

LOYOLA COLLEGE KUNKURI
Dist – Jashpur (C.G.)
Department of Microbiology
ANNUAL REPORT
Session – 2020-21

Mission

- To enhance the quality education by uplifting the hidden skills of students.
- To emerge as a global centre of learning , academic excellence and innovative research work.
- To deliver exceptional result in all educational aspects.
- To develop attitude for lifetime learning.
- To orient students towards research.

Vision

- To achieve high standard of excellence in performing research work.
- Imparting of quality microbiological education and the inculcating the spirit of research through innovative teaching and research methodologies .
- To provide an atmosphere where student can learn up to level best and understand the use of microbiology in daily life as well as in professional life .
- To promote innovative studies and research work .
- To empower students through quality education in microbiology.
- To establish a platform for creation and distribution of knowledge of microbiology in real life.

A Brief Note on Department of Microbiology

It was established in the year 2005. The department of microbiology is well equipped with all essential equipments and with extra infrastructure which support student to perform maximum research work with accuracy faculties are qualified , experienced energetic and are passionate about teaching profession . Microbiological journals are Available in the library for student's reference

Strength

- We are committed continuous self improvement to achieve excellence in all our endeavors.
- We are committed to innovation in our teaching research and outreach to our communities.
- We conduct various activities in every academic year to excel our students.

Department highlights

Name of department : Microbiology

Number of staff : 03

Faculty members : (1) Asst. Prof. Mahtab Ajam Khan (H.O. D.)
 (2) Asst. Prof. Vijay Kumar Vishwakarma
 (3) Mr. Anup kumar chouhan (lab. Tech.)

Faculty profile :

| S.N. | Name of faculty | Qualification | Teaching experience | Allotted classes |
|------|-------------------------|--|---------------------|--------------------|
| 01 | Mahtab Ajam Khan | M.Sc. (Bangalore University) | 05 years | B.sc. I / II / III |
| 02 | Vijay Kumar Vishwakarma | M.Sc. (Sant. Gahira Guru University) | 02 years | B.Sc. I / II/III |

Laboratory facilities :

- Well equipped spacious laboratory with sophisticated test and measuring instruments and equipments.

| Name of instrument | Quantity |
|-----------------------|----------|
| Laminar air flow | 01 |
| Autoclave | 02 |
| Incubator | 03 |
| B.O.D.(incubator) | 01 |
| Hot air oven | 02 |
| water bath | 02 |
| Centrifuge | 01 |
| Spectrophotometer | 02 |
| Electrophoresis unit | 02 |
| U.V. Transilluminator | 01 |
| Colony counter | 01 |
| pH meter | 01 |
| Weighing balance | 01 |
| Microscope | 13 |
| Computer setup | 01 |
| Glass pipette | 10 |
| Micro pipette | 08 |
| Hot magnetic stirrer | 01 |
| Refrigerator | 01 |

Library facilities :

- The library is well equipped with all essential reference books of various subjects including cell biology, immunology, biochemistry , genetic

engineering , general microbiology , Eukaryotic microbiology , bacteriology and virology etc. for student’s convenience.

| Name of Title | Writer name | Number of books |
|---------------|---|-----------------|
| Microbiology | Powar and Daignawala, S.S.Purohit, T.A. Brown , Presscott, Pelczar, U. Satyanarayana , Lehninger, Dubey and Maheshwari , S.B. Primrose , Immunology by Dolsy and Fatima, Bruce alberts etc. | 350 |

Degree course:

| Course | Paper / Paper code | Subject |
|------------------|-----------------------|--|
| B.Sc. I | Paper first / (30 A) | General microbiology and basic techniques. |
| | Paper second / (30 B) | Biochemistry and physiology |
| B.Sc. II | Paper first / (30 A) | Molecular biology and genetic engineering |
| | Paper second / (30B) | Bioinstrumentation and Biostatistics. |
| B.Sc. III | Paper first / (30A) | Molecular biology and genetic engineering |
| | Paper second / (30B) | Environmental and medical microbiology |

- No. of students in B.Sc. I = **38**
- No. of students in B.Sc. II = **24**
- No. of students in B.Sc. III = **22**
- Each paper contains five units , each unit holds ten marks for exam. The syllabus is approved by the Sant Gahira Guru Sarguja University, Ambikapur , C.G. The annul examination is conducted by the University once a year. The syllabus is designed according to competitive exam NET , SET, GATE etc.

List of Practicals Performed :

B. Sc. I :

- 01 . Basic information about Autoclave, Hot air oven, Laminar air flow, and other laboratory instruments.
- 02 . Preparation of Solid and liquid culture media.
03. Enumeration of bacterial numbers by serial dilution and plating.
05. Isolation of single colony on solid media.
06. Simple and differential staining.
07. Determination of biological growth by Optical density measurement.
08. General and specific qualitative test for carbohydrates , amino acids and lipids.
- 09 . Estimation of Proteins and Blood glucose.
- 10 . Assay of the activity of amylase and phosphatase.

