

HINDU COLLEGE

GUNTUR

**DEPARTMENT OF
BIOMEDICAL SCIENCE
CERTIFICATE COURSE
BATCH : 2021 - 2024**



HINDU COLLEGE :: GUNTUR

DEPARTMENT OF BIOMEDICAL SCIENCE

STUDENTS CERTIFICATION PROGRAM : 2021 - 2024 BATCH

PHARMACEUTICAL MICROBIOLOGY

(THEORY)

UNIT I : CULTURE MEDIA

Growth and cultivation of bacteria and virus. Study of different important media required for the growth of aerobic and anaerobic bacteria & fungi. Differential media, enriched media and selective media, maintenance of lab cultures.

UNIT - I STERILIZATION

Detailed study of different methods of sterilization including their merits and demerits. Sterilization methods for all pharmaceutical products. Detailed study of sterility testing of different pharmaceutical preparations.

UNIT II : DISINFECTION

Disinfectants- Study of disinfectants, antiseptics, fungicidal and virucidal agents factors affecting their activation and mechanism of action. Evaluation of bactericidal, bacteristatic, , virucidal activities, evaluation of preservatives in pharmaceutical preparations.

UNIT IV : STAINING TECHNIQUES

Different methods used in isolation and identification of bacteria with emphasis to different staining techniques and biochemical reactions. Counting of bacteria -Total and Viable counting techniques.

UNIT V : MICROBIAL SENSITIVITY

Microbial culture sensitivity Testing: Interpretation of results Principles and methods of different microbiological assays, microbiological assay of Penicillin, Streptomycin and vitamin B2 and B12.

References

a. Prescott L.M., Jarley G.P Klein D.A —Microbiology|| 2nd- edition Mc Graw Hill Company Inc

b. Rawlins E.A.||Bentley's Text Book of Pharmaceutics|| B ailliere Tindals 24-28

London 1988

c. Forbisher — Fundamentals of Microbiology|| Philadelphia W.B. Saunders.

d. Prescott L.M. Jarley G.P., Klein.D.A. — Microbiology.||2nd edition WMC Brown

Publishers, Oxford. 1993

e. Vanitha Kale and Kishor Bhusari — Applied Microbiology || Himalaya Publishing

house Mumbai.

f. A text book of Medical Microbiology by Ananthanarayana and panikar

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PRACTICALS

1. Isolation of bacteria : Streak plate method , Pour plate method
2. Preparation of media and sterilisation
3. Staining techniques – Simple staining ; Gram's staining
4. Cultural sensitivity testing for some micro-organisms
5. Enumeration of micro-organisms (Total and Viable)
6. Study of the methods of isolation of pure culture.
7. Sterility testing of different pharmaceutical products - Injections ; Ophthalmic preparations

REFERENCES:

1. Microbiology: An Introduction, 9th edition (2008), Gerard J. Tortora, Berdell R. Funke, Christine L. Case; Benjamin Cummings. ISBN-13:978-0321733603.
2. Prescott, Harley, and Klein's Microbiology, 8th edition, (2011), Joanne M. Willey, Linda M. Sherwood, Christopher J. Woolverton, McGraw Hill International. ISBN- 13:978-0071313674.
3. Bailey and Scott's Diagnostic Microbiology, 12th edition (2007), Betty A. Forbes, Daniel F. Sahm and Alice S. Weissfeld; Mosby Elsevier Publishers, ISBN-13: 978- 0808923640.
4. Microbiology, 6th edition (1993), Pelczar, Chan and Krieg; McGrawHill International, ISBN-13:978-0070492585.
5. Microbiology: A Laboratory Manual, 10th edition, (2013), James Cappuccino and Natalie Sherman, Benjamin Cummings. ISBN-13:978-0321840226.

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PHARMACEUTICAL MICROBIOLOGY

Max Time : 2 hours

Max Marks : 50 Marks

SECTION – A

Answer any '2' of the following questions

2 × 10 = 20M

1. Write in detail about different culture media for bacteria
2. Write about culture sensitivity testing
3. Write about Microbial assay Antibiotics
4. Write about different disinfection methods

SECTION- B

Answer any '5' of the following questions.

