

<b>JGI</b>	<b>ARKA JAIN University</b> Jharkhand	<b>NAAC GRADE A</b> ACCREDITED UNIVERSITY	<b>END SEM EXAMINATION</b> School of Health & Allied Science
<b>Program</b> Diploma in Pharmacy		<b>Semester/Year</b> 1st Year	<b>Year</b> June 2024
<b>Subject Name</b> Human anatomy and physiology		<ul style="list-style-type: none"> <li>Start writing from 2nd page onwards; don't write on the 1st Page Backside</li> <li>Answer all Questions of Section A (Compulsory)</li> <li>Answer Any SIX out of SEVEN of Section B LONG ANSWER</li> <li>Answer Any TEN out of ELEVEN of Section C SHORT NOTES</li> <li>Possession of Mobile Phones or any kind of Written Material, Arguments with the Invigilator or Discussing with Co-Student will comes under <b>Unfair Means</b> and will <b>Result</b> in the <b>Cancellation of the Papers.</b></li> </ul>	
Time: 3 Hour Max. Marks : 80			
<b>Knowledge Level (KL)</b>	K1 : Remembering	K3 : Applying	K5 : Evaluating
	K2 : Understanding	K4 : Analysing	K6 : Creating

Section A (Each question Carry 01 Marks from Q1-i to xx) -10 Marks		Q. N1	QUESTIONS	Marks	COs	KL	PO
i	Who is the father of Physiology	1	a-Andreas Vesalius b-Leonardo di Caprio c-Leonardo da Vinci d-Jean Fernel	1	CO1 CO2	K1	PO1
ii	The cell is first discovered by	1	a-Robert Brown b-Robert Koch c-Alex Fleming d-Robert Hook	1	CO3 CO4	K1	PO9
iii	The uterine tube is lined with	1	a-Squamous epithelium b-Cuboidal epithelium c-Columnar Epithelium d-Ciliated columnar Epithelium	1	CO1 CO3	K2	PO1
iv	Skin contains _____	1	a-Non-Keratinized Stratified Epithelium b-Keratinized Stratified Epithelium c-Transitional Epithelium d-None of these	1	CO2 CO3	K2	PO10
v	How many carpal bones are present in human body	1	a-7 b-8 c-9 d-10	1	CO1 CO4	K1	PO10
vi	Zygomatic bones are found in _____	1	a-Skull b-Back bone c-Ribs d-None of these	1	CO1 K1	K1	PO9

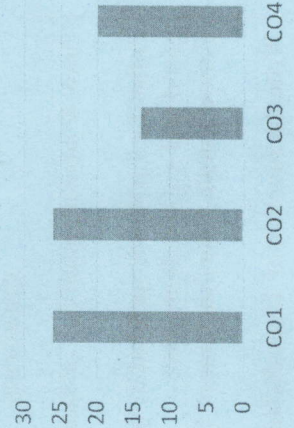
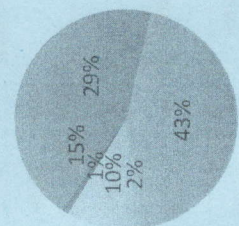
Course	Outcomes	CO1	CO2	CO3	CO4	K1	K2	K3	K4	PO1	PO9	PO10
14	Describe the phase of coagulation of blood	3	CO4	CO4	CO4	PO1						
15	Define Glomerular filtration and Glomerular filtration rate	3	CO3	CO4	CO4	PO10						
16	Explain Physiology of Respiration.	3	CO3	CO4	CO4	PO1						
17	Define & give normal values of (i) Vital Capacity (ii) Tidal Volume (iii) Residual Volume	3	CO1	CO1	CO1	PO9						
18	Compare Autonomic Nervous system (ANS) with Central nervous system	3	CO1	CO1	CO1	PO9						
19	Discuss structural and functional difference between artery and vein	3	CO1	CO1	CO1	PO10						

CO- Course Outcomes, **KL-** Knowledge Level, **PO - Program Outcome**

Course Outcomes	CO1	CO2	CO3	CO4
Describe the various organ systems of the human body				
Discuss the anatomical features of the important human organs and tissues				
Explain the homeostatic mechanisms regulating the normal physiology in the human system				
Discuss the significance of various vital physiological parameters of the human body				

**GRAPHICAL REPRESENTATION**

**Blooms level wise marks distribution**



■ K1 ■ K2 ■ K3 ■ K4 ■ K5 ■ K6



vii	Which of this cell is nucleated a-Basophil c-Neutrophil	b-Eosinophil d-All of the above	1	CO2	K2	PO1
viii	Which of this nitrogenous waste product is present in the blood a-Protein c-Heparin	b-Creatinine d-None of these	1	CO4	K2	PO1
ix	The amount of blood expelled during each contraction is a-Cardiac output c-Residual volume	b-Stroke volume d-None of these	1	CO3 CO4	K2	PO10
x	Which one of these is acts as a natural pacemaker a-AV node c-Purkinje fibre	b-SA node d-Bundle of His	1	CO1	K2	PO9
xi	The systolic pressure is the _____ a-120mmHg c-40mmHg	b-80mmHg d-60mmHg	1	CO1	K1	PO9
xii	The normal respiratory cycle per minute in normal quite breathing is a-10 c-20	b-15 d-08	1	CO1	K3	PO1
xiii	Liver is a storage site for _____ a-Glycogen c-Glucose	b-Starch d-Lactose	1	CO2	K4	PO9
xiv	Which of the following is not the component of PNS a-Elastic connective tissue c-Spinal Nerve	b-Cranial nerve d-Ganglia	1	CO3	K3 K4	PO10
xv	What is Cranial nerve-II a-Oculomotor Nerve c-Optic Nerve	b-Olfactory Nerve d-Trigeminal nerve	1	CO3	K1	PO9
xvi	Proximal convoluted tubule is a part of _____ a-Neuron c-Both A & B	b-Nephron d-None of these	1	CO2	K2	PO10
xvii	Oxytocin is secreted by a-Posterior pituitary c-parotid gland	b-Ovary d-Kidney	1	CO4	K1 K2	PO9
xviii	The fluid from which of the following accessory gland neutralize the acidity in a vagina of the female? a-Seminal vesicles c-Cowper's gland	b-Prostate Gland d-Urethra	1	CO1 CO4	K5	PO10
xix	Name the hormone which is at peak during ovulation.		1	CO3	K6	PO1