B.Sc. II :

01. Determination of antibiotic resistance by plating method.
02. Assaying of microbial enzymes - Catalase, Protease, Peroxidase, Cellulose, Amylase and Diastase .
03. Exercise on Paper ,thin layer , column chromatography.
- 04.Exercise on paper and gel electrophoresis.
05. Determination of pH of various water and soil sample.
06. Testing of Lambert beer's law.
07. Determination of Lamda max of dye by spectrophotometer.
08. Isolation of resistant bacteria from soil and water sample.

B.Sc.III :

- 01.Isolation of bacteria from air and soil (crop fields).
- 02.Isolation of fungi from air and soil.
- 03.Relationship between O.D. and C.F.U.
- 04.Measurement of fungal growth by dry weight and wet weight method.
- 05.Study of rhizosphere and phyllospheric microbes from economically important plants.
- 06.Biodegradation study of some organic molecules
- 07.Microbial assessment of potable water.
08. Determination of BOD, COD and DO.
- 09.Determination of Blood group by slide agglutination test.TLC/ DLC
- 10.Determination of heamoglobin .
- 11.Determination of quality of milk by MBRT.
12. Isolation of Rhizobium from root nodules.

Activities conducted :

| Date | Activity | Details |
|--|--|--|
| Progressive from 15 th October 2020 | Commencement of online classes for First year students. | The department started taking online classes for First year students on regular basis. |
| 2 nd January 2021 | Commencement of second and third year classes in offline mode. | The conducted commenced regular offline classes for all three years . |

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|--|--|---|
| Progressive from January to March 2021 | Teaching and unit wise test | The department conducted unit test for all three year students. |
| February to March 2021 | Practical performance along with record maintenance. | The department conducted practical exercise based on syllabus for all three year's students. |
| February to March 2021 | Seminar Presentation | All three year students presented seminar on selected topics. |
| 18 th February 2021 | Quiz Competition | Mentoring committee organized a Quiz competition for all students to excel their ability. |
| February 2021 | Drawing Competition | Mentoring committee held a drawing Competition in order to polish hidden talent of students. All students were actively participated. |
| March 2021 | Short Drama act competition on current issues | Organized by mentoring committee . |
| March 2021 | Environmental visit for first year students | Organized by life Science department to observe Biodiversity |
| March 2021 | Remedial classes | The department organized remedial classes after completion of syllabus for all three year students. |

Seminar/ conference/ workshop/ webinar participated :

- Asst. Prof. Mahtab Ajam Khan and Vijay Kumar Vishwakarma attended one day international webinar on “ ***For Assuring and Enhancing Quality : JUAA and QA Scheme In Japan*** ” organized by NAAC on 23rd April 2021.
- Asst. Prof Mahtab Ajam khan and Vijay vishwakarma attended 2 days workshop on NAAC organized by IQAC Sant Gahira Guru Vishwavidyalaya Sarguja Ambikapur from 29th May 2021.

- Asst prof. Vijay vishwakarma and Mahtab ajam khan attended one day national webinar on “ ***Building bridges between Mathematics and Computer science*** ” organized by dept. of Mathematics Loyola college Kunkuri , Jashpur (C.G.).
- Asst. Prof . Mahtab Ajam Khan and Vijay Kumar vishwakarma participated online conference on “ ***Water conservation , Biodiversity conservation and other immediate issues*** ” held on 19th June 2021 Organized by district collector Jashpur (C.G.) .

Student achievement

- **Sadhna Xalxo and Sakshi Kanwar** (Both from B.Sc.III year) participated in drawing competition held on Feb. 2021 at loyola college kunkuri and got selected in top 10 list, both awarded by Nagar panchayat president Kunkuri.
- Student of Biotechnology and Microbiology jointly secured first place in short drama act, held on March 2021 at Loyola college Kunkuri . They awarded by respected Principal Loyola college Kunkuri , Fr. Oscar S. Tirkey ,S.J .

Picture 01 : Virtual meeting with students during Online classes. Orientation lecture by Dr. Fr. Oscar S. Tirkey S.J.



Picture 02 : Carrier guidance meeting with Life Science students.



Picture 03 : Students of Microbiology performing their Practical work in laboratory.



Picture 04 : Presentation of Drawing Competition.



Picture 05 : Award distribution for ‘ Short Drama Act ’ competition . Dept. of Micro and Biotech. Students jointly receiving 1st Prize from respected Principal Dr. Fr. Oscar S. Tirkey S.J.



Picture 06 : Environmental tour for first year students (Life Science).



