

**SHRI SHANKARACHARYA TECHNICAL CAMPUS  
SHRI SHANKARACHARYA GROUP OF INSTITUTION**

**Faculty of Pharmaceutical Sciences**

(An Autonomous Institution)

**SCHEME OF TEACHING AND EXAMINATION (Effective from 2020 – 2021 Batch)**

**Courses of Study and Scheme of Examination of Pharmacy**

**Diploma in Pharmacy (First Year)**

Sl. No.	Board of Study	Subject Code	Subject	Periods Per Week			Scheme of Examination				Total Marks
				L	T	P	Theory		Practical		
							EYE	SESSIONAL	EYE	SESSIONAL	
1	Pharmacy	PH408101	Pharmaceutics-I	3	-	-	80	20	-	-	100
2	Pharmacy	PH408102	Pharmaceutical Chemistry-I	3	-	-	80	20	-	-	100
3	Pharmacy	PH408103	Pharmacognosy	3	-	-	80	20	-	-	100
4	Pharmacy	PH408104	Biochemistry & Clinical Pathology	2	-	-	80	20	-	-	100
5	Pharmacy	PH408105	Human Anatomy & Physiology	3	-	-	80	20	-	-	100
6	Pharmacy	PH408106	Health Education & Community Pharmacy	2	-	-	80	20	-	-	100
7	Pharmacy	PH408191	Pharmaceutics-I Lab	-	-	4	-	-	80	20	100
8	Pharmacy	PH408192	Pharmaceutical Chemistry-I Lab	-	-	3	-	-	80	20	100
9	Pharmacy	PH408193	Pharmacognosy Lab	-	-	3	-	-	80	20	100
10	Pharmacy	PH408194	Biochemistry & clinical Pathology Lab	-	-	3	-	-	80	20	100
11	Pharmacy	PH408195	Human Anatomy & Physiology Lab	-	-	2	-	-	80	20	100
<b>Total</b>				<b>16</b>	<b>-</b>	<b>15</b>	<b>480</b>	<b>120</b>	<b>400</b>	<b>100</b>	<b>1100</b>

L-Lecture  
CT- Class Test

T- Tutorial  
TA- Teachers Assessment

P-Practical  
ESE- End Semester Exam



# Shri Shankaracharya Technical Campus

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### Faculty of Pharmaceutical Sciences

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### SCHEME OF EXAMINATION AND SYLLABUS (Effective from 2020-2021 Batch)

#### Diploma in Pharmacy- First Year

<b>Subject Code</b> 241111(41)	<b>PHARMACEUTICS-I</b>	<b>L=3</b>	<b>T =</b>	<b>P =</b>	<b>Credits=</b>
<b>Evaluation Scheme</b>	EYE	<b>CT</b>	<b>TA</b>	<b>Total</b>	<b>ESE Duration</b>
	80	<b>20</b>	<b>00</b>	<b>100</b>	<b>3 Hours</b>

Course Objectives	Course Outcomes
<p>Upon completion of this course the student should be able to:</p> <p>Know the history of profession of pharmacy</p> <ul style="list-style-type: none"> <li>Understand the basics of different dosage forms, pharmaceutical incompatibilities and pharmaceutical calculations</li> <li>Understand the professional way of handling the prescription</li> </ul> <p>Preparation and evaluation of various conventional dosage forms</p>	<p><b>On successful completion of the course, the student will be able to:</b></p> <p><b>CO1:-List</b> the major milestones in the history of profession of pharmacy and their relation with dosage forms.</p> <p><b>CO2:-Memories</b> after understanding the basics of different dosage forms, pharmaceutical incompatibilities and pharmaceutical calculations</p> <p><b>CO3:-Defining</b> and handling the prescription with different dosage forms.</p> <p><b>CO4:-Duplicating</b> various conventional dosage forms in practical sessions.</p>

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#### **Diploma in Pharmacy- First Year**