xx	a-Progesterone c-LH	b-Estrogen d-FSH	1	CO3	K4	PO1
	Mark the INCORRECT statement about prostate gland a-Located inferior to the urinary bladder b-Secretion is thin and milky coloured c-Secretion is acidic in nature d-Function in increasing the mobility of the sperm					

**Section B Long Answer (Answer any SIX out of SEVEN) - 30 Marks**

(Each question Carry 05 Marks)


Q. No.	QUESTIONS	Marks	COs	KL	PO
2	Describe in detail about the types, locations, and functions of epithelial tissue.	5	CO2	K1	PO
3	Write in details about cell and its organelles	5	CO2	K2	PO
4	What is the composition of blood.	5	CO1	K2	PO
5	Explain the term menstruation. Explain the Phase of Mensuration cycle.	5	CO4	K1	PO
6	Draw V.S. of skin. Explain role of skin in maintenance of body temperature	5	CO1	K6	PO
7	Draw diagram of conducting system of heart. Explain cardiac cycle.	5	CO1	K6	PO
8	Explain the structure & function of ovaries	5	CO2	K2	PO

**Section C Short Notes (Answer any TEN out of ELEVEN) - 30 Marks**


(Each question Carry 03 Marks)

Q. No.	QUESTIONS	Marks	COs	KL	PO
9	Draw & label diagram L.S. of Kidney	3	CO2	K1	PO10
10	Enlist the hormones secreted by posterior pituitary gland and explain their effect	3	CO3	K1	PO9
11	Define lymph. Give functions of lymphatic system.	3	CO2	K2	PO1
12	Write the function of Hypothalamus	3	CO1	K1	PO9
13	Describe composition and function of Gastric juice	3	CO4	K2	PO9





**ARKA JAIN**  
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Jharkhand



**NAAC**  
GRADE **A**  
ACCREDITED UNIVERSITY

**END SEM EXAMINATION**  
School of Health & Allied Science

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**Program** Diploma in Pharmacy

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Subject Name	Semester/Year	1st Year
Pharmacognosy	Year	June 2024

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- Start writing from 2nd page onwards; don't Write on the 1st Page Backside
- Answer all Questions of Section A (Compulsory)
- Answer Any SIX out of SEVEN of Section B LONG ANSWER
- Answer Any TEN out of ELEVEN of Section C SHORT NOTES
- Possession of Mobile Phones or any kind of Written Material, Arguments with the Invigilator or Discussing with Co-Student will come under Unfair Means and will Result in the Cancellation of the Papers.

Time: 3 Hour  
Max. Marks : 80

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Knowledge Level (KL)	K1 : Remembering	K3 : Applying	K5 : Evaluating
	K2 : Understanding	K4 : Analysing	K6 : Creating

**Section A (Each question Carry 01 Mark from Q1-i to Q1-xx) -10 Marks**

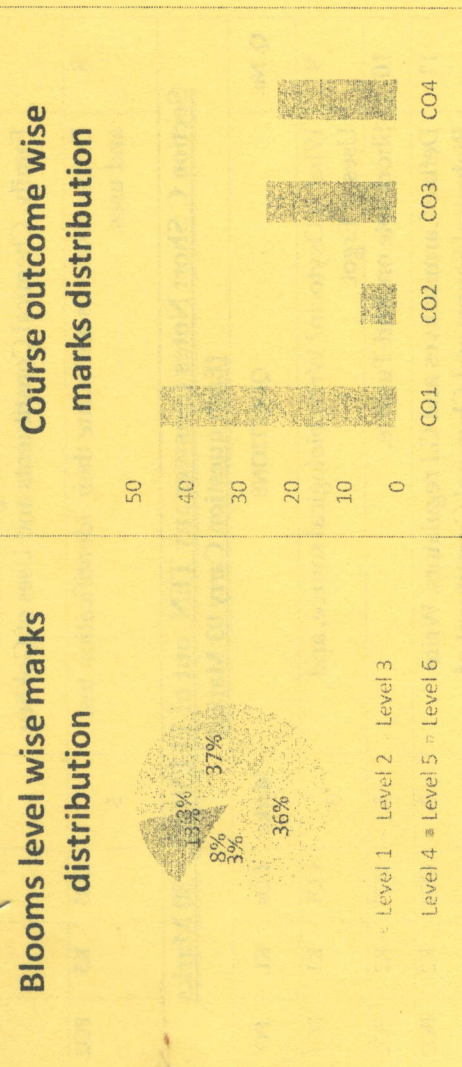
Q. N 1	QUESTIONS	Marks	COs	KL	PO
i	Henbane plant is related to- a) Hyoscyamus Niger b) Datura stramonium c) Belladonna d) None of the above	1	CO 1	K1	PO1
ii	Camphor is obtained from which plant? a) Eucalyptus globulus b) Cinnamomum camphora c) Chenopodium ambrosioids d) None of the above	1	CO 4	K2	PO2
iii	Nux-vomica seed belongs to the family- a) Rubiaceae b) Loganiaceae c) Papaveraceae d) Apocynacea	1	CO 1	K1	PO1
iv	Pale and black catechu are differentiated on the basis of presence/ absence of- a) Catechin b) Quercetin c) Gambier fluorescein d) Gums	1	CO 3	K2	PO2
v	Sarpagandha is related to- a) Rauwolfia b) Arjuna c) Nux-vomica d) Coriander	1	CO 1	K1	PO1

