GOVT. DIGVIJAY AUTONOMOUS P.G. COLLEGE RAJNANDGAON, C.G.

As per provision of NEP-2020 to be implemented from Academic Year 2022 onwards

SESSION 2025– 2026

SCHEME OF EXAMINATION & SYLLABUS

OF

B.Sc. (MICROBIOLOGY) V, VI, VII, & VIII SEMESTER

DEPARTMENT OF MICROBIOLOGY

GOVT. DIGVIJAY AUTONOMOUS P.G. COLLEGE, RAJNANDGAON (C.G.)

B. SC. (Multiple Major)
(Session 2024-25)
Microbiology

THEORY PAPER:

	SEMESTER	COURSE TYPE	COURSE CODE	PAPER TITLE	CREDIT	Max marks	(Theory) ESE	IA
THIRD YEAR	V	DSC		MEDICAL MICROBIOLOGY AND IMMUNOLOGY	3	100	80	20
		DSE - 1		MICROBIAL PRODUCTS-BIOFERTILIZER & BIOPESTICIDES	3	100	80	20
		DSE - 2		CELL COMMUNICATION AND SIGNALLING	3	100	80	20
		SEC		MICROBIAL ANALYSIS OF AIR AND WATER (Theory)	2	50	40	10
	VI	DSC		INDUSTRIAL MICROBIOLOGY	3	100	80	20
		DSE - 1		MYCOLOGY AND PHYCOLOGY	3	100	80	20
		DSE - 2		PHARMACEUTICAL MICROBIOLOGY	3	100	80	20
		SEC		MICROBIAL ANALYSIS OF AIR AND WATER (Project)	2	50	40	10

****ESE- End Semester Exam, **IA-Internal Assessment**

Instruction for Question paper setting
End Semester Exam (ESE) for DSC and DSE
There will be 03 sections of question of 80marks

Section A- Section A will be very short answer type questions consisting 8 questions of 2 marks, two question from each unit.

Section B- Section B will be short answer type questions consisting 4 questions of 6 marks each, one question from each unit with internal choice.

Section C- Section C will be long answer (Descriptive) type questions consisting 4 questions of 10 marks each, one question from each unit with internal choice.

End Semester Exam (ESE) for SEC

There will be 8 questions of 8 marks each, out of which any 5questions to be answer. Total marks will be 40.

Minimum Pass Marks 40%

Section	Maximum Marks (80)		Maximum Marks (40)	
A	2 x 8 = 16	Very short answer type questions consisting 8 questions of 2 marks, two question from each unit.	8 x 5 = 40	8 questions of 8 mark each, out of which any5 questions to be answer.
B	6 x 4 = 24	Short answer type questions consisting 4 questions of 6 marks each, one question from each unit with internal choice.		
C	10 x 4 = 40	long answer (Descriptive) type questions consisting 4 questions of 10 marks each, one question from each unit with internal choice		

PRACTICAL PAPER:

	SEMESTER	COURSE TYPE	COURSE CODE	PRACTICAL PAPER TITLE	CREDIT	MAX MARKS	PRACTICAL MARKS	SESSIO NAL MARKS
THIRD YEAR	V	DSC		LAB: MEDICAL MICROBIOLOGY AND IMMUNOL OGY	1	50	40	10
		DSE - 1		LAB: MICROBIAL PRODUCTS- BIOFERTILIZ ER & BIOPESTICI DES	1	50	40	10
		DSE - 2		LAB: CELLULAR MICROBIOLOGY	1	50	40	10
	VI	DSC		LAB: INDUSTRIAL MICROBIOLOGY	1	50	40	10
		DSE - 1		LAB: MYCOLOGY AND PHYCOLOGY				
		DSE - 2		LAB: PHARMACEUTICAL MICROBIOLOGY	1	50	40	10

Scheme of Practical Examination

Time-04 hours	**M.M.50**
1. Experiment	25
2. Spotting	10
3. Viva-voce	05
4. Sessional	10

Chairperson/ HOD **Subject Expert** **Subject Expert** **VC Nominee**

Educationist Representative **Student Nominee**

GOVT. DIGVIJAY AUTONOMOUS P.G. COLLEGE
RAJNANDGAON (C.G.)
B.Sc. (Multiple Major)
DEGREE/HONORS COURSE
(Session 2025-26)
Major 1- Microbiology

