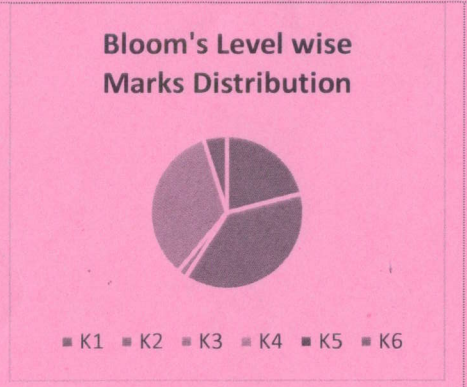
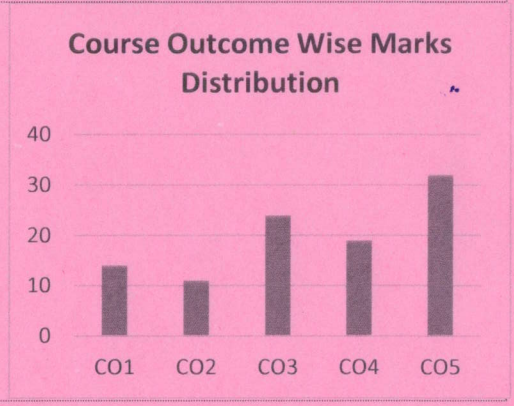
CO- Course Outcomes, KL- Knowledge Level, PO – Program Outcome

Course Outcomes	CO1	Distinguish key physiological processes underlying the formation of seedlings from seed embryos.
	CO2	Identify the physiological factors that regulate growth and developmental processes of crop plants, and clearly define their roles.
	CO3	Evaluate the different strategies used by plants to acquire and utilize resources, and formulate a logical argument of their impact on crop productivity.
	CO4	Recognize the significance of assimilate translocation and patterns of its partitioning in determining crop yield.
	CO5	partitioning in determining crop yield.

GRAPHICAL REPRESENTATION





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[20-06-2025]
END SEM EXAMINATION
School of Allied Health Science

Program	**Bachelor of Science-Biotechnology**		
Subject Name	**Plant Physiology**	**Session**	**Even, 2024-2025**
Semester	**II**	**Year**	**June, 2025**
Time: 3 Hour Max. Marks : 60	• 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 **Unfair Means** and will **Result** in the **Cancellation of the Papers**.		
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. N 1	QUESTIONS	Marks	COs	KL
i	Which of the following features differentiates a dicot stem from a monocot stem in primary structure? A. Presence of endodermis B. Closed vascular bundles C. Conjoint vascular bundles D. Vascular bundles arranged in a ring	01	CO2	K1
ii	What causes guard cells to swell and open the stomata? A. Uptake of oxygen B. Uptake of water C. Uptake of carbon dioxide D. Loss of water	01	CO1	K2
iii	Which plant hormone causes stomatal closure during water stress? A. Auxin B. Cytokinin C. Gibberellin D. Abscisic acid	01	CO4	K3
iv	Transpiration is measured using which instrument? A. Thermometer B. Potometer C. Manometer D. Spectrometer	01	CO2	K1
v	Which hormone promotes cell elongation in plants? A. Cytokinin B. Auxin C. Abscisic acid D. Ethylene	01	CO1	K2

vi	What pigment is responsible for sensing photoperiod? A. Chlorophyll B. Carotenoid C. Phytochrome D. Anthocyanin	01	CO4	K3
vii	Seed dormancy can be due to: A. Active metabolism B. Immature embryo C. Presence of auxin D. Active gibberellin	01	CO4	K1
viii	Vernalization refers to: A. Seed dispersal B. Flowering induced by long nights C. Flowering induced by low temperatures D. Inhibition of seed germination	01	CO1	K2
ix	Potassium is mainly responsible for: A. Cell wall formation B. Opening and closing of stomata C. Protein synthesis D. Chlorophyll formation	01	CO1	K3
x	Which mineral nutrient is directly involved in nitrogen fixation by legumes? A. Iron B. Molybdenum C. Phosphorus D. Boron	01	CO2	K1