15	Write biological source, chemical constituents and Draw T.S. of Datura.	3	CO1	K6	PO2
16	Describe identification test and application of Volatile oils.	3	CO3	K5	PO2
17	What are Antiseptics & disinfectants?	3	CO4	K4	PO2
18	Write biological source, chemical constituents and Uses of Neem.	3	CO2	K2	PO1
19	Write the biological source, chemical constituents and uses of black catechue	3	CO2	K3	PO2

CO- Course Outcomes, **KL-** Knowledge Level, **PO** – Program Outcome

CO1	Identify the important/common crude drugs of natural origin
CO2	Describe the uses of herbs in nutraceuticals and cosmeceuticals
CO3	Discuss the principles of alternative system of medicines
CO4	Describe the importance of quality control of drugs of natural origin

**GRAPHICAL REPRESENTATION**





vi	Deadly night shade plant is related to- a) Hyoscyamus niger b) Datura stramonium c) Belladonna d) Rauwolfia	1	CO 1	K2 K1	PO2 PO1
vii	Aloe belongs to family a) Zygophyllaceae b) Myrtaceae c) Leguminosae d) Liliaceae	1	CO 4	K1	PO1
viii	Turmeric possess saffron colour due to presence of- a) Curcumin b) Turmerone c) Curcumens d) Phellandrene	1	CO 4	K2	PO2
ix	The drug having very good antiemetic properties is a) Fennel b) Ginger c) Turmeric d) Coriander	1	CO 3	K1	PO1
x	Artemisia belongs to family a) Asteraceae b) Asclepiadaceae c) Araceae d) Umbelliferae	1	CO 1	K2	PO2
xi	Free cinnamic acid is present in- a) Ginger b) Cardamom c) Asafoetida d) Balsam of tolu	1	CO 4	K1	PO1
xii	Nutmeg obtained from Myristica fragrans is a a) Seed b) Fruit c) Arillus d) Kernel	1	CO 1	K1	PO1
xiii	Ashwagandha is common name for- a) Withania somnifera b) Holarrhena antidysentrica c) Bacopa moneira d) Centella asiatica	1	CO 1	K2	PO1
xiv	Cinchona belongs to family- a) Rutaceae b) Apocynaceae c) Rubiaceae d) Lauraceae	1	CO 4	K1	PO2
xv	Leaves of the following drugs are affective, except: a) Senna b) Clove c) Digitalis d) Vasaka	1	CO 1	K1	PO1
xvi	Triterpenoid saponins are present in- a) Arjuna Bark b) Black catechu c) Coriander d) None of the above	1	CO 3	K2	PO2
xvii	Vasaka is used as- a) Expectorant b) Sedative c) Stimulant d) Cardiac tonic	1	CO 4	K2	PO1
xviii	Balsam of Tolu is used as a) Antitumour b) Astringents c) Antitussive d) Antidiabetics	1	CO 1	K1	PO2
xix	Which one of these alkaloids is volatile in nature? a) Narcotine b) Papaverine c) Nicotine d) Thebaine	1	CO 1	K1	PO1

xx	Gymnema belongs to family a) Umbelliferae b) Asclepiadaceae c) Araceae d) Liliaceae	1	CO 1	K1	PO1
<b>Section B Long Answer (Answer any SIX out of SEVEN) - 30 Marks</b> (Each question Carry 05 Marks)					
Q. No.	QUESTIONS	Marks	Cos	KL <sub>v</sub>	PO
2	What is Anti-tumor? Write biological source, Family, Chemical Constituents and Uses of Vinca.	5	CO 1	K1	PO1
3	What is Laxative? Write biological source, Family, Chemical Constituents and Uses Aloe.	5	CO3	K1	PO2
4	What are Cardiotonic? Write biological source, Family, Chemical Constituents and Uses of Arjuna.	5	CO1	K1	PO1
5	What are Anti-Dysenteric? Write note on Ipecacuanha.	5	CO1	K2	PO2
6	What are Antirheumatic drugs? Write note on Colchicum seed.	5	CO1	K2	PO1
7	What are Diuretics? Write biological source, Family, Chemical Constituents and Uses of Gokhru.	5	CO4	K2	PO2
8	Define alkaloids and write their identification test and uses.	5	CO3	K5	PO2
<b>Section C Short Notes (Answer any TEN out of ELEVEN) - 30 Marks</b> (Each question Carry 03 Marks)					
Q. No.	QUESTIONS	Marks	COs	KL	PO
9	What is Oxytocin? Write biological source, and Uses of Ergot.	3	CO1	K1	PO1
10	Short note on Anti-Tussive.	3	CO3	K2	PO2
11	Define Carminatives and G.I regulators. Write Biological Source and Chemical Constituent of Coriander.	3	CO4	K2	PO2
12	Discuss various methods of drug adulteration.	3	CO3	K4	PO1
13	Write Short note on Opium	3	CO4	K5	PO2
14	Write biological source, Chemical Constituents and Uses of Coriander.	3	CO1	K1	PO1