Session: **2025-26**	Program: **B.Sc.**
Semester: **V**	Subject: **Microbiology**
Course Type: **DSC**	Course Code:
Course Title:	**MEDICAL MICROBIOLOGY AND IMMUNOLOGY**
Credit: **3**	Lecture: **45**
M.M. 100 = **(ESE 80+IA 20)**	Minimum Passing Marks: **40%**

Title	**MEDICAL MICROBIOLOGY AND IMMUNOLOGY**
Course Learning Outcome:	➢ To acquire a fairly good understanding of normal microflora of human body, air borne diseases and water borne diseases. ➢ To understand the basic components of the immune system and how this system serves to protect the host against disease-causing microbes. ➢ To develop a very good understanding of practical aspects of Antigen – Antibody reactions, ELISA, RIA, diagnosis method for infectious diseases.

Units	Lectures	Lectures = 45	Credit
I	12	Normal microbial flora of human body. Four lines of defense mechanism. Pathogenic bacterial disease: *Staphylococcus* Protozoal diseases: Amoebiasis. Viral disease: Hepatitis viruses. Fungal Diseases–Mycoses	
II	12	**Air borne diseases**: Tuberculosis, Diphtheria, Influenza, Small pox. Symptoms, treatment and prevention. **Water borne diseases:** Hepatitis, Cholera, Typhoid, Diarrhea, Symptoms, treatment and prevention.	
III	10	**Immune system:** Structure and function of the cells, tissues and organs of immune system. Types of immunity - Humoral and cell- mediated, innate, acquired immunity. **Antigen Antibody:** types, properties. Hapten. Immunoglobulins: Structure types, Properties and their function.	
IV	11	**Antigen – Antibody reactions-** Agglutination, blood groups, precipitation, Labelled antibody-based techniques- ELISA, RIA and Immuno-electrophoresis, double diffusion method.	
TOTAL	45		03

List of Books	1. Immunology: Kuby 2. Test book of Medical microbiology: R. Ananthanarayana and C.K. Jayaram Panikar 3. General Microbiology by Power and Daganiwala. 4. Microbiology by Presscott and Dunns CBS Publishers and Distributors. 5. A Textbook of Microbiology: Dubey & Maheshwari; S.Chand & Sons. 6. A textbook of microbiology: R.P. Singh 7. Medical microbiology: N.C. Dey and T.K. Dey, Allied agency, Calcutta.

PRACTICAL

MEDICAL MICROBIOLOGY AND IMMUNOLOGY

LAB COURSE (Credit - 1)
1. Determination of blood Group and Rh typing.
2. Identification of cells of immune system (DLC).
3. Antibiotic sensitivity testing-Disc diffusion method.
4. Total leucocytes count.
5. Antigen-antibody reaction by double diffusion technique.
6. WIDAL Test for typhoid (slide test).

Chairperson/ HOD **Subject Expert** **Subject Expert** **VC Nominee**

Educationist Representative **Student Nominee**

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B.Sc. (Multiple Major)
DEGREE/HONORS COURSE
(Session 2025-26)
Major 1- Microbiology

Session: **2025-26**	Program: **B.Sc.**
Semester: **V**	Subject: **Microbiology**
Course Type: **DSE-1**	Course Code:
Course Title:	**Microbial Products – Bio-fertilizer & Bio-pesticides**
Credit: **3**	Lecture: **45**
M.M. 100 = **(ESE 80+IA 20)**	Minimum Passing Marks: **40%**

Title	**Microbial Products – Bio-fertilizer & Bio-pesticides**
Course Learning Outcome:	(i) To develop a very good understanding of practical aspects of biofertilizers. (ii) To develop a very good understanding of the biopesticides/bioinsecticides.

Units	Lectures	Lectures = 45	Credit
I	12	Biofertilizers: General account of the microbes used as biofertilizers for various crop plants and their advantages over chemical fertilizers. Symbiotic N2 fixers: *Rhizobium* - Isolation, characteristics. *Frankia* - Isolation, characteristics.	
II	12	Cyanobacteria as bio-fertilizers- Isolation, characterization. Non - Symbiotic N2 fixers: *Azotobacter* - isolation, characteristics.	
III	10	Phosphate solubilizing microbes - Isolation, characterization. Mycorrhizal biofertilizers: Ectomycorrhizae and VAM.	
IV	11	General account of microbes used as bioinsecticides and their advantages over synthetic pesticides, *Bacillus thuringiensis*, Viruses, mycoinsecticides.	
TOTAL	45		03

