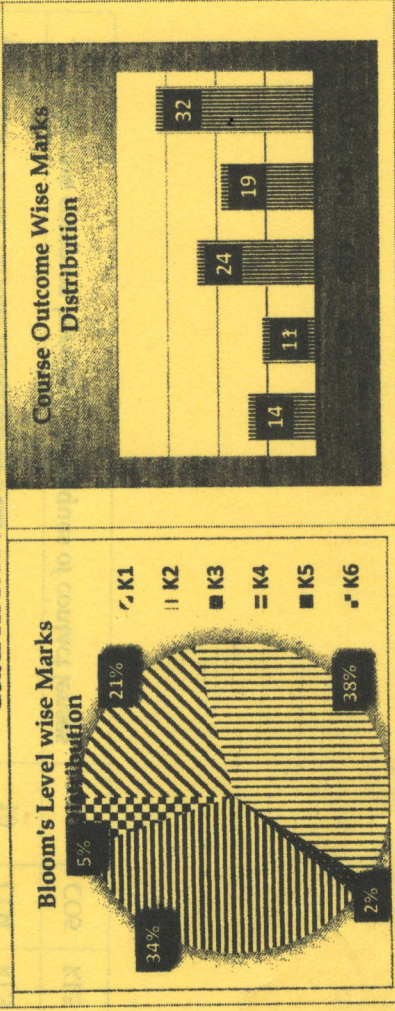


CO1	Understand the basics of Contact lens practice
CO2	Practice specialty lenses for pathological conditions
CO3	Identify indications and contraindications
CO4	Learn about complication and their management of soft contact lenses
CO5	Understand about specialty contact lenses

GRAPHICAL REPRESENTATION



JGI	ARKA JAIN University Jharkhand	NAAC GRADE A ACCREDITED UNIVERSITY	[30-04-2026] END SEM EXAMINATION School of Health & Allied Sciences
Program	Bachelor of Optometry		
Subject Name	Contact lens 2	Session	Even, 2025-26
Semester	VI	Year	April, 2026
Time: 2 Hour Max. Marks : 50	- Start writing from 2nd page onwards; don't Write on the 1st Page Backside - Answer all Questions of Section A (Compulsory) - Answer Any Four out of Six of Section B - Answer Any Two out of Four of Section C - Possession of Mobile Phones or any kind of Written Material, Arguments with the Invigilator or Discussing with Co-Student will comes under <u>Unfair Means</u> and will <u>Result</u> in the <u>Cancellation</u> of the <u>Papers</u>.		
Knowledge Level (KL)	K1 : Remembering K2 : Understanding	K3 : Applying K4 : Analysing	K5 : Evaluating K6 : Creating

Section A (Each question Carry 01 Marks from Q1-i to x) – 10 Marks					
Q. N	QUESTIONS	Marks	COs	KL	
i	The component of care and maintenance a) Daily cleaner b) Rinsing solution c) Lubricants d) All of the above	01	CO1	KL1	
ii	Purpose of care and maintenance a) Clean lenses and goof comfort b) Good vision c) Safe lens wear d) All of the above	01	CO1	KL1	
iii	Wearing SCL lens should provide a) Good visual acuity b) No ocular insult. c) No facial appearance d) All of the above	01	CO2	KL2	
iv	The degree of fluorescein pooling can be graded as a) Slightly steep b) Steep c) Very steep d) All of the above	01	CO1	KL1	