**ARKA JAIN University**  
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**NAAC GRADE A**  
ACCREDITED UNIVERSITY

**END SEM EXAMINATION**  
School of Health & Allied Science

Program	Diploma in Pharmacy	
Subject Name	Social Pharmacy	
	Semester/Year	1 <sup>st</sup> Year
	Year	June 2024

Time: 3 Hour  
Max. Marks : 80

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- Answer Any SIX out of SEVEN of Section B LONG ANSWER
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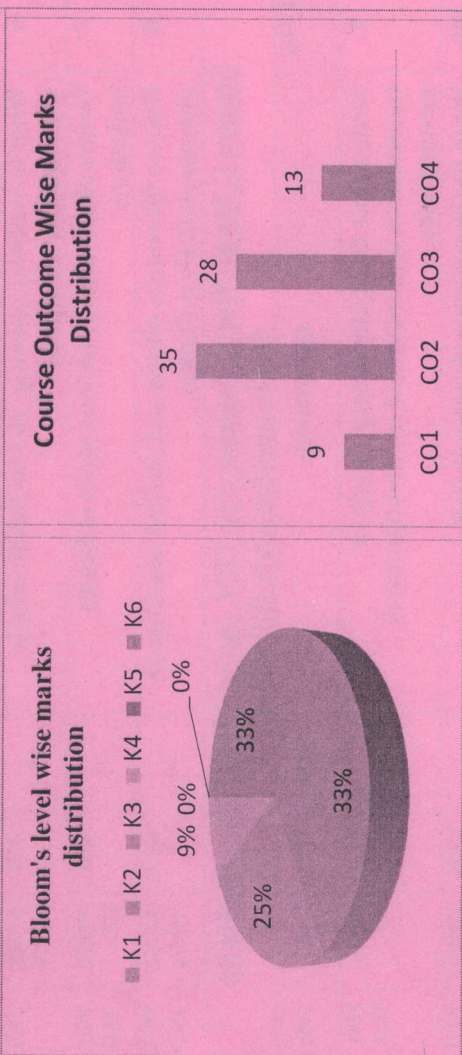
Q. N1	QUESTIONS	Marks	COs	KL	PO
i	The programs to get total reproductive health as a social goal of national level are called a) Family organization      c) Family planning b) Family Care                d) Reproductive care	1	CO1	KL, K2	PO1
ii	Which belongs to Live attenuated vaccines a) Tuberculosis                c) Oral polio vaccine b) Rotavirus                    d) All of the above	1	CO2	KL, K2	PO1
iii	Who discovered the rabies and anthrax vaccine? a) Louis Pasteur                c) Edward Jenner b) A Fleming                    d) None of the above	1	CO2	KL, K2	PO1, PO5
iv	Methods of Contraception includes a) Spacing methods            c) Terminal Methods b) Barrier methods            d) All of the above	1	CO2	KL, K2	PO1, PO5
v	Depot Formulation are available in a) Injectable                    c) Sub dermal implants b) Vaginal ring                d) All of the above	1	CO2	KL, K2	PO1, PO5
vi	Example of Second Generation IUD's is a) Levonogestrel                c) Progestasert b) ML-CU-250                 d) None of the above	1	CO2	KL, K2	PO1, PO5

14	Discuss on the water pollution.	3	CO2	K1, K2, K3	PO1
15	Write a note on epidemiology, mode of transmission and treatment of Chickenpox.	3	CO3	K2, K3	PO1, PO5
16	Write a short note on Fortification of Food.	3	CO3	K1, K2, K3	PO1
17	Define Food adulteration and classify the adulteration with example.	3	CO3	K1, K2, K3	PO1, PO5
18	Write the food-drug interactions and their clinical implication.	3	CO3	K1, K2, K3	PO1, PO5
19	What are the different Immunization programs in India?	3	CO4	K1, K2, K3	PO1

CO- Course Outcomes,      **KL-** Knowledge Level,      **PO** – Program Outcome

CO1	Discuss about roles of pharmacists in the various national health programs
CO2	Describe various sources of health hazards and disease preventive measures
CO3	Discuss the healthcare issues associated with food and nutritional substances
CO4	Describe the general roles and responsibilities of pharmacists in public health

