
| CO2 | Explain the anatomy and physiology of the cardiovascular system. | U | 1 |
| CO3 | Discuss the anatomy and function of the digestive and excretory system , processes of digestion, absorption, and elimination. mechanism of urine formation. | U | 1 |
| CO4 | Discuss the basic principles of immunology and evaluate the impact of vaccination on public health and disease prevention. | An | 1 |
| CO5 | Examine the haematological aspects of the human body. | A | 2 |
| CO6 | Distinguish between the normal and abnormal constituents of urine. | An | 2 |
| *Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap) | | | |

COURSE CONTENT



MGU-UGP (HONOURS)

Syllabus

| Module | Unit | Course Description | Hours | CO NO. |
|--------|------|---|-----------|-------------|
| 1 | | Respiratory and Cardiovascular System | 20 | CO1, CO2 |
| | 1.1 | Anatomy of respiratory system- upper respiratory tract and lower respiratory tract, primary respiratory functions and non-respiratory functions of respiratory system. | 2 | |
| | 1.2 | Mechanism and regulation of respiration- inspiration and expiration, respiratory pressures, respiratory volumes and lung capacities, artificial respiration, regulation of respiration- nervous regulation and chemical regulation (brief) | 4 | |
| | 1.3 | Exchange and transport of gases- external respiration and internal respiration, transport of oxygen and carbon dioxide | 4 | |
| | 1.4 | Cardiovascular system- anatomy of heart, blood vessels: arteries, capillaries and veins | 4 | |
| | 1.5 | Divisions of circulation- systemic and pulmonary circulation, conductive system of heart | 2 | |
| | 1.6 | Cardiac rhythm- Cardiac cycle, normal ECG, heart sounds, blood pressure | 4 | |
| 2 | | Digestive and Excretory System | 15 | CO3 |
| | 2.1 | Anatomy of digestive system- primary and accessory digestive organs, walls of GI tract, movement of GI tract | 3 | |
| | 2.2 | Digestion and absorption- GI hormones, digestion and absorption | 4 | |
| | 2.3 | Anatomy and functions of excretory system- structure and functions of kidney and nephron | 3 | |
| | 2.4 | Mechanism of urine formation- Mechanism of urine formation, GFR, factors affecting GFR and urine formation, composition of normal urine, abnormal constituents of urine, micturition, counter current mechanism. | 5 | |
| | | Immune System | 10 | CO 4 |
| | 3.1 | Immunity- definition and types of immunity- innate immunity and acquired immunity. | 3 | |
| | 3.2 | Specific immune responses- antibody mediated immunity (humoral) and cell mediated immunity. Cells of immune system- B and T lymphocytes, antigen presenting cells, mast cells. | 4 | |

| | | | | |
|----------|-----|---|---|--|
| 3 | 3.3 | Antigen - Structure and functional classification. Antibodies - structure, functions and classes of antibodies. Classification of hypersensitivity (Allergy). Immunization - passive and active immunization. | 3 | |
|----------|-----|---|---|--|

PRACTICAL

| Module | Unit | Course Description | Hours | CO NO. |
|----------|------|---|-----------|---------------------------|
| 4 | | Analysis of urine and blood sample | 30 | CO5 CO 6 |
| | 4.1 | Enumeration of RBC | 4 | |
| | 4.2 | Enumeration of WBC | 4 | |
| | 4.3 | Determination of ESR | 2 | |
| | 4.4 | Analysis of saliva- amylase, mucin, calcium, inorganic phosphate | 4 | |
| | 4.5 | Physical characteristics in pathological conditions- volume, appearance, colour, odour. | 2 | |
| | 4.6 | Test for abnormal constituents in urine- blood, protein, reducing sugar, bile salts, and bile pigments. | 8 | |
| | 4.7 | Model identification and diagrammatic representation Section of human heart Section of human kidney Histology of artery and vein | 6 | |
| 5 | | Teacher specific content | | |

| | |
|---------------------------------------|--|
| Teaching and Learning Approach | Classroom Procedure (Mode of transaction) Direct Instructions: <ul style="list-style-type: none"> ● Lecture ● E-learning Interactive Instructions: <ul style="list-style-type: none"> ● Group Assignment ● Library Work and Group Discussion ● Practical |
| Assessment Types | MODE OF ASSESSMENT A. Continuous Comprehensive Assessment (CCA) Theory-25 Marks <ul style="list-style-type: none"> ● Internal Test ● Assignment/ Oral presentation ● Quiz ● In- class discussion and involvement Practical-15 Marks <ul style="list-style-type: none"> ● Internal Test ● Record ● Lab involvement |
| | B. End Semester Examination Theory -50 Marks <ul style="list-style-type: none"> ● Section A - MCQ - 6/6 (6x1=6 marks) ● Section B - Short Answer - 2/4 (2x2=4 marks) ● Section C - Short Essay - 4/6 (4x5=20 marks) ● Section D – Essay – 2/4 (2x10=20 marks) Practical -35 Marks <ul style="list-style-type: none"> ● Lab test - 20 marks ● Record – 5 marks ● Viva – 10 marks |

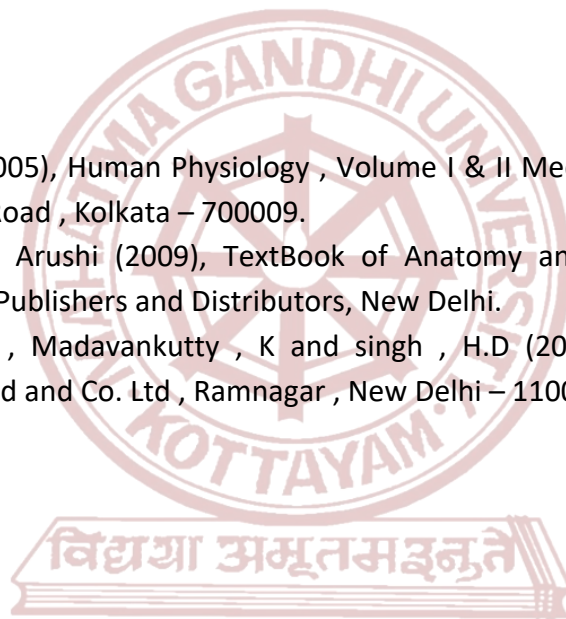
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5. Sembulingam, K. and Sembulingam, P. (2012) Essential of Medical Physiology. 6th Edition, New Jaypee Brothers Medical Publishers, Delhi, India.
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SUGGESTED READINGS

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MGU-UGP (HONOURS)

Syllabus