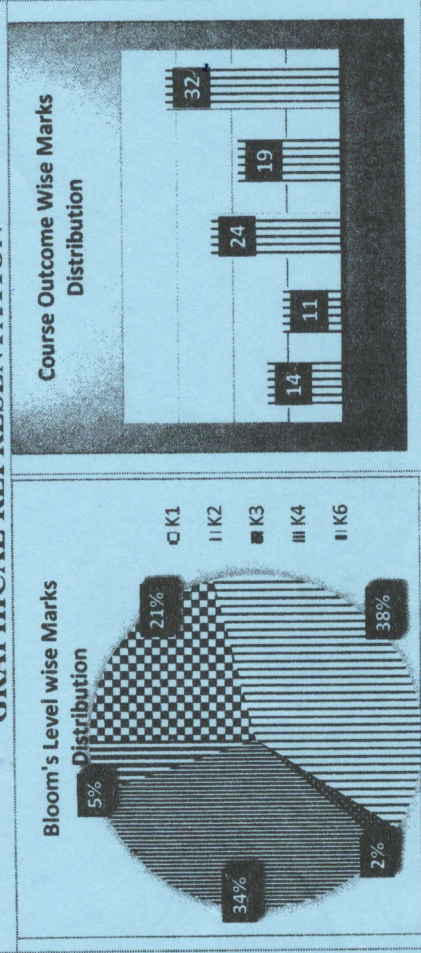
Q. No.	QUESTIONS	Marks			COs	KL
		01	CO2	KL2		
v	Ideal lens movement during fitting assessment will be a) Smooth b) Rocky c) Apical d) All of the above	01	CO2	KL2		
vi	Oxygen permeability is a a) Material property b) Optical property c) Lens property d) None of the above	01	CO1	KL1		
vii	The ideal contact lens material must have a) Durability b) Stability c) Optical transparency d) All of the above	01	CO1	KL1		
viii	Who can be considered father contact lens a) L. Da Vinci b) Sir John Herschel c) Thomas Young d) Adolf e Fick	01	CO2	KL2		
ix	Preliminary measures of for RGP a) HVID b) Radius of curvature c) Lid tonicity d) All of the above	01	CO1	KL1		
x	EDTA is a example of a) Chelating agent b) Wetting agent c) Cleaning agent d) None	01	CO2	KL2		
Section B (Answer any FOUR out of SIX) - 20 Marks (Each question Carry 5 Marks)						
Q. No.	QUESTIONS	Marks			COs	KL
		05	CO2	KL2		
2	Difference between RGP and SCL	05	CO2	KL2		
3	Advantages of contact lens over spectacles	05	CO2	KL2		
4	Presbyopia management with contact lens	05	CO3	KL2		
5	Ortho K Lens	05	CO2	KL2		
6	Importance of tear film in contact lens	05	CO2	KL2		

7	Spin casting method of SCL manufacturing	05	CO3	KL2
<u>Section C (Answer any TWO out of FOUR) – 20 Marks</u> (Each question Carry 10 Marks)				
Q. No.	QUESTIONS	Marks		
8	Describe the fitting philosophies of SCL	10	CO2	KL2
9	Describe prosthetic contact lenses	10	CO3	KL3
10	Discuss the various materials of SCL	10	CO4	KL3
11	Discuss common handling techniques of contact lenses	10	CO5	KL5

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

Course Outcomes	CO1	Understand the classification of strabismus
	CO2	Understand the concept of recording history in strabismus patients
	CO3	Understand the clinical features of convergent & divergent Strabismus
	CO4	Understand Strabismus the clinical features of vertical & paralytic
	CO5	Understand the procedure of various investigations to rule out the types of strabismus

GRAPHICAL REPRESENTATION



 ARKA JAIN University Jharkhand		NAAC GRADE A ACCREDITED UNIVERSITY		[04-05-2026] END SEM EXAMINATION School of Allied Health Sciences	
Program	Bachelor of Optometry				
Subject Name	Binocular Vision-2				
Semester	VI	Session	Even, 2025-26	Year	April, 2026
Time: 2 Hour Max. Marks : 50	● Start writing from 2nd page onwards; <u>don't Write on the 1st Page Backside</u>				
	● Answer all Questions of Section A (Compulsory)				
	● Answer Any Four out of Six of Section B				
	● Answer Any Two out of Four of Section C				
	● Possession of Mobile Phones or any kind of Written Material, Arguments with the Invigilator or Discussing with Co-Student will comes under <u>Unfair Means</u> and will <u>Result</u> in the <u>Cancellation of the Papers.</u>				
Knowledge Level (KL)	K1 : Remembering	K3 : Applying	K5 : Evaluating	K2 : Understanding	K4 : Analysing
				K6 : Creating	

Section A (Each question Carry 01 Marks from Q1-i to x) - 10 Marks

Q. N1	QUESTIONS	Marks	COs	KL
i	In left inferior oblique paralysis, face turn will be towards a) Variable side b) Left side c) Right side d) None of these	01	CO2	KL2
ii	Right superior rectus paralysis will give rise to secondary inhibitional palsy of a) Left superior oblique b) Right superior oblique c) Right inferior rectus d) Left superior rectus	01	CO3	KL3
iii	In paresis of left superior rectus, secondary inhibitional palsy will be of a) RIO b) LSO c) LIO d) RSO	01	CO4	KL4
iv	In right superior rectus paralysis head tilt will be towards a) Right b) Alternately right & left c) Left d) No tilt	01	CO2	KL2
v	Hirschberg test is used to detect a) Heterophoria b) Diplopia c) Heterotropia d) Both a & b	01	CO3	KL2
vi	Hess screen can be used to record a) Primary and secondary deviation	01	CO2	KL2