Section B (Answer any FOUR out of SIX) – 20 Marks
(Each question Carry 5 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
2	Explain the mechanism of opening and closing of stomata.	05	CO1	K2
3	What is Photoperiodism? Describe the role of photoperiodism in flowering Plants.	05	CO2	K2
4	What are the types of transpiration? Discuss the advantages and disadvantages of transpiration in plants.	05	CO3	K3
5	Name four macronutrients required for Plants and mention two important function each.	05	CO3	K2
6	Draw a well labelled diagram to show the anatomy of a dorsiventral leaf.	05	CO4	K5
7	What is Photorespiration? Discuss the importance of this phenomenon in plants.	05	CO5	K4

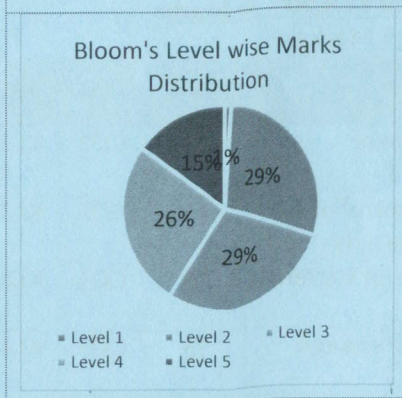
Section C (Answer any TWO out of FOUR) – 30 Marks
(Each question Carry 15 Marks)

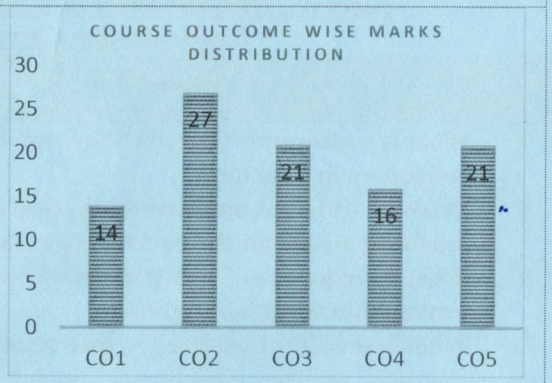
Q. No.	QUESTIONS	Marks	COs	KL
8	Differentiate between macro and micronutrients. Explain the role of nitrogen, potassium, iron, and zinc in plant growth.	15	CO1	K2
9	Describe the major functions of auxin, gibberellin, cytokinin, abscisic acid, and ethylene in plants.(three each hormone)	15	CO2	K2
10	What is Seed Dormancy? How is seed dormancy ecologically significant for plants?	15	CO3	K3
11	Describe the light and dark reactions of photosynthesis. Draw well label diagrams to support your answer.	15	CO3	K2

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

Course Outcomes	CO1	Student will understand the diversified branches of microbiology
	CO2	Student will know the theoretical and practical aspects of microbial growth and physiology
	CO3	Students will learn about the morphology and physiological characteristics of different groups of microorganisms and their control
	CO4	This course will make the students to understand virus cultivation, phage and bacterial/yeast genetics
	CO5	Understand the food microbiology, sewage and water microbiology

GRAPHICAL REPRESENTATION





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NAAC GRADE A
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[23-06-2025]
END SEM EXAMINATION
School of Allied Health Science

Program	**Bachelor of Science-Biotechnology**		
Subject Name	**General Microbiology**	**Session**	**Even, 2024-2025**
Semester	**II**	**Year**	**June, 2025**
Time: 3 Hour Max. Marks : **60**	• 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 **Unfair Means** and will **Result** in the **Cancellation of the Papers**.		
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. N 1	QUESTIONS	Marks	COs	KL
i	Microbial taxonomy involves: a) Naming, describing, and classifying microorganisms b) Studying microbial metabolism only c) Producing antibiotics d) Observing microbial growth rates	01	CO1	KL2
ii	Viruses differ from cellular microorganisms because: a) They have both DNA and RNA simultaneously b) They lack a cellular structure and require a host to replicate c) They perform photosynthesis d) They are visible under a light microscope	01	CO1	KL4
iii	A complex medium differs from a defined medium in that it: a) Contains known chemical composition b) Contains undefined components like yeast extract or peptone c) Is only used for fungi d) Is always selective	01	CO2	KL3