**GRAFICAL REPRESENTATION**





vii	Transmission of AIDS can be caused by a) Unprotected Sex b) Vertical transmission c) Blood transfusion d) All of these	1	CO2	K1, K2	PO1
viii	Which of the following is a Bacterial disease a) Typhoid b) Cholera c) Acne d) All of these	1	CO2	K1, K2	PO1
ix	White blood cells involved in immunity system a) Neutrophils b) Lymphocytes c) Monocytes d) All of the above	1	CO3	K1, K2	PO1
x	Example of Third Generation IUD's is a) Copper -T b) Copper -7 c) Progesterone d) ML-CU-250	1	CO2	K1, K2	PO1
xi	Which of the following is caused by the deficiency of Niacin? a) Scurvy b) Pellagra c) Rickets d) Pernicious anaemia	1	CO3	K1, K2	PO1, PO5
xii	Hospitals-biomedical waste include a) Culture tubes b) Body fluids c) Syringes d) All of the above	1	CO2	K1, K2	PO1, PO5
xiii	The Causative organism for Malaria is a) P. vivax b) P. falciparum c) P. ovale d) All of these	1	CO2	K1, K2	PO1, PO5
xiv	Mid-day Meal scheme was launched in a) 1997 b) 1995 c) 1994 d) 1996	1	CO4	K1, K2	PO1, PO5
xv	Covid-19 is a) Bacterial disease b) Viral disease c) Fungal disease d) None of the above	1	CO2	K1, K2	PO1
xvi	Types of Health Indicators include a) Health Policy b) Socio-economic Indicator c) Mortality d) All of the above	1	CO1	K1, K2	PO1
xvii	What is the main objective of the National Vector Borne Disease Control Programme (NVBDCP)? a) To improve maternal and child health b) To control the spread of vector-borne diseases c) To provide universal access to healthcare d) All of these	1	CO4	K1, K2	PO1, PO5
xviii	What does the WHO define as "health"? a) The ability to perform daily activities without assistance b) A state of complete physical, mental, and social well-being c) The absence of pain or discomfort d) The absence of disease or infirmity	1	CO1	K1, K2	PO1

xix	Which SDG is specifically focused on improving access to healthcare? a) SDG 3: Good Health and Well-being b) SDG 5: Gender Equality c) SDG 1: No Poverty d) SDG 8: Decent Work and Economic Growth	1	CO1	K1, K2	PO1
xx	Which of the following is a fat-soluble vitamin? a) Vitamin B1 b) Vitamin C c) Vitamin D d) Vitamin B2	1	CO3	K1, K2	PO1

**Section B Long Answer (Answer any SIX out of SEVEN) - 30 Marks**  
(Each question Carry 05 Marks)

Q. No.	QUESTIONS	Marks	COs	KL	PO
2	Describe the family planning technique in preventive care.	5	CO2	K1,K2, K3,K4	PO1
3	Define Pollution. Write the effect of Air pollution on health and environment and steps to reduce air pollution.	5	CO2	K1,K2, K3,K4	PO1, PO5
4	What is Pharmacoeconomics? What is the significance and applications of Pharmacoeconomics?	5	CO4	K1,K2, K3,K4	PO1, PO5
5	Write the sources, functions & deficiency diseases due to fat soluble vitamin.	5	CO3	K1,K2, K3	PO1, PO5
6	What is Artificial ripening, and its health effects with suitable examples?	5	CO3	K1,K2, K3,K4	PO1
7	Write a short note on various types of health indicators.	5	CO1	K1,K2, K3	PO1, PO5
8	Discuss the source, effects and control measures of pharmaceuticals pollution.	5	CO2	K1,K2, K3,K4	PO1, PO5

**Section C Short Notes (Answer any TEN out of ELEVEN) - 30 Marks**  
(Each question Carry 03 Marks)

Q. No.	QUESTIONS	Marks	COs	KL	PO
9	Write a note on epidemiology, mode of transmission and treatment of Meningococcal meningitides.	3	CO2	K1K2, K3	PO1, PO5
10	Write the importance of water in diet.	3	CO3	K1K2, K3	PO1
11	Write note on National Health Mission.	3	CO4	K1, K2,K3	
12	What are the effects of water borne Disease in the community?	3	CO2	K1, K2,K3	PO1
13	Write the adverse impact of noise pollution on human health.	3	CO2	K1, K2,K3	PO1, PO5



Program	Diploma in Pharmacy	
Subject Name	Pharmaceutics	
Semester/Year	1 <sup>st</sup> Year	Year
	Year	June 2024
Time: 3 Hour Max. Marks : 80	<ul style="list-style-type: none"> <li>Start writing from 2nd page onwards; don't write on the 1st Page Backside</li> <li>Answer all Questions of Section A (Compulsory)</li> <li>Answer Any Six out of Seven of Section B</li> <li>Answer Any Ten out of Eleven of Section C</li> <li>Possession of <u>Mobile Phones</u> or any kind of <u>Written Material, Arguments with the Invigilator or Discussing with Co-Student</u> will come under <u>Unfair Means</u> and will <u>Result</u> in the <u>Cancellation of the Papers.</u></li> </ul>	
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Section A (Each question Carry 01 Mark from Q1-i to xx) – 20 Marks					
Q. N1	QUESTIONS	Marks	COs	KL	PO
i	The First edition of the Pharmacopoeia of India was published in. a) 1947 b) 1955 c) 1966 d) 1946	1	CO1	K1	PO1
ii	The efficiency of a Ball Mill is maximum at. a) Very high speed b) High speed c) Low speed d) 2/3 <sup>rd</sup> of Speed	1	CO2	K1	PO1
iii	Microbicidal means. a) Inhibit the growth of microbes b) Kill the microbes c) Inhibit & Kill the microbes d) All of the above	1	CO1	K1	PO1
iv	Type I glass consists of. a) Neutral glass & High hydrolytic resistance b) Neutral glass & Low hydrolytic resistance c) Sodalime glass & High hydrolytic resistance d) Sodalime glass & Low hydrolytic resistance	1	CO3	K1	PO2