List of Books	1. Eldor A. Paul. Soil Microbiology, Ecology and Biochemistry, VI Edition: Academic Press, (2007). 2. Eugene L. Madsen. Environmental Microbiology: From Genomes to Biogeochemistry. I Edition, Wiley Blackwell Publishing. (2008). 3. Agrios, G.N. Plant pathology, Harcourt Asia Pvt. Ltd. (2000). 4. Buchanan B.B., Gruissem, W and Jones, R.L Biochemistry and Molecular Biology of Plants. I.K. International Pvt. Ltd. (2000). 5. Mehrotra R S and Ashok Agrawal. Plant Pathology. Tata Mc Graw Hill ,6th reprint (2006).

PRACTICAL

Microbial Products – Bio-fertilizer & Bio-pesticides

LAB COURSE (Credit - 1)
1. Isolation of Bacteria from air and soil (crop fields)
2. Isolation of fungi from air and soil (crop fields)
3. Isolation of microorganisms from rhizosphere.
4. Isolation of rhizobia from root nodules.
5. Isolation of microorganisms from phyllosphere (phylloplane)
6. Lactophenol cotton blue mounting of fungi.

Chairperson/ HOD **Subject Expert** **Subject Expert** **VC Nominee**

Educationist Representative **Student Nominee**

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RAJNANDGAON (C.G.)
B.Sc. (Multiple Major)
DEGREE/HONORS COURSE
(Session 2025-26)
Major 1- Microbiology

Session: **2025-26**	Program: **B.Sc.**
Semester: **V**	Subject: **Microbiology**
Course Type: **DSE-2**	Course Code:
Course Title:	**CELL COMMUNICATION AND SIGNALLING**
Credit: **3**	Lecture: **45**
M.M. 100 = **(ESE 80+IA 20)**	Minimum Passing Marks: **40%**

Title	**CELL COMMUNICATION AND SIGNALLING**
Course Learning Outcome:	➢ To understand the concepts of Prokaryotic and Eukaryotic cells. ➢ To acknowledge the characteristics of bacterial cells, cell organelles, cell wall composition and various appendages like capsules, flagella. ➢ To develop a very good understanding of the Extracellular matrix and cell matrix interaction, Cell-Cell Interaction. ➢ Will be able to explain the cell cycle, signaling mechanisms.

Units	Lectures	Lectures = 45	Credit
I	12	Prokaryotic Cell: glycocalyx, capsule, flagella, fimbriae, pilli. Cell wall: Composition and structure of Gram- positive and Gram-negative cell walls. Eukaryotic Cell: Cell membrane, Cytoplasm: Ribosome, Mesosome, Cytoplasmic inclusions, nucleoid, chromosome. Eukaryotic cell division, Mitosis and Meiosis.	
II	12	Cell organelles concepts: Mitochondria, chloroplasts and peroxisomes Nucleus: Nuclear envelope and Nucleolus. Endoplasmic Reticulum, Golgi Apparatus, lysosomes.	
III	10	Extracellular matrix and cell matrix interaction, Cell-Cell Interaction- adhesion junction, tight junctions, gap junctions, and plasmodesmata (only structure aspects).	
IV	11	Signaling molecule and their receptors. Pathways of intracellular receptor: cyclic AMP pathway, MAP kinase pathway.	
TOTAL	45		03

List of Books	1. Bruce Alberts, Alexander Johnson, Julian Lewis, Martin Raff, Keith Roberts, Peter Walter, Molecular biology of the Cell, 4th Edition. Garland publishing Inc. (2002). 2. Karp's Cell and Molecular Biology, Gerald Karp, Janet Iwasa, Wallace marshall,9th edition. John Wiley & Sons. 3. Cellular Microbiology – Henderson et al. Wiley. 4. Watson J.D., Baker T.A. Bell S.P., Gann A. Levine M. Losick R, Molecular Biology of Gene, 5th Edition. The Benjamin/Cummings Pub. Co. Inc. (2003). 5. Harvey Lodish; Arnold Berk; Chris A. Kaiser; Monty Krieger; Anthony Bretscher; Hidde Ploegh; Angelika Amon; Kelsey C. Martin, Stephen C. Harrison Molecular Cell biology.