iv	A microorganism that uses CO_2 as a carbon source and inorganic chemicals as an energy source is called a: a) Chemoheterotroph c) Photoautotroph b) Chemoautotroph d) Photoheterotroph	01	CO1	KL3
v	Which statement about endospores is TRUE? a) They are metabolically active b) They are resistant to heat, desiccation, and chemicals c) They cannot survive harsh environments d) They are formed during binary fission	01	CO2	KL1
vi	Which type of gene transfer involves a bacteriophage? a) Conjugation c) Transduction b) Transformation d) Mutation	01	CO4	KL2
vii	A nurse needs to disinfect a surface contaminated with Staphylococcus aureus. Which chemical agent is most suitable? a) Distilled water c) 70% ethanol b) Sodium bicarbonate d) Urea	01	CO3	KL3
viii	What is the standard temperature and pressure for autoclaving? a) 121°C at 15 psi for 15–20 minutes b) 100°C at 1 atm for 10 minutes c) 140°C at 30 psi for 5 minutes d) 160°C at 1 atm for 30 minutes	01	CO1	KL3
ix	Which of the following is considered a fecal coliform and used as an indicator of water contamination? a) Salmonella typhi b) Escherichia coli c) Pseudomonas aeruginosa d) Clostridium botulinum	01	CO5	KL2
x	Which part of sewage primarily contributes to biological oxygen demand (BOD)? a) Dissolved minerals c) Pathogenic microbes b) Organic matter d) Heavy metals	01	CO5	KL2

Section B (Answer any FOUR out of SIX) – 20 Marks
(Each question Carry 5 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
2	Write short notes on a) Microbial phylogeny b) Unique features of virus	05	CO2	KL2
3	Classify the bacteria on the basis of flagella with example.	05	CO2	KL2
4	Differentiate between food intoxication and food infection. Name two microorganisms responsible for it.	05	CO5	KL3
5	Write the difference between prokaryotic and eukaryotic cell.	05	CO1	KL4
6	Compare and contrast the effectiveness and applications of alcohols and halogens as disinfectants.	05	CO3	KL3
7	Describe different methods of preservation of microorganisms.	05	CO1	KL4

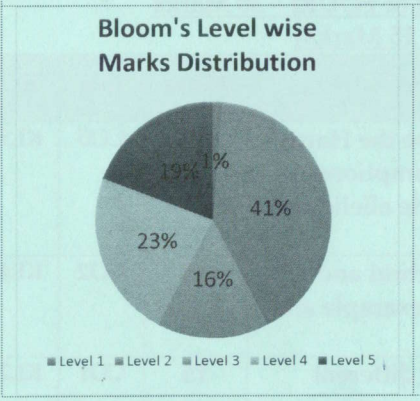
Section C (Answer any TWO out of FOUR) – 30 Marks
(Each question Carry 15 Marks)

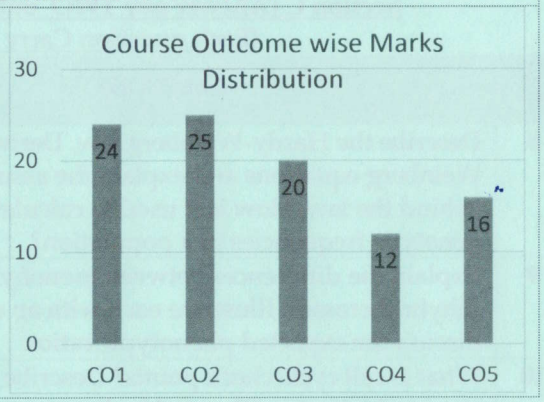
Q. No.	QUESTIONS	Marks	COs	KL
8	What is endospore? Describe the formation of endospore in a bacteria.	15	CO2	KL2
9	Illustrate different methods of physical control of microorganisms for the various types materials	15	CO3	KL3
10	What is conjugation? Illustrate the process of bacterial conjugation using a diagram.	15	CO4	KL5
11	What is sewage? Describe the treatment of sewage.	15	CO5	KL4

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

Course Outcomes	CO1	Comprehend and apply knowledge of genetics as it relates to a variety of topics including inheritance patterns, population and quantitative genetics, and mutation
	CO2	Discuss about Mendelian genetics, multiple allele and Various Epistasis
	CO3	Understand in detail about chromosomal and gene mutation
	CO4	Understand about various genetic disorders and their causes
	CO5	Attain knowledge about Karyotyping and its application in the field of Genetics

GRAPHICAL REPRESENTATION





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[25-06-2025]
END SEM EXAMINATION
School of Allied Health Science