#### **Course Contents –**

1. Introduction of different dosage forms. Their classification with examples-their relative Applications. Familiarization with new drug delivery systems.
2. Introduction to Pharmacopoeias with new drug delivery systems.
3. Metrology-Systems of weights and measures. Calculations including conversion from one to another system, Percentage calculations and adjustment of products. Use of allegation method in calculations. Isotonic solutions.
4. Packaging of pharmaceuticals-Desirable features of a container-type of containers. Study of glass and plastics as materials for containers and rubber as a material for closures their merits and demerits. Introduction to aerosol packaging.
5. Size reduction- Objective, and factors affecting size reduction, methods of size reduction-Study of hammer mill, ball mill, Fluid energy Mill and Disintegrator.
6. Size separation-Size separation by sifting. Official standards for powders. Sedimentation Methods of size separation. Construction and working of Cyclone separator.
7. Mixing and Homogenization- Liquid mixing and power mixing, Mixing of semisolids. Study of silvers on Mixer-Homogeniser, Planetary Mixer Agitated Powder mixer, Triple roller Mill, Propeller Mixer, Colloid mill and hand Homoeniser. Double cone mixer.
8. Clarification and Filtration-Theory of filtration, Filter media: Filter aids and selection of filters. Study of the following.
9. Extraction and Galenicals (a) Study of percolation and maceration and their modifications, continuous hot retraction-
10. Heat Processes:- Evaporation, Definition, factor's affecting evaporation – Study of evaporating Still and evaporating Pan.

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11. Distillation:- Simple Distillation and fractional distillation, Steam distillation and vacuum distillation  
Study vacuum Still, Preparation of Purified water I.P. and water for Injection I.P. Construction and working of The Still used for the same.
12. Introduction to drying processes – Study of Tray Dryers: Fluidized Bed Dryer, Vacuum Dryer and Freeze Dryer.
13. Sterilization – Concept of sterilization and its differences from disinfections – Thermal resistance of microorganisms. Detailed study of the following sterilization processes.
  - a. Sterilization with moist heat,
  - b. Dry heat sterilization,
  - c. Sterilization by radiation,
  - d. Sterilization filtration and
  - e. Gaseous sterilizationAseptic techniques – Application of sterilization processes in hospitals particularly with reference to surgical dressings and intravenous fluids. Precautions for safe and effective handling of sterilization equipment.
14. Processing of Tablets- Definition, Different types of compressed tablets and their properties. Process involved in the production of tablets: Tablets excipients; Defects in tablets; Evaluation Tablets; Physical standards including Disintegration and dissolution. Tablet coating-Sugar Coating, film coating, enteric coating and micro encapsulation (Tablet coating may be dealt in an elementary manner)
15. Processing of Capsules-Hard and soft gelatin capsules different sizes of capsules; filling of capsules; handling and storage of capsules. Special applications of capsules.
16. Study of immunological products like sera, vaccines, toxoids and their preparations.

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#### Diploma in Pharmacy- First Year

Subject Code 241121(41)	PHARMACEUTICS-I (LAB)	L=	T =	P = 4	Credits=
Evaluation Scheme	EYE	CT	TA	Total	ESE Duration
	80	20	00	00	3 Hours

#### List of Practical

Preparation (minimum number stated against each) of the following categories illustrating different techniques involved.

1.	Aromatic waters	3
2.	Solutions	4
3.	Spirits	2
4.	Tinctures	4
5.	Extracts	2
6.	Creams	2
7.	Cosmetic Preparations	3
8.	Capsules	2
9.	Tablets	2
10.	Preparations involving sterilization	2
11.	Ophthalmic preparations	2
12.	Preparations involving aseptic techniques	2

#### TextBooks:

S. No.	Title	Authors	Edition	Publisher
1	Pharmaceutics-I	R M Metha	6 <sup>th</sup> edition	Vallabh Prakashan
2	A Text book of Professional Pharmacy	N. K. Jain	5 <sup>th</sup> edition	Vallabh Prakashan
3	Practical Pharmaceutics	R.S. Gaud and G.D. Gupta	1 <sup>st</sup> edition	CBS Publishers

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**Diploma in Pharmacy- First Year**

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## Reference Books:

S. No.	Title	Authors	Edition	Publisher
1	The Science and practice of pharmacy	Remington's	21 <sup>st</sup> edition	B.I. Publications
2	Industrial Pharmacy	Leon Lachmen	21 <sup>st</sup> edition	CBS publishers

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#### Diploma in Pharmacy- First Year

Subject Code PH408102	PHARMACEUTICAL CHEMISTRY-I	L = 3	T =	P = 0	Credits =
Evaluation Scheme	EYE	CT	TA	Total	ESE Duration
	80	20	00	100	3 Hrs