PRACTICAL

CELL COMMUNICATION AND SIGNALLING

LAB COURSE (Credit - 1)
1. Study a representative plant cell by microscopy. 2. Isolation of bacteria from air. 3. Enumeration (counting) of bacteria by plate count or serial dilution agar plate technique. 4. Study of polyploidy in Onion root tip by colchicine treatment. 5. Study of different stages of Mitosis. 6. Study of different stages of Meiosis. 7. Gram staining of bacteria.

Chairperson/ HOD **Subject Expert** **Subject Expert** **VC Nominee**

Educationist Representative **Student Nominee**

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RAJNANDGAON (C.G.)
B.Sc. (Multiple Major)
HONORS COURSE
(Session 2025-26)
Major 1- Microbiology

Session: **2025-26**	Program: **B.Sc.**
Semester: **V**	Subject: **Microbiology**
Course Type: **SEC**	Course Code:
Course Title:	**Microbial Analysis of Air and Water**
Credit: **2**	Lecture: **30**
M.M. 100 = **(ESE 40+IA 10)**	Minimum Passing Marks: **40%**

Title	**Microbial Analysis of Air and Water**
Course Learning Outcome:	(i) To develop a very good understanding of air borne microorganisms and water borne pathogens. (ii) To develop a very good understanding and skills of the analysis of air, water.

Units	Lectures	Lectures = 30	Credit
I	07	Aero- microbiology: Bioaerosols, Air borne microorganisms (bacteria, Viruses, fungi) and their impact on human health and environment.	
II	07	Air sample collection and analysis: Bioaerosol sampling, air samplers, methods of analysis, CFU, Identification characteristics.	
III	07	Water Microbiology: Water borne pathogen, water borne diseases. Diarrhea, Cholera, Typhoid, Hepatatis.	
IV	09	Microbiological analysis of water: Sample Collection, Treatment and safety of drinking (potable) water, methods to detect potability of water samples: (a) standard qualitative procedure: presumptive test (MPN test) (b) Membrane filter technique.	
TOTAL	30		02

List of Books	1. Medigan, M.T., Martinko, J. M. and Parker, J. Brock Biology of Microorganisms. Pearson Education Inc., New York 2. Chapelle, F.H. Ground Water Microbiology and Geochemistry. New York: John Wiley & Sons, 2000. 3. Droste, R. L. Theory and Practice of Water and Wastewater Treatment. New York: John Wiley & Sons, 1996. 4. K.R. Aneja, Laboratory Manual of Microbiology and 5. Biotechnology New Age Publications.2014

Chairperson/ HOD **Subject Expert** **Subject Expert** **VC Nominee**

Educationist Representative **Student Nominee**

GOVT. DIGVIJAY AUTONOMOUS P.G. COLLEGE
RAJNANDGAON (C.G.)
B.Sc. (Multiple Major)
DEGREE/HONORS COURSE
(Session 2025-26)
Major 1- Microbiology

Session: **2025-26**	Program: **B.Sc.**
Semester: **VI**	Subject: **Microbiology**
Course Type: **DSC**	Course Code:
Course Title:	**INDUSTRIAL MICROBIOLOGY**
Credit: **3**	Lecture: **45**
M.M. 100 = **(ESE 80+IA 20)**	Minimum Passing Marks: **40%**

Title	**INDUSTRIAL MICROBIOLOGY**
Course Learning Outcome:	➢ To acquire a fairly good knowledge of how microbes are used in the fermentative production of organic acids, alcohols, enzymes, antibiotics and various foods in the industry. ➢ To acquire knowledge of various physical parameters which affect production of industrial products by the microorganisms and the safety aspects of the production and use of these products.

Units	Lectures	Lectures = 45	Credit
I	12	**INDUSTRIAL MICROORGANISM** Introduction to Industrial Microbiology. Importance and scope of Industrial Microbiology. Microorganisms of industrial importance. Screening and selection of industrially useful microbes. Strain improvement strategies.	
II	12	**FERMENTER** Design of fermenter, type of fermenter, agitation, aeration, antifoam, pH and temperature control. Steps of fermentation process. Inoculation media and fermentation media; Raw materials used in fermentation industry and their processing.	
III	10	**TYPES OF FERMENTATON** Types of fermentations: Batch, Fed batch, continuous types and Submerged, surface, solid state fermentation,Advantages and disadvantages of respective fermentation. Common microbial fermentation processes (alcohol and lactic acid fermentation)	
IV	11	**MICROBIAL PRODUCTS** Industrial products derived from microbes: vitamins: B12, production of beverages (beer and wine), enzymes(amylase), antibiotics(penicillin), amino acids (glutamic acid).	
TOTAL	45		03