	b) Heterophoria c) Fusion d) None of these	01	CO2	KL2
vii	In Hirschberg test corneal reflex is at pupil margin nasally, strabismus is a) 15-degree esotropia b) 30-degree exotropia c) 30 PD exotropia d) None of these			
viii	Accommodation flipper is used for assessing a) PRA & NRA b) Accommodative facility c) Accommodative amplitude d) Presbyopia	01	CO3	KL3
ix	Occlusion is a treatment for a) Cataract b) Amblyopia c) Exotropia d) Refractive error	01	CO4	KL4
x	The task of reading involves a) Accommodation b) Convergence c) Saccadic & pursuits d) All of these	01	CO1	KL2
Section B (Answer any FOUR out of SIX) - 20 Marks (Each question Carry 5 Marks)				

Q. No.	QUESTIONS	Marks	COs	KL
2	Write a short note on Abnormal head posture	05	CO2	KL2
3	Penalization	05	CO3	KL1
4	Worth 4 dot test	05	CO4	KL4
5	Difference between paralytic & non-paralytic squint	05	CO2	KL2
6	Prism cover test	05	CO2	KL3
7	Suppression	05	CO1	KL2

Section C (Answer any TWO out of FOUR) - 20 Marks
(Each question Carry 10 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
8	Describe in detail about different tests to assess type and amount of strabismus	10	CO2	KL2
9	Classify paralytic squint? How comitant squint is different from non comitant squint.	10	CO3	KL1
10	A 50-year-old patient presents with complaints of double vision that worsens when looking towards	10	CO4	KL4

11	the side opposite to the affected eye. There is a history of uncontrolled diabetes mellitus. What is probable diagnosis & describe the clinical features. What are the potential etiologies? Discuss the diagnostic workup and management Explain Duane's retraction syndrome	10	CO3	KL3
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 ARKA JAIN University Jharkhand			[06-05-2026] END SEM EXAMINATION School of Health & Allied Sciences	
	Program	Bachelor of Optometry		
	Subject Name*	Public Health & Community Optometry	Session	Even, 2025-26
	Semester	VI	Year	April, 2026
Time: 3 Hour Max. Marks : 70		Start writing from 2nd page onwards; <u>don't Write on the 1st Page Backside</u> - Answer all Questions of Section A (Compulsory) - Answer Any Four out of Six of Section B - Answer Any Two out of Four of Section C - Possession of Mobile Phones or any kind of Written Material, Arguments with the Invigilator or Discussing with Co-Student will comes under <u>Unfair Means</u> and will <u>Result</u> in the <u>Cancellation of the Papers.</u>		
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 xii) – 12 Marks				
Q. N	QUESTIONS	Marks	COs	KL
1				
i	Define Public Health Optometry.	01	CO1	K1
ii	What is primary prevention?	01	CO4	K2
iii	Mention one method of vision screening in children.	01	CO5	K2
iv	What is visual impairment?	01	CO2	K1
v	Define blindness as per WHO.	01	CO2	K1
vi	What is Vitamin A deficiency?	01	CO2	K2
vii	Expand NPCB.	01	CO1	K1
viii	What is IEC in eye care?	01	CO3	K2
ix	Mention one method of vision screening in children.	01	CO5	K2
x	What is an indicator of health?	01	CO2	K2

xi	Define epidemiology.	01	CO2	K1
xii	Define bitot spot.	01	CO3	K1
Section B (Answer any FOUR out of SIX) – 28 Marks (Each question Carry 07 Marks)				
Q. No.	QUESTIONS	Marks	COs	KL
2	Explain the stages of disease with suitable examples related to eye health.	07	CO2	K3
3	Discuss dimensions and determinants of health in relation to eye care.	07	CO1	K4
4	Describe levels of disease prevention with examples in community eye care.	07	CO4	K3
5	Write a short note on epidemiology of blindness in India.	07	CO2	K4
6	Explain the role of optometrist in school eye health programmes.	07	CO5	K3
7	Discuss Information, Education and Communication in eye care programs.	07	CO3	K4
Section C (Answer any TWO out of FOUR) – 30 Marks (Each question Carry 15 Marks)				
Q. No.	QUESTIONS	Marks	COs	KL
8	i. Role of optometrists in eradication of avoidable blindness.	15	CO4, CO1,	K5
9	ii. Evaluate role of NPCB in Vision 2020.	15	CO1, CO4	K5
10	Explain levels of health care delivery and their application in community eye care programs in India.	15	CO3, CO4	K6
11	Describe the role of an optometrist in public health and organization of eye care programs.	15	CO3	K6

