

बबासाहेब भीमराव अम्बेडकर विश्वविद्यालय

केन्द्रीय विश्वविद्यालय

विद्याविहार, रायबरेलीरोड, लखनऊ-226025

BABASAHEB BHIMRAO AMBEDKAR UNIVERSITY

(A Central University)

VidyaVihar, Rae Bareli Road, Lucknow-226025

Letter No: 332/DEM/BBAU/2021

Dated: April 02, 2021

Notice

This is informed to all concerned that the Department of Environmental Microbiology is offering the following paper under **Open Elective Course for Choice Based Credit System (CBCS)** for **2nd Semester**. The details of paper and the syllabus are as following.

Paper Code	Paper Title	Maximum Marks			Credit
		End Semester	Sessional		
			Sessional-1 st	Sessional-2 nd	
EM 206, IM 206 & FMT 206	Microbial Biotechnology	70	15	15	04

Dr. R.N. Bharagava, Assistant Professor, Deptt. Of Environmental Microbiology is the Co-Ordinator for the **Choice Based Credit System (CBCS)** and students may contact Co-Ordinator at bharagavarnbbau11@gmail.com.

(PROF. RAM CHANDRA)

Head, DEM

Copy to;

1. A.R. to V.C. BBAU, Lko, for kind information please.
2. Dean (Academic Affairs), for kind information please.
3. All Head, with request to give it a wide publicity among the students of the Department.
4. P.S. to Registrar, BBAU, Lko
5. S.O. to COE, BBAU, Lko, for Kind information please.
6. Website I/c for Uploding on University Website.
7. Notice Board, Deptt. Of Env. Microbiology.

(PROF. RAM CHANDRA)

Head, DEM

विभागाध्यक्ष
पर्यावरणीय सूक्ष्मजैविकीय विज्ञान विभाग
बबासाहेब भीमराव अम्बेडकर विश्वविद्यालय
(केन्द्रीय विश्वविद्यालय), लखनऊ, २२६०२५

Department of Microbiology
School of Biomedical and Pharmaceutical Sciences
Babasaheb Bhimrao Ambedkar University

Semester: Second

Session-2019-20

Course Title: **Microbial Biotechnology**

Course Code: **EM 206/IM206/FMT206**

Credits: **4**

Semester offered: **Second**

Lectures: **9:30 am to 10:30 am (Monday to Thursday)**

EM-206/FMT 206/IM 206 : Microbial Biotechnology (CBCS)

Credits 04

Unit 1: Microbial biotechnology: Scope and its applications in human therapeutics, agriculture (Bio-fertilizers, PGPR, Mycorrhizae), environmental, and food technology, Use of prokaryotic and eukaryotic microorganisms in biotechnological applications, Genetically engineered microbes for industrial applications: Bacteria and yeast

Unit 2: Recombinant microbial production processes in pharmaceutical industries - Streptokinase, recombinant vaccines (Hepatitis B vaccine), Microbial polysaccharides and polyesters, Microbial production of bio-pesticides, Microbial biosensors, Composting-definition, types and processes

Unit 3: Degradation of xenobiotics, biomining-mineral recovery, removal of heavy metals from effluents, Biodegradation of recalcitrant compounds, Microbial based accumulation
Biotransformation of steroids

Unit 4: Microbial Enhanced Oil Recovery, Bio-ethanol and bio-diesel production: commercial production from lignocellulosic waste; Algal biomass for fuel; Biogas production: Methane and hydrogen production using microbial culture.

Suggested books/references

- *Microbial Biotechnology* by Glazer AN & Nikaido H., 2nd Ed., Cambridge University Press, 2007
- *Molecular Biotechnology* by Glick BR, Pasternak JJ & Patten CL, Ed. IV, ASM Press, 2010
- *Biotechnology: A text Book of Industrial Microbiology* by Crueger W, Crueger A, 2nd Ed., Sinauer associates, Inc. 1990.