XX	In flocculated suspension the sedimentation rate is? a) High b) Low c) Both a and b d) Non-of the above	1	CO2	K1	PO1
<b>Section B Long Answer (Answer any SIX out of SEVEN) – 30 Marks</b> (Each question Carry 05 Marks)					
Q. No.	QUESTIONS	Marks	COs	KL	PO
2	Define the term Pharmacopoeia. Write the silent features of Indian Pharmacopoeia.	5	CO1	K5	PO2
3	Write the principle, construction, working, advantages and disadvantages of Ball Mill with neat diagram.	5	CO3	K5	PO2
4	Define tablet and write the excipients which are used in the formulation of tablets.	5	CO1	K5	PO2
5	Write the Principle, Construction, Working, Advantages and Disadvantages of Membrane filter with neat diagram.	5	CO1	K5	PO1
6	Define NDDS and classify them with suitable examples. Write advantages and disadvantages of NDDS.	5	CO3	K1	PO1
7	Write the factors which affect the rate of filtration.	5	CO3	K3	PO1
8	Define Size Reduction. Explain the various factors which are affect the size reduction of drugs.	5	CO3	K3	PO1

<b>Section C Short Notes (Answer any TEN out of ELEVEN) – 30 Marks</b> (Each question carry 03 Marks)					
Q. No.	QUESTIONS	Marks	COs	KL	PO
9	What is Mixing? Write about the types of mixture.	3	CO1	K2	PO1
10	What is Pharmacy? Write the roles of a Pharmacist in hospital pharmacy.	3	CO3	K1	PO1
11	Write the function of Quality control and Quality assurance.	3	CO2	K3	PO1
12	What is Colourants and classify it with suitable examples.	3	CO1	K3	PO1
13	What is Packaging. Write the ideal characteristics of Packaging.	3	CO1	K1	PO1



v	Natural Sweetening agent. a) Sucralose b) Aspartame c) Saccharin d) Glucose	1	CO2	K1	PO2
vi	Metal Packagings are used for Packaging of. a) Parenterals b) Injectables c) Hazard Substances d) Non-of the above	1	CO3	K1	PO2
vii	Father of Indian Pharmacy. a) William Procter Jr. b) Mahadev Lal Schroff c) Dr. B.N. Ghosh d) Dr. B Mukherji	1	CO3	K3	PO1
viii	Fine powder should pass through the sieve number. a) 80 b) 120 c) 40 d) 85	1	CO3	K4	PO1
ix	Which method is used to separate the suspension of a solid in a gas? a) Air separator b) Sieving c) Cyclone separator d) Elutriation	1	CO1	K4	PO1
x	The rate of filtration is _____ proportional to the viscosity of the liquid. a) Inversely b) Directly c) Non-of them d) Both a & b	1	CO2	K2	PO2
xi	Sintered filters are made of which glass? a) Soda-lime glass b) Borosilicate glass c) Non-of them d) Both a & b	1	CO1	K2	PO2
xii	The filter of 0.010 – 0.10 $\mu$ pore sizes removes?	1	CO1	K3	PO2

xiii	a) Viruses b) Fungus c) Bacteria d) All of the above Cyclone separator works on the principle of a) Centrifugal force? b) Impact c) Shearing force d) Attrition	1	CO1	K3	PO2
xiv	The clear liquid passing through the filter is known as. a) Filter medium b) Filtrate c) Filter cake d) Clarification	1	CO1	K1	PO2
xv	According to I.P. the shape of a tablet is defined as. a) Circular with flat or convex faces b) Square with flat or convex faces c) Rectangular with flat or convex faces d) Triangular with flat or convex faces	1	CO3	K2	PO2
xvi	The smallest size of capsule is. a) 000 b) 0 c) 1 d) 5	1	CO1	K2	PO1
xvii	Suspensions are which type of dosage form? a) Monophasic liquid dosage form b) Biphasic liquid dosage form c) Both a and b d) Non-of the above	1	CO1	K2	PO1
xviii	Emulsions meant for external use should be _____ type. a) o/w type b) w/o type c) Both a and b d) Non-of them	1	CO3	K2	PO1
xix	What is the concentration of sucrose in simple syrup? a) 67% b) 80% c) 66.7% d) 85%	1	CO3	K2	PO1



14	Write Construction, Working and Use of Hammer Mill.	3	CO3	K1	PO2
15	What is Drying? Write the application of drying.	3	CO2	K4	PO2
16	Write the Construction, Working and Use of Double cone blender.	3	CO3	K4	PO2
17	Differentiation between flocculated and non-flocculated suspension.	3	CO3	K4	PO2
18	What is ointment? Classifying them with suitable examples.	3	CO1	K4	PO2
19	Write the lay out of the pharmaceutical manufacturing plant.	3	CO1	K1	PO2

CO- Course Outcomes,

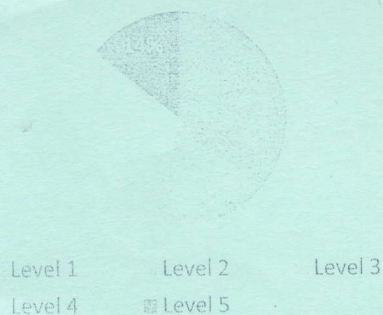
KL- Knowledge Level,

PO – Program Outcome

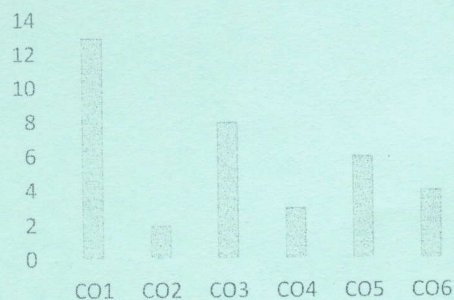
Course Outcomes	CO1	Describe about the different dosage forms and their formulation aspects
	CO2	Explain the advantages, disadvantages, and quality control tests of different dosage forms
	CO3	Discuss the importance of quality assurance and good manufacturing practices