Program	**Bachelor of Science-Biotechnology**		
Subject Name	**Genetics**	**Session**	**Even, 2024-2025**
Semester	**II**	**Year**	**June, 2025**
Time: 3 Hour Max. Marks : **60**	• 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 **Unfair Means** and will **Result** in the **Cancellation of the Papers**.		
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. N 1	QUESTIONS	Marks	COs	KL
i	A karyotype is: a) The functional expression of a gene b) A complete set of chromosomes in a cell arranged by size and shape c) The sequence of nucleotides in DNA d) A type of chromosomal mutation	01	CO1	KL1
ii	Heterochromatin differs from euchromatin in that it: a) Contains more genes b) Is transcriptionally inactive and tightly packed c) Is found only in prokaryotes d) Contains only introns	01	CO1	KL2
iii	The genetic code is described as: a) Degenerate and universal b) Non-overlapping and ambiguous c) Specific only to humans d) Variable across cell types	01	CO2	KL4
iv	If two genes exhibit complementary gene interaction, what would be the expected phenotypic ratio in F2? a) 9:3:3:1 b) 9:7 c) 12:3:1 d) 9:6:1	01	CO2	KL3

v	In dominant epistasis, the epistatic gene: a) Masks the expression of the hypostatic gene even if dominant allele is present b) Is always recessive c) Only affects phenotype if homozygous recessive d) Enhances the other gene's expression	01	CO2	KL4
vi	The Ames test is used to: a) Detect bacterial infections b) Identify mutagenic potential of chemical compounds c) Measure gene expression d) Sequence DNA	01	CO4	KL4
vii	Which of the following is an example of aneuploidy in humans? a) Down syndrome (Trisomy 21) b) Turner syndrome (Monosomy X) c) Both A and B d) Klinefelter syndrome only	01	CO1	KL3
viii	Fragile-X syndrome is caused by: a) Mutation in Y chromosome b) Expansion of CGG repeats on X chromosome c) Deletion of autosomal gene d) Aneuploidy of chromosome 21	01	CO4	KL2
ix	Cytoplasmic inheritance often involves: a) Mitochondrial DNA and chloroplast DNA b) Only nuclear DNA c) Sex chromosomes d) Ribosomal RNA genes only	01	CO2	KL2
x	Which of the following is NOT a condition for Hardy-Weinberg equilibrium? a) Large population size b) No mutation c) Random mating d) Natural selection	01	CO5	KL3

Section B (Answer any FOUR out of SIX) – 20 Marks
(Each question Carry 5 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
2	Write short notes on a) Epistasis b) Mutagen c) Gene d) Genetic drift e) Cell cycle	05	CO1 CO2 CO3 CO4	KL2
3	What is genetic code? Write the properties of genetic code.	05	CO4	KL4
4	Define penetrance and expressivity. How do these concepts help explain variations in phenotypic expression among individuals with the same genotype?	05	CO3	KL3
5	Define extra-chromosomal inheritance. Provide examples of maternal inheritance and cytoplasmic inheritance.	05	CO4	KL2
6	Describe Genetic organization of viral genome.	05	CO2	KL2
7	What is chromosome? Classify the different types of chromosome on the basis of location of centromere.	05	CO1	KL2

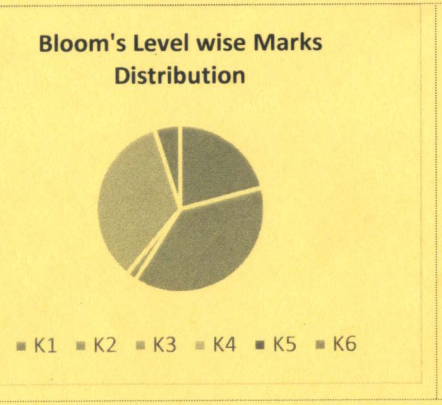
Section C (Answer any TWO out of FOUR) – 30 Marks
(Each question Carry 15 Marks)