COURSE OBJECTIVES	COURSE OUTCOMES
This subject deal with the monographs of inorganic drugs and pharmaceuticals.	<p><b>CO 1</b> - Well acquainted with the principles of limit tests.</p> <p><b>CO 2</b> - Familiar with different classes of inorganic pharmaceuticals and their analysis</p> <p><b>CO 3</b> - Identification of different anions, cations and different inorganic pharmaceuticals.</p> <p><b>CO 4</b> - Knowledge about the sources of impurities and methods to determine the impurities in inorganic drugs and pharmaceuticals</p>

#### Course Contents –

1. General discussion on the following inorganic compounds including important physical & chemical properties: medicinal & Pharmaceutical uses, storage conditions & chemical incompatibility.
  - (A) Acids, bases & buffers-Boric acid\*, Hydrochloric acid, storage ammonium hydroxide, Calcium hydroxide, Sodium hydroxide & official buffers.
  - (B) Antioxidants-Hypo phosphorous acid, Sulphur dioxide, Sodium bisulphate, Sodium meta-bisulphate, Sodium thiosulphate, Nitrogen & Sodium Nitrite.
  - (C) Gastrointestinal agents-
    - i. Acidifying agents-Dilute hydrochloric acid
    - ii. Antacids-Sodium bicarbonate, Aluminium hydroxide gel, Aluminium Phosphate, Calcium carbonate, Magnesium carbonate, Magnesium trisilicate, Magnesium oxide, combinations of antacid preparations.
    - iii. Protectives and Adsorbents-Bismuth sub-carbonate and Kaolin.
    - iv. Saline cathartics-Sodium Potassium tartrate and Magnesium sulphate.
  - (D) Topical Agents-
  - (E) Dental Products-Sodium fluoride, stannous fluoride, Calcium carbonate, Sodium Meta phosphate, Dicalcium phosphate, Strontium chloride, Zinc chloride.
  - (F) Inhalants-Oxygen, Carbon dioxide, Nitrous oxide.
  - (G) Respiratory stimulants-Ammonium chloride.
  - (H) Expectorants & Emetics-Ammonium chloride\*, Potassium iodide, Antimony Potassium tartrate.
  - (I) Antidotes-Sodium nitrite.

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2. Major Intra & Extra cellularelectrolytes
  - (A). Electrolytes used for replacement therapy-Sodium Chloride & its preparations, Potassium chloride & itspreparations
  - (B). Physiological acid-base balance &electrolytes used-Sodium acetate, Potassiumacetate, Sodium bicarbonate injection, Sodium citrate, Potassium citrate, Sodium lactate injections, Ammnum chloride and itsinjection.
  - (C). Combination of oral electrolyte powders &solutions.
3. Inorganic Official compounds of Iron, Iodine, & Calcium Ferrous Sulphate &Calciumgluconate.
4. Radio pharmaceuticals & Contrast media-Radio activity-Alpha, Beta & Gamma Radiations, Biological effects of radiations, Measurement of radioactivity G.M. Counter-Radio isotopes-their uses, storage & precautions with special reference to the official preparations Radio opaque Contrast Media-Bariumsulphats.
5. Quality control of Drugs &Pharmaceuticals-Importance of quality control, significant errors, methods used for quality control, sources of impurities in Pharmaceuticals. Limit tests for Arsenic chloride, sulphate, iron &Heavymetals.
6. Identification tests for cations& anions as per IndianPharmacopoeia.

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#### Diploma in Pharmacy- First Year

Subject Code PH408192	PHARMACEUTICAL CHEMISTRY-I (LAB)	L=	T = 0	P = 3	Credits=
Evaluation Scheme	ESE	CT	TA	Total	ESE Duration
	80	20	00	100	3 Hours

#### List of Practical

1. Identification tests for inorganic compounds particularly drugs & pharmaceuticals.
2. Limit test for chloride, sulphate, Arsenic, Iron & Heavy metals.
3. Assay of inorganic Pharmaceuticals involving each of the following methods of compounds marked with (\*) under theory.
  - a. Acid-base titrations (at least 3)
  - b. Redox titrations (One each of Permanganometry and iodometry).
  - c. Precipitation titration (at least 2)
  - d. Complexometric titrations (Calcium and Magnesium).