List of Books	1. Nduka Okafor. Modern Industrial Microbiology and Biotechnology. 1st Edition. Science Publishers. (2007). 2. Industrial Microbiology by G. Reed (Ed), CBS Publishers (AVI Publishing Co.) 3. Biology of Industrial Microorganisms by A.L. Demain. 4. Genetics and Biotechnology of Industrial Microorgansims by C.l. Hershnergey, S.W. Queener and Q. Hegeman. Publisher. ASM. Ewesis ET. Al. 1998. Bioremediation Principles. Mac Graw Hill. 5. Fundamentals of Biochemical Engineering by Bailey and Ollis. 6. Biotechnological Innovations in Chemical Synthesis. Biotol Publishers / 7. Butterworth Heinemann.

PRACTICAL

INDUSTRIAL MICROBIOLOGY

LAB COURSE (Credit - 1)
1. Fermentation of carbohydrates 2. Carbohydrate catabolism by microorganisms 3. Screening for amylase producing microorganisms 4. Sugar fermentation by yeast 5. Production of Glutamic acid 6. Production of Penicillin antibiotics 7. Study of important industrial microorganisms- *Bacillus*, *Lactobacillus*, *Yeast*, *Aspergillus*, *Penicillium*.

Chairperson/ HOD/ **VC Nominee** **Subject Expert** **Subject Expert**

Educationist Representative **Student Nominee**

GOVT. DIGVIJAY AUTONOMOUS P.G. COLLEGE
RAJNANDGAON (C.G.)
B.Sc. (Multiple Major)
DEGREE/HONORS COURSE
(Session 2025-26)
Major 1- Microbiology

Session: **2025-26**	Program: **B.Sc.**
Semester: **VI**	Subject: **Microbiology**
Course Type: **DSE-1**	Course Code:
Course Title:	**MYCOLOGY AND PHYCOLOGY**
Credit: **3**	Lecture: **45**
M.M. 100 = **(ESE 80+IA 20)**	Minimum Passing Marks: **40%**

Title	**MYCOLOGY AND PHYCOLOGY**
Course Learning Outcome:	➢ To develop a very good understanding of General characteristics, Classification, reproduction and Economic importance of fungi. ➢ To develop a very good understanding of General characteristics, Classification, reproduction and Economic importance of Algae.

Units	Lectures	Lectures = 45	Credit
I	12	**MYCOLOGY:** **FUNGI:** General account of habit and habitat, structure, range of thallus organization, cell wall composition, nutrition, reproduction, Outline of classification. Economic importance of fungi. Fungi and bioremediation.	
II	12	*Mucor, Rhizopus, Yeast, Aspergillus, Penicillium, Alternaria.* Common fungal disease of crops: Leaf rust in wheat, red rot of sugarcane)	
III	10	**PHYCOLOGY:** **ALGAE:** General characteristics, Classification, Occurrence, thallus organization, Nutrition, Reproduction, life cycle and economic importance. Difference between algae and fungi.	
IV	11	General features, structure, Life cycle, economic importance of Cyanobacteria (*Anabaena, Nostoc*) Lichens-General account, Types, structure, nutrition, reproduction and economic importance.	
TOTAL	45		03

List of Books	1) Microbiology: An Introduction; G. Tortora, B. funke, C. Benjamin cummings. 2) Test book of Medical microbiology: R. Ananthanarayana and C.K. Jayaram Panikar 3) General Microbiology by Power and Daganiwala. 4) Microbiology by Presscott and Dunns CBS Publishers and Distributors. 5) A Textbook of Microbiology: Dubey & Maheshwari; S.Chand & Sons. 6) A textbook of microbiology: R.P. Singh 7) Practical book: Experiments in Microbiology, Plant Pathology and Biotechnology, K.R. ANEZA.

PRACTICAL

MYCOLOGY AND PHYCOLOGY

LAB COURSE (Credit - 1)
1. Preparation of Potato Dextrose Medium. 2. Isolation of Aeromycoflora by Petri plate exposure. 3. Isolation of Rhizospheric fungi by Warcups method. 4. Study of the special features of fungi: *Mucor, Rhizopus, Penicillium, Alterneria, Curvularia, Yeast.* 5. Study the special features and types of Lichens. 6. Isolation of Keratinophilic fungi from soil. 7. Study the special feature of selected green algae, cyanobacteria and diatoms.