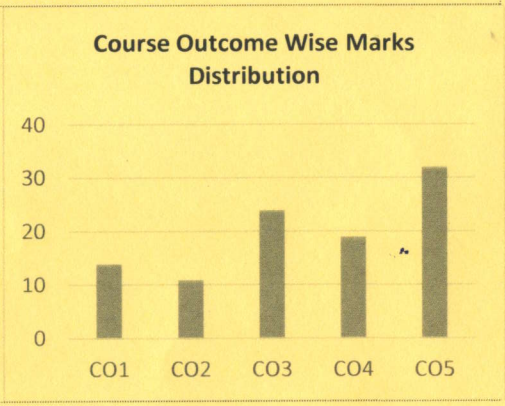
Q. No.	QUESTIONS	Marks	COs	KL
8	Describe the Hardy-Weinberg law. Derive the Hardy-Weinberg equations and explain the assumptions behind the law. How is it used to calculate allelic and genotype frequencies in a population?	15	CO5	KL5
9	Explain the differences between monohybrid and dihybrid crosses. Illustrate each with an example and discuss the expected phenotypic ratios.	15	CO2	KL4
10	What is cell cycle check points? Describe different stages of mitosis with suitable diagram.	15	CO1	KL2
11	Define mutation and describe the various types of mutations. How do different types of mutations affect the genetic material and phenotype?	15	CO3	KL3

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

Course Outcomes	CO1	Students should understand the importance of the ecosystem, biodiversity, biospheres.
	CO2	They should have a sound understanding and knowledge of the different types of pollution and how to tackle the problem
	CO3	Students should be able to appreciate the working of the environment and as future economists should be able to correlate development with sustainability of environment

GRAPHICAL REPRESENTATION





ARKA JAIN University
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NAAC GRADE A
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[27-06-2025]
END SEM EXAMINATION
School of Allied Health Science

Program	**Bachelor of Science-Biotechnology**		
Subject Name	**Environment Study**	**Session**	**Even, 2024-2025**
Semester	**II**	**Year**	**June, 2025**
Time: 1.5 Hour Max. Marks : **35**	• Start writing from 2nd page onwards; **don't Write on the 1st Page Backside** • **Answer all Questions of Section A (Compulsory)** • **Answer Any Five 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 **Unfair Means** and will **Result** in the **Cancellation of the Papers**.		
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 v) – 05 Marks

Q. N 1	QUESTIONS	Marks	COs	KL
i	Which combination of organisms could form a simple food chain in a pond ecosystem? A. Fish → Algae → Frog B. Algae → Insect → Fish C. Frog → Fish → Insect D. Insect → Algae → Frog	01	CO1	KL4
ii	Which of the following would **most likely** disrupt a forest foodweb? A. Seasonal migration of birds B. Introduction of an invasive predator C. Photosynthesis in plants D. Natural death of a few herbivores	01	CO1	KL4
iii	Why is population explosion considered a problem in developing countries? A. It increases tourism B. It leads to more forests C. It puts pressure on natural resources and public services D. It helps in economic stability	01	CO2	KL3
iv	What would most likely happen if a community ignores sustainable practices?	01	CO3	KL1

	A. Natural resources will last longer B. Environmental quality may deteriorate over time C. Biodiversity will increase D. Air and water will stay clean			
v	Which of the following is a *biosphere reserve* in India? A. Gir National Park B. Sundarbans C. Kaziranga D. Sariska	01	CO1	KL1

Section B (Answer any FIVE out of SIX) – 10 Marks
(Each question Carry 02 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
2	What is biodiversity? Mention any two biodiversity hotspots in India.	02	CO1	KL1
3	How does rapid population growth affect urban resources and public health?	02	CO2	KL3
4	What is the difference between biotic and abiotic components of an ecosystem? Use example of a desert ecosystem.	02	CO1	KL3
5	Distinguish between renewable and non-renewable sources of energy with one example of each.	02	CO2	KL1
6	Explain the terms, Producers, Consumers, Decomposers and their importance in an Ecosystem.	02	CO1	KL2
7	What is Ecological Pyramid? Draw the Ecological pyramid of Biomass and Number in an Ecosystem.	02	CO1	KL2

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

Q. No.	QUESTIONS	Marks	COs	KL
8	Explain the structure and functioning of an ecosystem. How do energy flow and nutrient cycling maintain ecosystem balance?	10	CO1	KL4
9	Write short note on: a. Forest Conservation Act b. Wild life Protection Act 1972	10	CO3	KL2
10	Evaluate the social and environmental impacts of population explosion in developing countries like India. Suggest strategies for population control.	10	CO2	KL5
11	What are sustainable development goals? Why is sustainability important for future generations?	10	CO3	KL3

