



1.3 Curriculum Enrichment

1.3.2 Value Added Course Report- Bio technology



**DEPARTMENT OF BIOTECHNOLOGY
ST. JOSEPH'S COLLEGE (AUTONOMOUS)
TIRUCHIRAPPALLI – 2**

**Department of Biotechnology
Brief Report for value added course (2020-21)**

A faculty meeting was conducted regarding to initiate value added course for the academic year (2020 – 2021). At the end of the meeting, a unanimous decision was taken to offer BETTER HEALTH THROUGH BENEFICIAL MICROBES (18PBTVC01) as value added course. A detailed program schedule was developed from 08th March 2021 to 25th March 2021 (30 hours) and the faculty members were assigned to conduct the course in off-line mode. But due to covid-19 pandemic situation, the off-line classes has been shifted to on-line mode from 23rd March onwards therefore, from 23rd to 25th March (3 days), the classes were conducted on online mode.

The registered students are asked to deposited the course fee Rs. 200/- in the Fr. Principal account, St. Joseph's College, Trichy.

A total of 10 students (20PBI801; 20PBI802; 20PBI803; 20PBI804; 20PBI806; 20PBI809; 20PBI812; 20PBI813; 20PBI817 and 20PBI820) has joined the value added course- Better health through beneficial microbes (18PBTVC01).

All the 10 students were successfully completed the value added course on probiotics and received their certificates.

Dr. A. Edward
Head of the Department and Course in-charge

DEPARTMENT OF BIOTECHNOLOGY
SCHOOL OF BIOLOGICAL SCIENCES
ST. JOSEPH'S COLLEGE (Autonomous)
Accredited with 'A++' Grade (4th Cycle) by NAAC
College with Potential for Excellence by UGC
TIRUCHIRAPPALLI - 620 002, INDIA



Invitation

VALUE ADDED COURSE ON

"BETTER HEALTH THROUGH BENEFICIAL MICROBES"

Duration - 30 hrs

Time - 2.00 PM TO 4.00 PM

Program schedule: 08TH MARCH 2021 TO 25TH MARCH 2021

STUDENTS WILL LEARN
• the human intestinal microbiota and its function in health & disease.
• the effects of Probiotics bacteria on human physiology.
• the mechanism of action of Probiotics and Prebiotics.
• the research and commercialization of Probiotics and Prebiotics.
• the isolation and characterization of Probiotics.

Organizing Committee

Dr. R. Kamaraj Kennedy

Dr. D. Michael Immanuel Jesse

Convener

Dr. A. Edward

Course Fee: Rs. 200/-

For further details

Contact: **Dr. A. Edward (9003771138)**

Department of Biotechnology
St. Joseph's College (Autonomous)
Tiruchirappallai-620002

Hours – 30

Value added course

BETTER HEALTH THROUGH BENEFICIAL MICROBES (18PBTVC01)

Course outcomes

- i. Understanding the human intestinal microbiota and its function in health and disease.
- ii. Knowledge about the effects of Probiotics bacteria on human physiology.
- iii. Review about the mechanism of action of Probiotics and Prebiotics.
- iv. Understanding the research and commercialization of Probiotics and Prebiotics.
- v. Knowledge about the isolation and characterization of Probiotics.
- vi. Understanding the probiotics interaction with dietary fibres.

Unit I: Probiotics: Introduction and history of Probiotics, Probiotic microorganisms, safety of probiotic microorganisms. Probiotics characteristics: stability during storage and passage to intestinal sites, minimum effective dose.

Unit II: Role of probiotics in health: Treatment and Prevention of gastrointestinal bacterial infection, constipations and chronic urinary tract infection.

Unit III: Mechanism of probiotics: production of antimicrobial substances, modulation of immune system, alteration of intestinal bacterial metabolite action. Prebiotics: concept, definition, criteria, types and sources.

Unit IV: Prebiotics and gut microflora. Prebiotics and health benefits: mineral absorption, immune response, cancer prevention, elderly health and infant health. Research in Probiotics and Prebiotics. Commercialization of Probiotics and Prebiotics.

Unit V: Laboratory Practicals: Isolation of bacteria from curd, Serial dilution of samples, Spread plate, Pour plate and Pure culture techniques. Visit to Dairy farm.

Books

- 1) Lee Y. K and Salminen S 2008. Handbook of Probiotics and Prebiotics. 2nd Edition, A John Wiley and Sons Inc. Publication. Hoboken, New Jersey, USA.
- 2) Ravishankar Rai V and Jamuna A. Bai. 2014. Beneficial Microbes in Fermented and Functional Foods. 1st Edition. CRC Press, London, UK.
- 3) Ronald Watson Victor Preedy. 2015. Probiotics, Prebiotics, and Synbiotics. 1st Edition. Academic Press. London, UK.

Study for Reference

- 4) San Diego and Tannock, G.W. 1999. Probiotics: A critical review, Horizon Scientific Press, London, UK.