#### Text Books:

S. No.	Title	Authors	Edition	Publisher
1	Organic chemistry	I.L Finar	Sixth	Pearson

#### Reference Books:

S. No.	Title	Authors	Edition	Publisher
1	Organic chemistry	Morrison & Boyd	sixth	Pearson
2	Text book of organic chemistry	B.S Bahl & Arun Bahl	22nd	S.Chand

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#### Diploma in Pharmacy- First Year

<b>Subject Code</b> PH408103	<b>PHARMACOGNOSY</b>	<b>L= 3</b>	<b>T=</b>	<b>P=</b>	<b>Credits=</b>
<b>Evaluation Scheme</b>	<b>ESE</b>	<b>CT</b>	<b>TA</b>	<b>Total</b>	<b>ESE Duration</b>
	<b>80</b>	<b>20</b>	<b>00</b>	<b>100</b>	<b>3 Hours</b>

<b>Course Objective</b>	<b>Course Outcomes</b>
This subject deal with the study of natural occurring crud drugs and their application in pharmaceuticals industry.	<p>CO 1 - Explain the term pharmacognosy, its development, linkages to other branches of sciences,&amp; significance of study of natural products.</p> <p>CO 2 - Summarize the importance of “Plant tissue culture”in conservation of endangered species, improvement of crop and enhancement of secondary metabolites.</p> <p>CO 3 – Classify and articulate alternative medicine system &amp; natural products with examples of alkaloids, glycosids, etc.</p> <p>CO 4 - Identify the natural fibers &amp; primary metabolites including occurrence, chemistry, properties and estimation with various examples.</p>

#### Course Contents –

1. Definition, history & scope of Pharmacognosy including indigenous system of medicine.
2. Various systems of classification of drugs of naturalorigin.
3. Adulteration & drug evaluation; significance of Pharmacopoeialstandards.
4. Brief outline of occurrence, distribution outline of isolation, identification tests, therapeutic effects & pharmaceutical applications of alkaloids, terpenoids, glycosides, volatile oils, tannins &resins.
5. Occurrence, distribution, Organoleptic evaluation, chemical constituents including tests wherever applicable & therapeutic efficacy of following categories of drugs:
  - a. Laxatives: Aloes, Rhuburb, Castor oil Ispaghula,Senna.
  - b. Cardio tonics-Digitalis,Arjuna.
  - c. Carminatives & G.I. regulators-Umbelliferous fruits. Coriander, Fennel Ajowan, Cardamom. Ginger, Black pepperAsafoetida, Nutmeg, Cinnamon,Clove.
  - d. Astringents-Catechu.
  - e. Drugs acting on nervous system- Hyoscyamus, Belladonna, Aconite, Ashwagandha, Ephedra, opium, Cannabis, Nuxvomia.
  - f. Antihypertensive- Rauwolfia.
  - g. Antitussives- Vasaka, Tolubalsam,Tulsi.
  - h. Antirheumatics- Guggul, Colchicum.
  - i. Antitumour- Vinca.
  - j. Antileprotics -Chaulmoogra oil.
  - k. Antidiabetics- Pterocarpus, Gymnema, Sylvestro.
  - l. Diuretics- Gokhru,Punarnava.
  - m. Antidysenterics- Ipecacuanha.

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- p. Oxytocics-Ergot.
  - q. Vitamines-Shark liver oil &Amla.
  - r. Enzymes-Papaya, Diastase,yeast.
  - s. Perfumes &flavouringagents-Peppermint Oil, Lemon Oil Orange Oil, lemon grass Oil Sandalwood.
  - t. Pharmaceutical aids-Honey, Arachis Oil, Starch, Kaolin, Pectin, Olive Oil, Lanolin, Beeswax, Acacia, Tragacanth,Sodium alginate Agar, Guar gum,Gelatin.
  - u. Miscellaneous- Liquorice, Garlic, Picrorhiza, Dioscorea, Linseed, Shatavari, Shankhupushpi, Pyrethrum,Tabacco .
6. Collection & preparation of crude drugs for the market asexemplified by Ergot, opium, Rauwolfia, Digitalis, Senna.
  7. Study of source, preparation & identification of fibers used in sutures &surgical dressings-cotton, silk, wool & regeneratedfibers.
  8. Gross of-Senna,Datura, Cinnamon, Cinchona, Fennel, Clove, Ginger, Nuxvomica&ipecacuanha.