Chairperson/ HOD/ **VC Nominee** **Subject Expert** **Subject Expert**

Educationist Representative **Student Nominee**

GOVT. DIGVIJAY AUTONOMOUS P.G. COLLEGE
RAJNANDGAON (C.G.)
B.Sc. (Multiple Major)
DEGREE/HONORS COURSE
(Session 2025-26)
Major 1- Microbiology

Session: **2025-26**	Program: **B.Sc.**
Semester: **VI**	Subject: **Microbiology**
Course Type: **DSE-2**	Course Code:
Course Title:	**PHARMACEUTICAL MICROBIOLOGY**
Credit: **3**	Lecture: **45**
M.M. 100 = **(ESE 80+IA 20)**	Minimum Passing Marks: **40%**

Title	**PHARMACEUTICAL MICROBIOLOGY**
Course Learning Outcome:	At the end of this course, the students will be able to:- ➢ relate Indian traditional therapies and contributors. ➢ compare antimicrobial therapy and resistance. ➢ develop basic awareness of pharmaceutical products, their testing and their spoilage. ➢ identify drug designing and its applications. ➢ illustrate agencies for clinical approval of pharmaceutical products.

Units	Lectures	Lectures = 45	Credit
I	12	Historical account: History and principles of Indian traditional medicine, Contributors to ancient traditional medicine, Importance of Charak in Indian traditional knowledge. Antimicrobial chemotherapy: General properties of antimicrobial agent. Mode of action of antibiotics, its uses & limitations: Penicillin, Tetracycline, Chloramphenicol, Sulpha drugs, mode of action of quinolinones. Bacterial resistance to antibiotics and resistant barrier.	
II	12	**Testing of Pharmaceutical products:** Sterility test: Microbial Limit test, Pyrogen testing, In vitro Pyrogen Test (IPT), Endotoxin (LAL) Test, Preservative Efficacy test, Carcinogenic test, Antibiotic Assay. Structure of cell wall of gram positive and gram-negative bacteria, synthesis of peptidoglycan and mode of action of different antibiotics on cell wall.	
III	10	**Microbial Pharmaceuticals:** Vaccine; Types of vaccine, toxoid, Edible vaccine, DNA vaccine, Protein subunit vaccine, synthetic peptide vaccine. Hormone- Insulin. Microbial spoilage of pharmaceutical products: Microbial contamination of pharmaceutical products and their preservation.	
IV	11	**Financing and drug designing:** Financing R & D capital and market outlook, IP, BP, USP, FDA perspective, rational drug designing and macro molecular, cellular, synthetic drug carriers.	
TOTAL	45		03

List of Books	1. Medical Microbiology; N. C. Dey and T. K. Dey, Allied agency, Calcutta. 2. Text book of Microbiology; R. Anantharayanan, C. K. Jayaram Panikar, Orient Longman, Mumbai. 3. Medical microbiology; P. Chrakrborthy 4. A Text Book of Microbiology: Dr. R. C. Dubey & Dr. D. K. Maheshwari 5. Microbiology; Davis, Dulbecco, Eisen Harper and Row Maryland. 6. British Pharmacoppoeia (2001). The stationary office London

PRACTICAL

PHARMACEUTICAL MICROBIOLOGY

LAB COURSE (Credit - 1)
1. Study the antibiotic sensitivity by Disc Diffusion 2. Method.Study the antibacterial and antifungal effect of some plant extracts /natural products. 3. Find the minimum inhibitory concentration of a given antibiotic. 4. Sterility testing of pharmaceutical products- injectables, eye and eardrops.

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Educationist Representative **Student Nominee**

GOVT. DIGVIJAY AUTONOMOUS P.G. COLLEGE
RAJNANDGAON (C.G.)

B.Sc. (Multiple Major)

DEGREE/HONORS COURSE

(Session 2025-26)

Major 1- Microbiology

Session: **2025-26**	Program: **B.Sc.**
Semester: **VI**	Subject: **Microbiology**
Course Type: **SEC**	Course Code:
Course Title:	**(Project) /Internship**
Credit: **2**	Lecture: **30**
M.M. 100 = **(ESE 40+IA 10)**	Minimum Passing Marks: **40%**

- **Project work will involve experimental work and the students will have to complete this in stipulated time.**
- **The distribution of marks for project work will be: 50 marks (30marks for project work + 10 marks for project viva + 10 marks for internal)**

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