CO1	Community based eye care in India.
CO2	Prevalence of various eye diseases
CO3	Developing Information Education Communication materials on eye and vision care for the benefit of the public
CO4	Organize health education programs in the community
CO5	Vision screening for various eye diseases in the community and for different age group
GRAPHICAL REPRESENTATION	
Bloom's Level wise Marks Distribution Course Outcome Wise Marks Distribution	

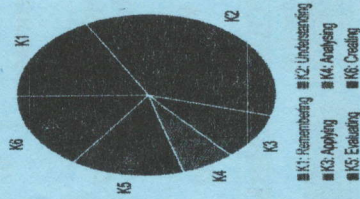
11	What are the essential legal requirements and licenses needed to establish a private optometry practice in an Indian city? Provide a detailed checklist of the documents required and explain why following these business laws is important for the safety of both the practitioner and the patient.	15	CO2	K1
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CO- Course Outcomes, KL- Knowledge Level, PO – Program Outcome

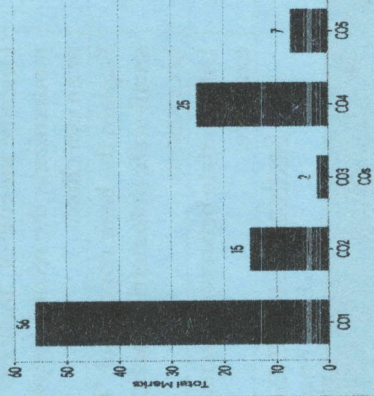
Course Outcomes	CO1	Gained knowledge on various aspects of private optometric practice from Indian perspective.
	CO2	Will be aware of the laws concerning a business and its consumers.
	CO3	Develop communication skills and consumer psychology.
	CO4	Work place integrity, gender equality and professional conduct.

GRAPHICAL REPRESENTATION

KL-wise Total Marks Distribution



CO-wise Total Marks Distribution



	ARKA JAIN University Jharkhand			[08-05-2026] END SEM EXAMINATION School of Health & Allied Sciences
	Program	Bachelor of Optometry		
	Subject Name	Practise Management		
	Semester	VI	Session	Even, 2025-26
Time: 3 Hour Max. Marks : 70		Year April, 2026		
Knowledge Level (KL) K1 : Remembering K2 : Understanding K3 : Applying K4 : Analysing K5 : Evaluating K6 : Creating		Start writing from 2nd page onwards; <u>don't Write on the 1st Page Backside</u> Answer all Questions of Section A (Compulsory) Answer Any Four out of Six of Section B Answer Any Two out of Four of Section C Possession of Mobile Phones or any kind of Written Material, Arguments with the Invigilator or Discussing with Co-Student will come under <u>Unfair Means</u> and will <u>Result</u> in the <u>Cancellation of the Papers.</u>		

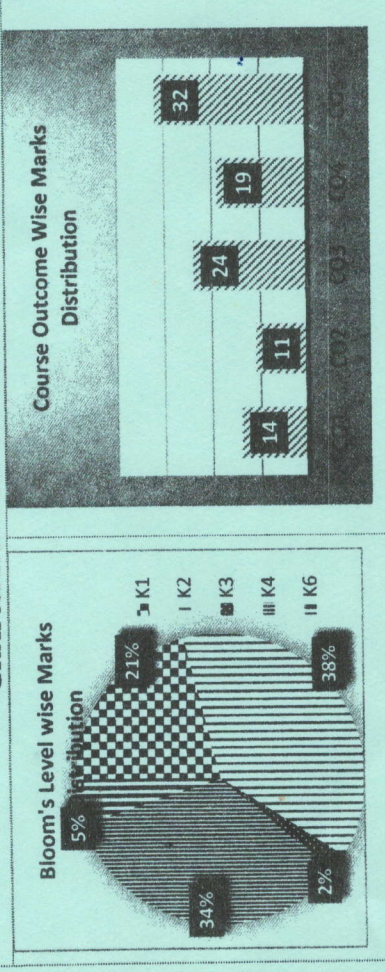
Section A (Each question Carry 01 Mark from Q1-i to xii) – 12 Marks					
Q. N	QUESTIONS	Marks	COs	KL	
i	Which financial statement provides a snapshot of an optometry practice's assets, liabilities, and equity at a specific point in time? A. Profit and Loss Account B. Cash Flow Statement C. Balance Sheet D. Ledger	01	CO1	K1	
ii	In the context of "Professionalism and Values," which term refers to the obligation of an optometrist to keep patient information private? A. Objectivity B. Confidentiality C. Professional Competence D. Accountability	01	CO4	K2	
iii	A patient enters the clinic feeling anxious about a diagnosis. An optometrist who uses active listening and empathy is applying knowledge of: A. Stock control B. Consumer psychology C. Taxation planning D. Business computerization	01	CO3	K3	
iv	Which of the following is considered a primary source of finance for a new private optometric practice in India? A. Equity/Personal Savings B. Patient records	01	CO1	K1	