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#### Diploma in Pharmacy- First Year

Subject Code PH408193	PHARMACOGNOSY LAB	L=	T = 0	P = 3	Credits=
Evaluation Scheme	ESE	CT	TA	Total	ESE Duration
	80	20	00	100	3 Hours

#### List of Experiment

1. Identification of drugs by morphological characters.
2. Physical & chemical tests for evaluations of drugs wherever applicable.
3. Gross anatomical studies (t.s.) of the following drugs Senna, Datura, Cinnamon, Cinchona, Coriander, Fennel, Clove Ginger, Nuxvomica, Ipecacuanha.
4. Identification of fibers & surgical dressings.

#### Text Books:

S.No.	Title	Authors	Edition	Publisher
1	Trease and Evans Pharmacognosy	W.C.Evans	16 <sup>th</sup> edition	W.B. Sounders & Co., London, 2009.
2	Text book of Pharmacognosy	C.K. Kokate	37 <sup>th</sup> edition	Nirali Prakashan, New Delhi

#### Reference Books:

S. No.	Title	Authors	Edition	Publisher
1	Pharmacognosy & Pharmacobotany	James Bobbers	3 <sup>rd</sup> edition	VETylor
2	Pharmacognosy and Phytochemistry	Mohammad Ali		CBS Publishers & Distribution, New Delhi.

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#### Diploma in Pharmacy- First Year

Subject Code PH408104	BIOCHEMISTRY AND CLINICAL PATHOLOGY	L = 2	T = 0	P = 0	Credits =
Evaluation Scheme	ESE	CT	TA	Total	ESE Duration
	80	20	00	100	3 Hours

COURSE OBJECTIVES	COURSE OUTCOMES
<p>Student will acquire fundamental knowledge necessary to understand molecular logics of biochemical processes in living organisms; recognise dynamics in the synthesis and degradation of the natural bio macromolecules: proteins, polysaccharides, Lipids and nucleic acids, and will be able to analyse.</p>	<p><b>CO 1</b> -To Understand the significance of Biochemistry.  <b>CO 2</b> - Describe the chemistry of carbohydrates, lipids, proteins, and amino acids  <b>CO 3</b> - Understand the catalytic role of enzymes, the importance of enzyme inhibitors in the design of new drugs, therapeutic and diagnostic applications of enzymes.  <b>CO 4</b>- Understand the metabolism of nutrient molecules in physiological and pathological conditions.</p>

#### Course Contents –

1. Introduction to Biochemistry.
2. Brief chemistry & role of proteins, polypeptides & amino acids, classification, Qualitative tests, Biological value, Deficiency diseases.
3. Brief chemistry & role of Carbohydrates, Classification, qualitative tests. Diseases related to carbohydrate metabolism.
4. Brief chemistry & role of Lipids, Classification, qualitative tests. Diseases related to lipids metabolism.
5. Brief chemistry & role of Vitamins & Coenzymes.
6. Role of minerals & water in life processes.
7. Enzymes: Brief concept of enzyme action. Factors affecting it. Therapeutic & pharmaceutical importance.
8. Brief concept of normal & abnormal metabolism of proteins, carb
9. Introduction to pathology of blood & urine.
  - a. Lymphocytes & Platelets, their role in health & disease.
  - b. Erythrocytes-Abnormal cells & their significance.
  - c. Abnormal constituents of urine & their significance in diseases.

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#### Diploma in Pharmacy- First Year

Subject Code PH408194	BIOCHEMISTRY AND CLINICAL PATHOLOGY LAB	L = 0	T = 0	P = 3	Credits =
Evaluation Scheme	ESE	CT	TA	Total	ESE Duration
	80	20	-	100	3 Hours

#### List of Practical

1. Detection and identification of Proteins, Amino acid, Carbohydrates & Lipids.
2. Analysis of normal and abnormal constituents of blood & urine (Glucose, Urea, Creatine Creatinine Cholesterol, alkaline phosphates, acid phosphates, Bilirubin, SGPT, SGOT, Calcium, Diastase, Lipase.)
3. Examination of sputum and faeces (microscope staining).
4. Practice in injecting drugs by intramuscular and intravenous routes. Withdrawal of blood.