JGi ARKA JAIN University Jharkhand	NAAC GRADE A ACCREDITED UNIVERSITY		[01-07-2025] END SEM EXAMINATION School of Allied Health Science
Program	Bachelor of Science-Biotechnology		
Subject Name	Entrepreneurship Development	Session	Even, 2024-2025
Semester	II	Year	June, 2025
Time: 1.5 Hour Max. Marks : 35	• Start writing from 2nd page onwards; **don't Write on the 1st Page Backside** • **Answer all Questions of Section A (Compulsory)** • **Answer Any Five 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 **Unfair Means** and will **Result** in the **Cancellation of the Papers**.		
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 v) – 05 Marks

Q. N 1	QUESTIONS	Marks	COs	KL
i	What is the first step in the entrepreneurial process? A) Resource mobilization B) Business expansion C) Idea generation D) Marketing the product	01	CO4	K1
ii	Which government initiative in India is focused on promoting entrepreneurship among youth? A) Ayushman Bharat B) Skill India C) Startup India D) Digital India	01	CO3	K1
iii	Which of the following best defines a "start-up"? A) A company that sells stocks B) A newly established business aiming to solve a problem with innovation C) A large business entering a new market D) A business that has been running for over 10 Years	01	CO4	K2
iv	What is the primary objective of entrepreneurship development? A) To increase imports B) To improve working conditions	01	CO1	K2

	C) To create jobs and encourage innovation D) To reduce company profits			
v	Which of the following is NOT a characteristic of an entrepreneur? A) Risk-taking B) Innovation C) Procrastination D) Decision-making	01	CO1	K2

Section B (Answer any FIVE out of SIX) – 10 Marks
(Each question Carry 02 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
2	Define Entrepreneurship	02	CO1	Kl
3	Define Prototype	02	CO2	K1
4	Discuss ideal characeristics of an entrepreneur	02	CO1	K2
5	Define Reverse Engineering	02	CO3	Kl
6	What are Neutraceuticls.	02	CO2	K5
7	Discuss importance of Entrepreneurship development program	02	CO1	K4

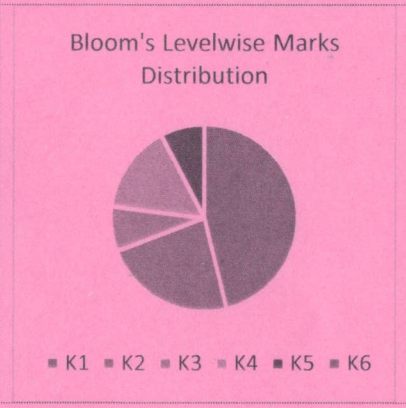
Section C (Answer any TWO out of FOUR) – 20 Marks
(Each question Carry 10 Marks)

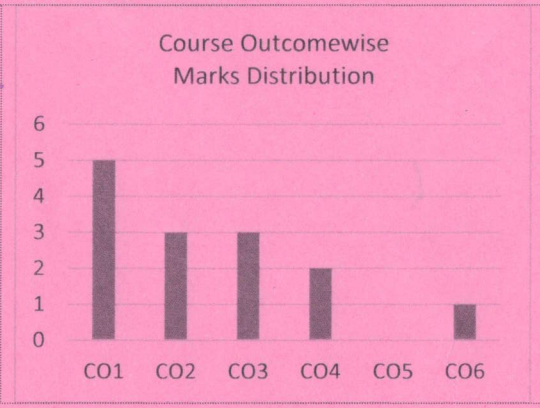
Q. No.	QUESTIONS	Marks	COs	KL
8	Discuss Different levels of Biosafety	10	CO3	K1
9	Discuss importance of Entrepreneurship	10	CO4	K2
10	Discuss Merits and Demerits of Partnership form of Business organization.	10	CO1	K3
11	Discuss Product development and its stages	10	CO2	K4

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

Course Outcomes	CO1	Understand entrepreneurship and entrepreneur and their characteristics
	CO2	Explain various types of business organization and size of business organisation
	CO3	Role of different Entrepreneurship development programs
	CO4	Know aboutt business ideas and opportunities
	CO5	Understanding of project identification and appraisal.
	CO6	Have Idea of small scale industries