	C. Trial Balance	D. Staffing relations			
v	In accounting, "Bookkeeping" is primarily concerned with: (K2, CO1) A. Analyzing market trends B. Recording financial transactions systematically C. Staffing and HR relations D. Tax evasion strategies	01	CO1	K2	
vi	When an optometry practice ensures that male and female staff receive equal pay and opportunities for the same role, it is practicing: A. Professional competence B. Gender equality C. Consumer psychology D. Taxation planning	01	CO4	K2	
vii	Why is "Business Computerization" essential for modern practice management? A. To eliminate the need for clinical staff B. To improve efficiency in patient records and billing C. To bypass taxation laws D. To reduce the need for professional integrity	01	CO1	K2	
viii	A "Trial Balance" is prepared primarily to: A. Calculate personal income tax B. Check the arithmetical accuracy of ledger postings C. Hire new staff D. Develop a marketing plan	01	CO1	K2	
ix	Formulate a strategy: If a practice is facing low patient retention, which area should the manager analyze first? A. Tax planning B. Staffing relations and consumer communication C. The Trial Balance D. Journal entries	01	CO3	K6	
x	What is the primary purpose of "Taxation Planning"? A. To avoid paying any taxes legally or illegally B. To minimize tax liability through legal exemptions and deductions C. To increase the complexity of bookkeeping D. To replace the Profit and Loss account	01	CO1	K2	
xi	"Staffing and staff relations" falls under which management function? A. Financial Management B. Human Resource Management C. Stock Control D. Taxation	01	CO1	K1	

xii	When an optometrist treats all patients with the same level of care regardless of their background, they are demonstrating: A. Objectivity and fairness B. Computerization C. Accounting principles D. Stock costing	01	CO4	K3	
Section B (Answer any FOUR out of SIX) – 28 Marks (Each question Carry 07 Marks)					
Q. No.	QUESTIONS	Marks	COs	KL	
2	You are establishing a new private practice in Jamshedpur. Outline the essential "Practice Establishment" steps and the primary sources of finance available for such a venture.	07	CO1	K3	
3	Define "Professional Integrity" and "Confidentiality." Why are these values non-negotiable in a healthcare environment?	07	CO4	K2	
4	Discuss the importance of "Stock Control." What are the potential risks of overstocking high-end spectacle frames?	07	CO1	K2	
5	Describe the role of "Business Computerization" in modernizing the record-keeping and billing processes of an eye clinic.	07	CO1	K2	
6	Explain the basic concept of "Taxation Planning" for a small-scale optometric practice and how it differs from tax evasion.	07	CO5	K2	
7	Differentiate between "Journal" and "Ledger." With example.	07	CO1	K4	
Section C (Answer any TWO out of FOUR) – 30 Marks (Each question Carry 15 Marks)					
Q. No.	QUESTIONS	Marks	COs	KL	
8	Design a comprehensive "Staffing Plan" for a mid-sized optometry clinic. Include job roles, necessary qualifications, and strategies for maintaining healthy staff relations.	15	CO1	K6	
9	Evaluate the "Basic Principles of Accounting." Explain in detail how the Profit and Loss Account and Balance Sheet serve as tools for assessing the financial health of a practice.	15	CO1	K5	
10	What is a "Code of Conduct"? Discuss the core professional values – Integrity, Objectivity, and Professional Competence – and explain how they help in maintaining the reputation of a healthcare professional.	15	CO4	K2	

Course Outcomes	CO1	To understand the principles of ethical practice
	CO2	To maintain human values like discipline and integrity
	CO3	To work as per code of conduct
	CO4	Comprehend how medical laws and ethics work in tandem
	CO5	To understand the legal and ethical issues whilst making a decision or consulting acinia