#### Text Books:

S. No.	Title	Authors	Edition	Publisher
1	Biochemistry	D. Satyanarayan and U. Chakrapani	5th edition 2019	Elsevier
2	Fundamentals of Biochemistry	A. C. Deb	7th edition 2019	New Central Book Agency-Kolkata
3	Practical Biochemistry	R. C. Gupta and S. Bhargavan	5th edition	CBS
4	Practical Biochemistry	Harold Valey	4th edition	London

#### Reference Books:

S. No.	Title	Authors	Edition	Publisher
1	Principles of Biochemistry	Lehninger	4th edition	Freeman and Company
2	Harper's Biochemistry	Robert K. Murray, Daryl K. Granner and Victor W. Rodwell	28th edition	McGraw Hill Professional,
3	Bio chemistry	Stryer	9th edition	Freeman and Company

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#### Diploma in Pharmacy- First Year

Subject Code PH408105	HUMAN ANATOMYANDPHYSIOL OGY(Theory)	L=3	T=0	P = 0	Credits=
Evaluation Scheme	ESE	CT	TA	Total	ESE Duration
	80	20	-	100	3 Hours

COURSE OBJECTIVES	COURSE OUTCOMES
This subject is designed to impart fundamental knowledge on the on the structure and functions of the various system of the human body. It also helps in understanding both homeostatic mechanism. The subject Provides the basic knowledge required to understand the various disciplines of pharmacy.	<b>CO 1</b> – To define about the gross morphology, structure and functions of cell, skeletal, muscular, cardiovascular system of the human body. <b>CO 2</b> - To identify the different types of bones, organs, tissues, endocrine glands in human body. <b>CO 3</b> – To identify the functions of digestive system, reproductive system and respiratory system. <b>CO 4</b> – To define about the gross morphology, structure and functions of lymph, blood, urinary system and central nervous system.

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##### Course Contents-

1. Scope of Anatomy and Physiology.  
Definition of various terms used in Anatomy.
2. Structure of cell, function of its components with special reference to mitochondria and microsomes.
3. Elementary tissues of the body, i.e. epithelial tissue, muscular tissue, Connective tissue and nervous tissue.
4. Structure and function of skeleton. Classification of joints and their function, joint disorders.
5. Composition of blood, functions of blood elements. Blood group and Coagulation of blood. Brief information regarding disorders of blood.
6. Name & functions of lymph glands.
7. Structure & functions of various parts of the heart. Arterial & venous system with special reference to the names & positions of main arteries & veins. Blood pressure & its recording. Brief information about cardiovascular disorders.
8. Various parts of respiratory system & their functions. Physiology of respiration.
9. Various parts of urinary systems & their functions, structure & functions of kidney. Physiology of Urine formation. Pathophysiology of renal diseases & oedema.
10. Structure of skeletal muscle. Physiology of muscle contraction. Names, positions, attachments & functions of various skeletal muscles. Physiology of neuromuscular junction.
11. Various parts of central nervous system, brain & parts, functions & reflex action. Anatomy & Physiology autonomic nervous system.
12. Elementary knowledge of structure & functions of organs of taste, sell, ear, eye & skin. Physiology of part.
13. Digestive system: Names of the various parts of dig system & their functions. Structure & functions of liver physiology of digestion & absorption.
14. Endocrine glands & Hormones. Location of the gland their hormones & functions.  
Pituitary, THYROID, adrenal & Pancreas.
15. Reproductive system-Physiology & Anatomy of Reproductive system.

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# Shri Shankaracharya Technical Campus

## Shri Shankaracharya Group of Institutions

### Faculty of Pharmaceutical Sciences

(An Autonomous Institute affiliated to Chhattisgarh Swami Vivekanand Technical University, Bhilai)

#### SCHEME OF EXAMINATION AND SYLLABUS (Effective from 2020-2021 Batch)

#### Diploma in Pharmacy- First Year

Subject Code PH408195	HUMAN ANATOMYANDPHYSIO	L=0	T=0	P=2	Credits =
Evaluation Scheme	ESE	CT	TA	Total	ESE Duration
	80	20	--	100	3 Hours

#### List of Practical

1. Study of the human skeleton.
2. Study with the help of charts & models of the following systems &organs: following systems &organs:
3. Microscopic examination of epithelial tissue, cardiac muscle, smooth muscle, skeletal muscle. Connective tissue & nervous tissues.
4. Examination of blood films for TDC, DLC & malarial parasite.
5. Determination of clotting time of blood, erythrocyte sedimentation rate & Hemoglobin value.
6. Recording of body temperature, pulse, heart rate, blood pressure &ECG.