GRAPHICAL REPRESENTATION

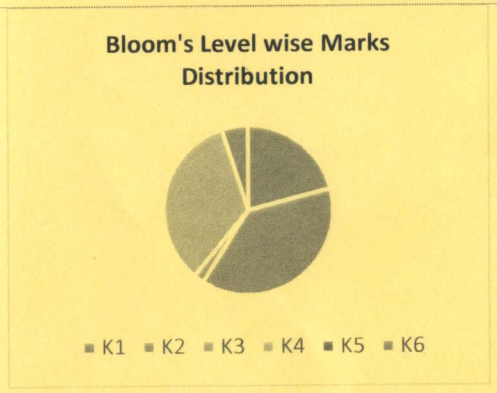


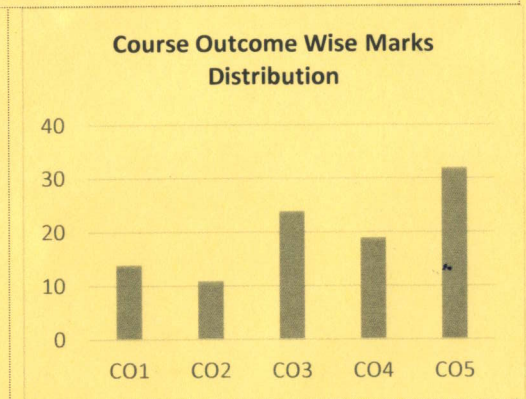


CO- Course Outcomes, KL- Knowledge Level, PO – Program Outcome

Course Outcomes	CO1	Students should understand the importance of the ecosystem, biodiversity, biospheres.
	CO2	They should have a sound understanding and knowledge of the different types of pollution and how to tackle the problem
	CO3	Students should be able to appreciate the working of the environment and as future economists should be able to correlate development with sustainability of environment

GRAPHICAL REPRESENTATION





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[27-06-2025]
END SEM EXAMINATION
School of Allied Health Science

Program	**Bachelor of Science-Biotechnology**		
Subject Name	**Environment Study**	**Session**	**Even, 2024-2025**
Semester	**II**	**Year**	**June, 2025**
Time: 1.5 Hour Max. Marks : **35**	• Start writing from 2nd page onwards; **don't Write on the 1st Page Backside** • **Answer all Questions of Section A (Compulsory)** • **Answer Any Five 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 **Unfair Means** and will **Result** in the **Cancellation of the Papers**.		
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 v) – 05 Marks

Q. N 1	QUESTIONS	Marks	COs	KL
i	Which combination of organisms could form a simple food chain in a pond ecosystem? A. Fish → Algae → Frog B. Algae → Insect → Fish C. Frog → Fish → Insect D. Insect → Algae → Frog	01	CO1	KL4
ii	Which of the following would **most likely** disrupt a forest foodweb? A. Seasonal migration of birds B. Introduction of an invasive predator C. Photosynthesis in plants D. Natural death of a few herbivores	01	CO1	KL4
iii	Why is population explosion considered a problem in developing countries? A. It increases tourism B. It leads to more forests C. It puts pressure on natural resources and public services D. It helps in economic stability	01	CO2	KL3
iv	What would most likely happen if a community ignores sustainable practices?	01	CO3	KL1

	A. Natural resources will last longer B. Environmental quality may deteriorate over time C. Biodiversity will increase D. Air and water will stay clean			
v	Which of the following is a *biosphere reserve* in India? A. Gir National Park B. Sundarbans C. Kaziranga D. Sariska	01	CO1	KL1

Section B (Answer any FIVE out of SIX) – 10 Marks
(Each question Carry 02 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
2	What is biodiversity? Mention any two biodiversity hotspots in India.	02	CO1	KL1
3	How does rapid population growth affect urban resources and public health?	02	CO2	KL3
4	What is the difference between biotic and abiotic components of an ecosystem? Use example of a desert ecosystem.	02	CO1	KL3
5	Distinguish between renewable and non-renewable sources of energy with one example of each.	02	CO2	KL1
6	Explain the terms, Producers, Consumers, Decomposers and their importance in an Ecosystem.	02	CO1	KL2
7	What is Ecological Pyramid? Draw the Ecological pyramid of Biomass and Number in an Ecosystem.	02	CO1	KL2

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

Q. No.	QUESTIONS	Marks	COs	KL
8	Explain the structure and functioning of an ecosystem. How do energy flow and nutrient cycling maintain ecosystem balance?	10	CO1	KL4
9	Write short note on: a. Forest Conservation Act b. Wild life Protection Act 1972	10	CO3	KL2
10	Evaluate the social and environmental impacts of population explosion in developing countries like India. Suggest strategies for population control.	10	CO2	KL5
11	What are sustainable development goals? Why is sustainability important for future generations?	10	CO3	KL3