5 × 4 = 20M

1. Methods for sterilization
2. Bacterial growth curve
3. Minerals used for microbial nutrition
4. Different bacterial counting methods
5. Phenol coefficient method
6. Sensitivity of MICROORGANISMS
7. Filter disc method
8. Factors influencing bacterial growth

SECTION-C

Answer all the following questions

5 × 2 = 10M

1. Define sterilization
2. Define antifungal activity
3. Define antibiotics
4. Define disinfectant
5. Define metabolite

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LIST OF STUDENTS ENROLLED

S. NO	NAME OF THE STUDENT	Signature
1	Balusu Alekhya	B. Alekhya
2	Bangaru Keerthana	B. Keerthana
3	Batchu Navya Niharika Lakshmi	B. Navya
4	Bonigala Veera Sirisha	R. Veera Sirisha
5	Buradagunta Anusha	B. Anusha
6	Chinka Divya sai Manikanta	Ch. Divya Sai Manikanta
7	Devandla Anita	D. Anita
8	Duddula Anusha	D. Anusha
9	Lingala Aishwarya	L. Aishwarya
10	Malapati Anil Kumar	M. Anil Kumar
11	Mandugula Hemchandra Chari	M. Hemachandrabharati
12	Nallapu Santosh	N. Santosh
13	Pothabathula Yamini	P. Yamini
14	Rudrapogu. Shanmukh raj	R. Shanmukh Raj
15	Tallapalli Mohana	T. Mohana
16	Yekula Anupriya	Y. Anupriya

S.NO	NAME OF THE STUDENT	SIGNATURE
17.	Dejala Suvatha Raju	D. Suvatha Raju
18.	Vemana Ganesh	V. Ganesh
19.	B. Sreenivasulu	B. Sreenivas
20.	Ammanabolu Esther Rani	A. Esther Rani
21.	Potimi Lakshmi Narasa	P. Manaja.
22.	B. Thisumala Sainadh	B. Sainadh.

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PHARMACEUTICAL MICROBIOLOGY

MARKS OBTAINED (50 MARKS)

ADMISSION NO	ROLL NO	STUDENT NAME	MARKS OBTAINED (50 M)
4906	557	BALUSU ALEKHYA	42
4907	558	BANDEREDDY TIRUMALA SAINADH	39
4908	559	BANGARU KEERTHANA	40
4909	560	BATCHU NAVYA NIHARIKA LAKSHMI	43
4910	561	BONALA SREENIVASULU	45
4911	562	BONIGALA VEERA SIRISHA	43
4912	563	BURADAGUNTA ANUSHA	40
4913	564	CHALLA PUJAMBICA	41
4914	565	CHINKA DIVYA SAI MANIKANTA	38
4915	566	DEGALA SUVARTHA RAJU	40
4916	567	DEVANDLA ANITHA	45
4918	569	DUDDULA ANUSHA	42
4919	570	LINGALA AISHWARYA	41
4920	571	MALAPATI ANIL KUMAR	46

4921	572	MANDUGULA HEMACHANDRA CHARI	47
4922	573	NALLAPU SANTOSH	40
4923	574	POTHABATHULA YAMINI	46
4924	575	RUDRAPOGU SHANMUKH RAJ	39
4925	576	TALLAPALLI MOHANA	47
4926	577	VEMANA GANESH	39
4927	578	YEKULA ANUPRIYA	45
5089	740	AMMANABROLU ESTHER RANI	42
5090	741	MADA PREM HARSHA VARDHAN	38
5091	742	PARIMI LAKSHMI MANASA	37



HINDU COLLEGE, GUNTUR
CERTIFICATE COURSE FOR (2021-2024) BATCH
DEPARTMENT OF BIOMEDICAL SCIENCES

CERTIFICATE OF PARTICIPATION

This is to certify that Mr/Miss _____
Studying B.Sc. Biomedical Sciences has participated in Certificate Course for
Thirty days conducted by Department of Biomedical Sciences, HINDU COLLEGE,
Guntur, from 20/06/2022 to 20/07/2022. We wish all the best in his/her future
endeavours.

G. Suresh Kumar

HOD

Head
Department of Biomedical Sciences
Hindu College, Guntur.

T. Uma Devi

DIRECTOR

DIRECTOR
Sciences & Allied Courses
Hindu College
Amravathi Road Campus