#### Text Books:

S. No.	Title	Authors	Edition	Publisher
1	Human anatomy and physiology	A.K. Jain	2nd	Arya publisher
2	Human anatomy and physiology and health education	Dr. Ramesh K Goyal	18 <sup>th</sup>	B.S. Shah prakashan
3	Human anatomy	B.D. Chaurasia	4 <sup>th</sup>	C.B.S. Publisher

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**SCHEME OF EXAMINATION AND SYLLABUS (Effective from 2020-2021 Batch)**

**Diploma in Pharmacy- First Year**

## Reference Books:

S. No.	Title	Authors	Edition	Publisher
1	Anatomy and physiology	Ross and Wilson	10 <sup>th</sup>	Elsevier
2	Principles of Anatomy and Physiology	Tortora Grabowski	Fifth	Eastern press
3	Anatomy and Physiology in Health and Illness	Kathleen J.W. Wilson	Eleventh	Churchill Livingstone, New York

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### SCHEME OF EXAMINATION AND SYLLABUS (Effective from 2020-2021 Batch)

#### Diploma in Pharmacy- First Year

Subject Code PH408106	HEALTH EDUCATION AND COMMUNITY PHARMACY	L= 3	T=0	P=0	Credits =
Evaluation Scheme	ESE	CT	TA	Total	ESE Duration
	100	20	--	100	3 Hours

COURSE OBJECTIVES	COURSE OUTCOMES
Health education is the process of imparting information about health in such a way that the recipient is motivated to use that information for the protection or advancement of his own, his family's or his community's health.	<p><b>CO 1</b> - To understand concept of health and nutrition for healthy life.</p> <p><b>CO 2</b> - To learn and understand about the first aids.</p> <p><b>CO 3</b> - To learn and understand environment and health and fundamental principles of microbiology.</p> <p><b>CO 4</b> - To learn and understand about communicable and non communicable disease.</p>

#### Course Contents –

1. Concept of health-Definition of physical health, mental health, social health, spiritual health determinates of health, indicators of health, concept of disease, natural history of diseases, the disease agents, concept of prevention of diseases.
2. Nutrition & health-Classification of foods, requirements, diseases induced due to deficiency of proteins, vitamins, & minerals-treatment & prevention.
3. Demography & family planning – Demography cycle, fertility, family planning, contraceptive methods, behavioral methods, natural family planning method, chemical method, mechanical methods, hormonal contraceptives, population problem of India.
4. First aid-Emergency treatment in shock, snake-bite, burns, poisoning, heart disease, fractures & resuscitation methods. Elements of minor surgery & dressings.
5. Environment & health-Sources of water supply, water pollution, purification of water, health & air, noise, light-solid waste disposal & control medical entomology, arthropod borne disease & their control, rodents, animals & diseases.
6. Fundamental principles of microbiology – Classification of microbes, isolation, techniques of organisms of common diseases.
7. Communicable diseases-Causative agents, mode of transmission & prevention.
  - a. Respiratory infections- Chicken pox, measles, influenza, diphtheria, whooping cough & tuberculosis.
  - b. Intestinal infections: Poliomyelitis, Malaria, Filariasis.

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#### SCHEME OF EXAMINATION AND SYLLABUS (Effective from 2020-2021 Batch)

#### Diploma in Pharmacy- First Year

8. Non-communicable diseases-Causative agents, prevention, care & control. Cancer, Diabetes, Blindness, Cardiovascular diseases.
9. Epidemiology-Its scope, methods, uses, dynamics of disease transmission. Immunity & immunizations Immunological products & their does schedule. Principles of disease control & prevention, hospital acquired infection, prevention & control. Disinfection, types of disinfection procedures, for faeces, urine, cu room, liron, dead- bodies, instruments.

#### Text Books:

S. No.	Title	Authors	Edition	Publisher
1	HEALTH EDUCATION AND COMMUNITY PHARMACY	N. S. Parmar		CBS Publishers & Distributors
2	HEALTH EDUCATION AND COMMUNITY PHARMACY	K. C. Agarwal		Nidhi publication Pvt. Ltd.
3	The Biodiversity of India	Bharucha Erach		Mapin Publishing Pvt. Ltd.

#### Reference Books:

S. No.	Title	Authors	Edition	Publisher
1	HEALTH EDUCATION AND COMMUNITY PHARMACY	W. P. Cunningham, T. H. Cooper, T. H. Gorhani and M. T. Hepworth	2001	Jaico Publishing House
2	HEALTH EDUCATION AND COMMUNITY PHARMACY	A. K. De		Wiley Eastern Ltd.
3	Hazardous Waste Incineration	R. C. Clark		Clanderson Press Oxford

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