GRAPHICAL REPRESENTATION



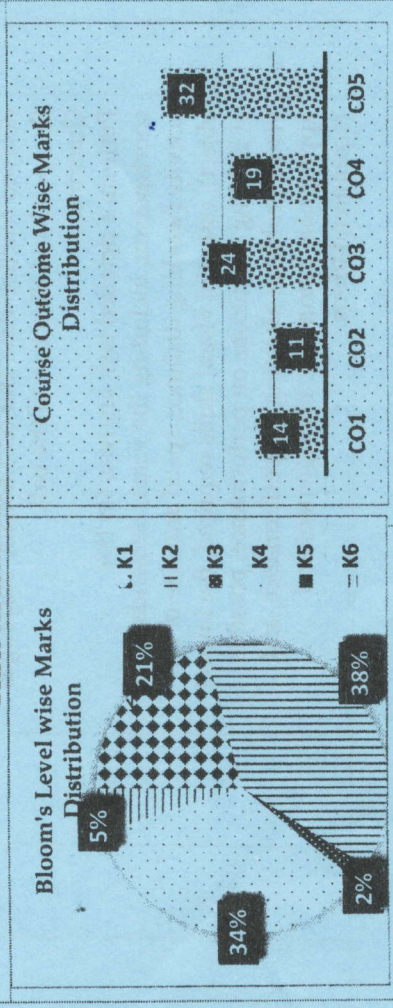
						[11-05-2026] END SEM EXAMINATION School of Health & Allied Sciences	
Program		Bachelor of Optometry					
Subject Name		Medical Law & Ethics				Session Even, 2025-26	
Semester		VI				Year April, 2026	
Time: 3 Hour Max. Marks : 70		• Start writing from 2nd page onwards; <u>don't Write on the 1st Page</u> * <u>Backside</u>					
		• Answer all Questions of Section A (Compulsory) • Answer Any Four out of Six of Section B • Answer Any Two out of Four of Section C • Possession of <u>Mobile Phones</u> or any kind of <u>Written Material</u> , <u>Arguments with the Invigilator or Discussing with Co-Student</u> will comes under <u>Unfair Means</u> and will <u>Result</u> in the <u>Cancellation of the</u> <u>Papers.</u>					
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 xii) – 12 Marks					
Q. N	QUESTIONS	Marks	COs	KL	
1					
i	Full For of MLC	01	CO3	K1	
ii	What do you understand by incident Form	01	CO4	K1	
iii	Define Medical Ethics	01	CO4	K3	
iv	Give one example of malpractice	01	CO4	K3	
v	Give one example of negligence	01	CO4	K3	
vi	Give one example of sentinel events	01	CO3	K3	
vii	Gine one example of near miss event	01	CO3	K3	
viii	Explain one case which comes under MLC	01	CO3	K3	
ix	Explain importance of informed consent	01	CO3	K3	
x	Explain the Importance of principle of medical ethics	01	CO3	K3	

xi	Which part of the eye can be used for transplantation	01	CO4	K3
xii	Explain about one right of patient	01	CO2	K1
Section B (Answer any FOUR out of SIX) - 28 Marks (Each question Carry 07 Marks)				
Q. No.	QUESTIONS	Marks	COs	KL
2	What do you understand by Malpractice, Explain with example	07	CO3	K3
3	What do you under by Negligence, Explain with one example	07	CO3	K3
4	Explain Medico legal aspects of medical records- Medico legal case and type-Records and document related to MLC	07	CO4	K3
5	Discuss about Autonomy and informed consent	07	CO1	K2
6	Discuss about Basic principles of medical ethics with one example	07	CO1	K3
7	List organs of body which can used of transplantation (organ transplantation)	07	CO5	K3
Section C (Answer any TWO out of FOUR) - 30 Marks (Each question Carry 15 Marks)				
Q. No.	QUESTIONS	Marks	COs	KL
8	Discuss about the near miss or sentinel events	15	CO5	K3
9	What is Professional Indemnity insurance policy	15	CO5	K3
10	Discuss about organ transplantation with laws and its amendment	15	CO4	K3
11	Discuss about Care of the terminally ill- Euthanasia with a recent example of march 2026	15	CO4	K3

CO1	To Understand the occupational health
CO2	Identify the visual requirements in various jobs.
CO3	Illustrate the effects of Physical, chemical and biological hazards on eye and vision
CO4	Analyze occupational causes of visual and eye problems.
CO5	Prescribe suitable corrective lenses and eye protective wear to the patients.
CO6	Formulate visual requirements and standards for different jobs.