#### GRAFICAL REPRESENTATION

#### BLOOM'S LEVEL WISE MARK DISTRIBUTION



#### Course Outcome wise Mark Distribution







**ARKA JAIN University**  
Jharkhand



**END SEM EXAMINATION**  
School of Health & Allied Science

Program	Diploma in Pharmacy	
Subject Name	Pharmaceutical Chemistry	
Semester/Year	1st Year	Year
	June 2024	
Time: 3 Hour	• Start writing from 2nd page onwards; don't Write on the 1st Page Backside	
Max. Marks: 80	• Answer all Questions of Section A (Compulsory)	
	• Answer Any SIX out of SEVEN of Section B LONG ANSWER	
	• Answer Any TEN out of ELEVEN of Section C SHORT NOTES	
	• Possession of Mobile Phones or any kind of Written Material, Arguments with the Invigilator or Discussing with Co-Student will come under Unfair Means and will Result in the Cancellation of the Papers.	
Knowledge Level (KL)	K1: Remembering K2: Understanding	K3: Applying K4: Analysing K5: Evaluating K6: Creating

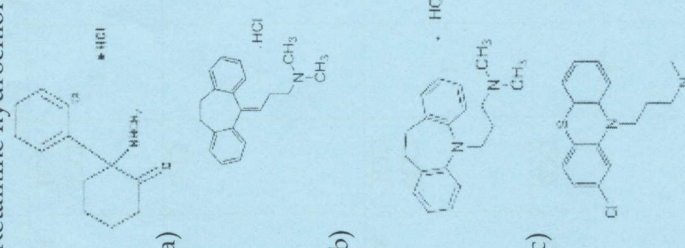
Q. N1	QUESTIONS	Marks	COs	KL	PO
i	Which one of the following is not a type of error a) Systematic error b) Random error c) Gross error d) Significant error	1	CO3	K1	PO1, PO2
ii	The number of gram equivalent of the solute per litre of solution is known as a) Molarity b) Normality c) Molality d) None of above	1	CO1, CO3	K2	PO1
iii	The titration in which there is formation of coordinate complex is a) Precipitation titration b) Acid-base titration c) Complexometric titration d) Potentiometric titration	1	CO1	K1	PO1
iv	Anaemia can be caused by a) Excessive blood loss b) Excessive blood formation c) Both a and b d) None of above	1	CO1, CO2	K1	PO1
v	Sympathomimetic drugs are useful in the therapy of all of the following condition except a) Acute decompensated heart failure b) Hypotension c) Hypertension	1	CO2	K2	PO1

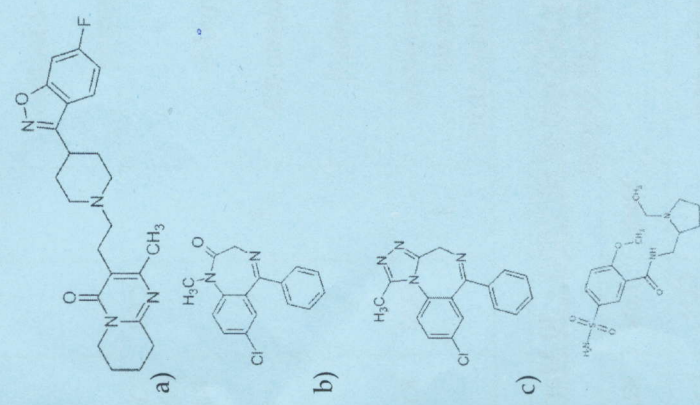
Q. No.	QUESTIONS	Marks	COs	KL	PO
xvii	What is the chemical name of white precipitate a) Silver nitrate b) Silver nitrite c) Aluminium nitrate d) Aluminium nitrite	1	CO2	K1	PO1
xviii	IUPAC Name of Thiopental Sodium a) 2,6-di(propan-2-yl) phenol b) sodium;5-ethyl-4,6-dioxo-5-pentan-2-yl-1H-pyrimidine-2-thiolate c) N-[(1-ethylpyrrolidin-2-yl) methyl]-2-methoxy-5-sulfamoylbenzamide d) benzo[b][1]benzazepine-11-carboxamide	1	CO1	K1, K2, K3	PO1, PO2, PO9
xix	IUPAC Name of Dopamine is a) 4-(2-Aminoethyl) benzene-1,2-diol b) 4-[2-(tert-butylamino)-1-hydroxyethyl]-2-(hydroxymethyl)phenol c) 4-[(1R)-2-amino-1-hydroxyethyl]benzene-1,2-diol d) 4-[(1R)-1-hydroxy-2-(methylamino) ethyl]benzene-1,2-diol	1	CO1	K1, K2, K3	PO1, PO2, PO9
xx	What is the chemical name of white precipitate a) Silver nitrate b) Silver nitrite c) Aluminium nitrate d) Aluminium nitrite	1	CO2	K1	PO1