GRAPHICAL REPRESENTATION



 ARKA JAIN University Jharkhand			[13-05-2026] END SEM EXAMINATION School of Health & Allied Sciences	
Program	Bachelor of Optometry			
Subject Name	Occupational Optometry			Session
Semester	VI		Year	Even, 2025-26 * April, 2026
Time: 3 Hour Max. Marks : 70	• Start writing from 2nd page onwards; <u>don't Write on the 1st Page Backside</u> • Answer all Questions of Section A (Compulsory) • Answer Any Four out of Six of Section B • Answer Any Two out of Four of Section C • Possession of Mobile Phones or any kind of Written Material, <u>Arguments with the Invigilator or Discussing with Co-Student will comes under Unfair Means and will Result in the Cancellation of the Papers.</u>			
Knowledge Level (KL)	K1: Remembering		K3 : Applying	K5 : Evaluating
	K2: Understanding		K4 : Analysing	K6 : Creating

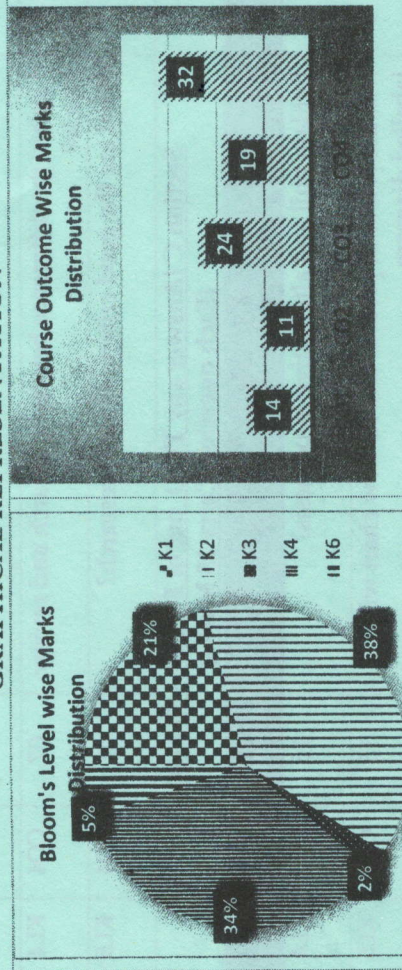
Section A (Each question Carry 01 Mark from Q1-i to xii) – 12 Marks						
Q.N	QUESTIONS	Marks	COs	KL		
i	State true or false with justification: Personal protective equipment (PPE) is not necessary if the workplace is clean.	01	CO5	KL2		
ii	State true or false with justification: The International Labour Organization deals with labor rights and workplace safety.	01	CO1	KL1		
iii	State true or false with justification: Infrared radiation mainly affects the retina and not the anterior eye.	01	CO4	KL3		
iv	State true or false with justification: Color coding has no importance in occupational safety.	01	CO2	KL2		
v	State true or false with justification: Task analysis helps in understanding the visual demands of a job.	01	CO2	KL3		
vi	State true or false with justification: Working distance is an important factor considered during task analysis.	01	CO6	KL3		

9	A job applicant for railway signaling fails a colour vision test. Discuss the importance of colour vision in such occupations, types of colour vision defects, and methods of testing.	15	CO2	KL4
10	A healthcare worker wearing contact lenses develops recurrent eye infections. Discuss possible causes, risks, and guidelines for safe contact lens use in workplace settings.	15	CO5	KL5
11	A 22-year-old professional cricket batsman with refractive error of -3.75 Dsph / -1.00 Dcyl x 90 degrees, reports difficulty in judging fast deliveries, particularly under spotlight during evening matches with present glasses. He experiences delayed reaction time and occasionally misjudges the speed and direction of the ball. Question: Perform a detailed task analysis for this sports person, including the visual demands of the activity (working distance, speed and size of the object), essential visual skills required, the impact of lighting conditions on performance, possible visual problems affecting his performance, and appropriate optometric management and recommendations.	15	CO4	*KL5

vii	State true or false with justification: Exposure to pesticides can cause irritation and damage to the eyes.	01	CO3	KL4
viii	State true or false with justification: Taking regular breaks has no effect on visual fatigue during screen use.	01	CO3	KL3
ix	State true or false with justification: Contact lenses can be safely used in all work environments without precautions.	01	CO5	KL4
x	State true or false with justification: Contact lens wearers may experience dryness in air-conditioned workplaces.	01	CO5	KL4
xi	State true or false with justification: Blinking rate increases during VDU use.	01	CO3	KL2
xii	State true or false with justification: Colour vision is important for railway and aviation personnel.	01	CO2	KL3
Section B (Answer any FOUR out of SIX) - 28 Marks (Each question Carry 07 Marks)				
Q. No.	QUESTIONS	Marks	COs	KL
2	Describe the effects of ultraviolet radiation on the eye.	07	CO3	KL4
3	Write a short note on sources of natural and artificial sources of light.	07	CO1	KL2
4	What is task analysis in occupational optometry?	07	CO2	KL3
5	Describe any two tests used in industrial vision assessment.	07	CO6	KL2
6	What is digital eye strain?	07	CO4	KL1
7	Describe a work place not suitable for Contact lens wearers, and where they might have to switch to glasses.	07	CO5	KL4
Section C (Answer any TWO out of FOUR) - 30 Marks (Each question Carry 15 Marks)				
Q. No.	QUESTIONS	Marks	COs	KL
8	A factory worker exposed to welding arcs presents with severe eye pain, redness, and photophobia after work. Discuss the type of radiation involved, its effects on the eye, pathophysiology, and preventive measures.	15	CO4	KL5

CO1	Data collection and statistical application
CO2	To procure knowledge of different research methodologies and appropriate research design to conduct research projects
CO3	Will be trained to interpret the strength of statistical arguments made by researchers
CO4	To weigh statistical and clinical evidence in assessing a scientific hypothesis
CO5	To read a scientific article effectively, review it and utilize the finding as evidence-based practice

GRAPHICAL REPRESENTATION



Program	Bachelor of Optometry	
Subject Name	Research Project-1	
Semester	VI	Session Even, 2025-26
		Year April, 2026 *
Time: 3 Hour Max. Marks : 70	• Start writing from 2nd page onwards; <u>don't Write on the 1st Page Backside</u> • Answer all Questions of Section A (Compulsory) • Answer Any Four out of Six of Section B • Answer Any Two out of Four of Section C • Possession of <u>Mobile Phones</u> or any kind of <u>Written Material</u> , <u>Arguments with the Invigilator</u> or <u>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> .	
Knowledge Level (KL)	K1 : Remembering K2 : Understanding	K3 : Applying K4 : Analysing K5 : Evaluating K6 : Creating

Section A (Each question Carry 01 Mark from Q1-i to xii) – 12 Marks

Q. N	QUESTIONS	Marks	COs	KL
1				
i	The Purpose of data analysis is to:- a) Make the report longer b) Interpret collected data c) Delete Data d) Print tables	01	CO2	KL2
ii	Primary data is a) Data collected directly from the source b) Data taken from books c) Data taken from websites d) Old published data	01	CO3	KL3
iii	Which Statistical measure represents the average of data a) Mean b) Range b) Variance c) Frequency	01	CO3	KL3
iv	The T test is mainly used to compare a) Three or more group means b) Two group means c) Percentage only d) Frequency only	01	CO2	KL2

v	The chi square test is mainly used to determine a) Relationship of categorical variables b) Mean value c) Median value d) Standard deviation	01	CO2	KL2
vi	Random sampling is classified as: - a) Non-probability sampling b) Probability sampling c) Purposive sampling d) Convenience sampling	01	CO3	KL3
vii	Standard deviation measures: - a) Central value b) Degree of spread/dispersion c) Mean d) Median	01	CO4	KL4
viii	Chi-square test is used for: a) Testing correlation b) Comparing means c) Testing association between categorical variables d) Measuring dispersion	01	CO3	KL3
ix	Statistical significance is usually tested using: a) Histograms b) P-values c) Ratios d) Pie charts	01	CO4	KL4
x	Prevalence measures: a) New cases only b) Deaths only c) All existing cases at a given time d) Risk of dying	01	CO3	KL3
xi	Secondary data is a) Data collected directly from the source b) Data taken from books c) Data taken from websites d) Old published data	01	CO4	KL4
xii	Random sampling is classified as: - a) Non-probability sampling b) Probability sampling c) Purposive sampling d) Convenience sampling	01	CO5	KL5

Section B (Answer any FOUR out of SIX) - 28 Marks (Each question Carry 07 Marks)				
Q. No.	QUESTIONS	Marks	COs	KL
2	What are Boolean operators in literature search?	07	CO4	KL4
3	Explain the function of AND/OR operators in literature search with example	07	CO3	KL3
4	What is the purpose of quotation mark (") in literature search?	07	CO4	KL4
5	Explain plagiarism in research writing?	07	CO5	KL5
6	Explain the difference between research and review article?	07	CO4	KL4
7	What are the good criteria of ideal research?	07	CO4	KL5
Section C (Answer any TWO out of FOUR) - 30 Marks (Each question Carry 15 Marks)				
Q. No.	QUESTIONS	Marks	COs	KL
8	Explain null and alternative hypothesis?	15	CO3	KL4
9	Discuss research process and its flow chart with labelled diagram	15	CO4	KL5
10	Explain chi square test with example	15	CO3	KL5
11	Difference between parametric and non-parametric tests of data analysis in research	15	CO4	KL4