**Section B Long Answer (Answer any SIX out of SEVEN) – 30 Marks**  
(Each question Carry 05 Marks)

Q. No.	QUESTIONS	Marks	COs	KL	PO
2	Give Structure, IUPAC Name, formulation, uses and brand names of Ketoconazole.	5	CO1, CO4	K1, K2, K4	PO1, PO3, PO9
3	What are NSAIDs agent? Classify with suitable examples.	5	CO2, CO3	K1	PO1, PO2
4	Define Topical agents. Write Pharmaceutical formulations, market preparations, storage condition and uses of silver nitrate.	5	CO2, CO3	K1	PO1, PO2, PO3
5	Draw the structure of Atropine Sulphate, write its IUPAC Name, uses, pharmaceutical formulations, storage condition and brand names.	5	CO1, CO2	K1, K2	PO1, PO2, PO9
6	Write Sources and effect of impurities in pharmaceuticals.	5	CO2, CO3	K1	PO1
7	Define Volumetric Analysis and write fundamentals of Volumetric analysis.	5	CO2, CO3	K1	PO1, PO2



vi	d) Erectile dysfunction ..... is a heterocyclic compound with five membered rings. a) Aziridine b) Azolefine c) Azole d) Azoline	1	CO1	K1	PO1, PO2
vii	In Bronsted lowery concepts acid is a) Electon donor c) Proton donor b) Proton acceptor d) Electron acceptor	1	CO2	K1	PO1
viii	IUPAC Name of Phenytoin is a) 5,5-diphenylimidazolidine-2,4-dione b) 5,5-diphenylimidazolidine-2,4-trione c) 5,5-triphenylimidazolidine-2,4-dione d) 5,5-triphenylimidazolidine-2,4-trione	1	CO1	K1, K2, K3	PO1, PO2, PO3
ix	Hydrochloric acid (HCl) is used in a) Diarrhoea b) Hyperacidity c) Achlorhydria d) Fever	1	CO2	K1	PO1
x	Which of the following is the correct structure of Ketamine hydrochloride 	1	CO1	K1, K2	PO1, PO2, PO3

xi	1,3-position with six member heterocyclic contain two nitrogen atom is called a) Pyrimidine c) Pyrazine b) Pyridine d) Pyridazine	1	CO1	K1	PO1
xii	Find the correct structure of Alprazolam 	1	CO1	K1, K2	PO1, PO2, PO3
xiii	Which of the followings are antacids? a) Hydroxide gel b) Magnesium hydroxide c) Magaldrate d) All of the above	1	CO2	K1	PO1
xiv	Which of the following are haematinics? a) Ferrous Sulphate b) Ferrous Gluconate c) Both a and b d) None	1	CO2	K1	PO1
xv	Chemical name of laughing gas is a) Nitrous Oxide c) Silicon Oxide b) Nitric Oxide d) Calcium Oxide	1	CO2	K1	PO1
xvi	Chemical formula of Bleaching powder is a) CaOCl2 b) CaCO3 c) CaO d) CaCl2	1	CO2	K2	PO1, PO2



8	Draw the structure of Alprazolam, write its IUPAC Name, pharmaceutical formulation ,uses and brand names.	5	CO1, CO2	K1, K2	PO1, PO2, PO9
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**Section C Short Notes (Answer any TEN out of ELEVEN) - 30 Marks**

(Each question carry 03 Marks)

Q. No.	QUESTIONS	Marks	COs	KL	PO
9	Define Accuracy, Precision and Significant figures with suitable examples.	3	CO1, CO2	K1	PO1, PO2, PO4
10	Define Titration and write its different types with examples.	3	CO1, CO2	K1	PO1, PO2
11	Write Chemical structure, IUPAC name and uses of Chlorpromazine hydrochloride.	3	CO1	K1, k2	PO1, PO2, PO9
12	Write Principle and application of Gravimetric analysis.	3	CO2, CO3	K1	PO1
13	Write Chemical structure, IUPAC name and uses of Amitriptyline hydrochloride.	3	CO1, CO4	K1, k2	PO1, PO2, PO3
14	Differentiate between homocyclic and hetrocyclic compound with suitable example.	3	CO2, CO3	K1	PO1, PO2
15	Write Structure, IUPAC Name and uses of Frusemide.	3	CO1	K1, k2	PO1, PO2
16	Define the term Hypoglycemic agents? Give structure and IUPAC Name of Metformin.	3	CO1, CO2	K1, k2	PO1, PO2, PO9
17	Define error and write its different types with example.	3	CO1	K1	PO1, PO2
18	Define Analgesic, Antipyretic and Anti-inflammatory agents with suitable examples.	3	CO1	K1	PO1, PO3, PO4
19	Write the principal and procedure of limit test of chloride.	3	CO1	K1	PO1, PO2, PO4



CO- Course Outcomes,

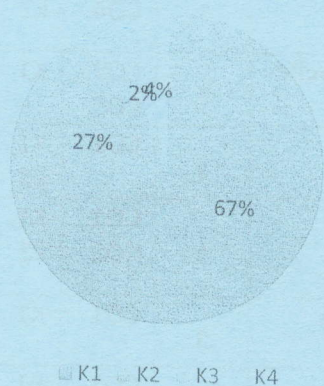
KL- Knowledge Level,

PO – Program Outcome

Course Outcomes	CO1	Describe the chemical class, structure and chemical name of the commonly used drugs and pharmaceuticals of both organic and inorganic nature
	CO2	Discuss the pharmacological uses, dosage regimen, stability issues and storage conditions of all such chemical substances commonly used as drugs
	CO3	Describe the quantitative and qualitative analysis, impurity testing of the chemical substances given in the official monographs
	CO4	Identify the dosage form & the brand names of the drugs and pharmaceuticals popular in the marketplace

**GRAPHICAL REPRESENTATION**

**Blooms Level Wise Marks Distribution**



**Course outcome wise marks distribution**

