Department of Liberal Education
Era University, Lucknow
Course Outline
Effective From: 2023-24

Name of the Program	**B.A. / B.Sc. (LIBERAL EDUCATION)**			**Year/ Semester:**	**2nd Year /3rd Sem**
Course Name	Fundamentals of Physiology Practical	**Course Code:**	**BCH201P**	**Type:**	**Practical**
Credits	**01**			**Total Practical Hours:**	**30 Hours**
Evaluation Spread	**Internal Continuous Assesment:**	**10 Marks**		**End Term Exam:**	**15 Marks**
Type of Course	○ Compulsory	◉ Core		○ Creative	○ Life Skill
Course Objectives	This practical course aims to train the students in handling primary healthcare instruments like sphygmomanometer and glucometer and in collecting blood samples, analyzing it in laboratory.				

Course Outcomes(CO): *After the successful course completion, learners will develop following attributes:*

Course Outcome (CO)	**Attributes**
CO1	The student would be able to measure physiological health parameters such as blood pressure and blood glucose to detect hypertension and hyperglycemia/diabetic condition
CO2	The students would be able to collect blood, learn about its storage for various purposes and make slides for studying blood smears.
CO3	The students would learn to know to use pH meter, its working principle and uses, along with making buffers to be used in laboratory
CO4	Analyzing urine for abnormal constituents reveals health issues, and students would be able to do it.
Pedagogy	Interactive understanding of principles, requirements, methods and precautions and integration of classroom teaching and lab demonstration, demonstration of the methodology; self-practice and experimentation by students
Internal Evaluation Mode	Experiment-Writing and Conductance File Maintenance/ Laboratory Record Continuous Attendance and Participation

Practical No.	**Experiments**	**Contact Hours**	**Mapped CO**
1.	Recording of blood pressure using a sphygmomanometer and automated machine	4	**CO1**
2.	Recording of blood glucose level by using glucometer and its significance	2	**CO1**
3.	Collection of blood samples and its storage	4	**CO2**
4.	Preparation blood smears, staining for Differential Leukocyte Count	4	**CO2**
5.	Estimation of level of hemoglobin	2	**CO2**
6.	Estimation of ESR (Eosinophil Sedimentation Rate)	2	**CO2**

7.	Principal of pH meter. Testing of pH of various household materials by pH strip and by pH meter	2	**CO3**
8.	Preparation of buffers	4	**CO3**
9.	Analysis of abnormalities in constituents in urine –physical tests; pigments, bile salts, glucose, proteins and ketonebodies.	6	**CO4**

CO-PO and PSO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	2	3	2	1	1	2	1	3	2	2	2	2	1
CO2	3	3	2	2	2	2	2	2	3	3	2	2	2	1
CO3	3	2	2	1	1	1	1	1	3	2	2	2	2	1
CO4	3	2	2	1	2	2	2	2	3	2	3	2	2	2

Strongcontribution-3, Averagecontribution-2, Lowcontribution-1,

Suggested Readings:

Text books	1. Complete review of pathology and hematology. Gupta PK Puri V. CBS Publications. 5edition/latest edition 2. Human Anatomy and Physiology Theory and Practical. Garg K. CBS Publishers and Distributers. 2nd Edition
Reference Books	1. B D Chaurasia's Applied Anatomy & Physiology for BSc Nursing Students
E-Resources	**1. Recording of Blood Pressure:https://youtu.be/0Jfxh-dZg7s** **2. How to measure blood pressure using an automatic monitor:https://youtu.be/iTapvWBwrz8** **3. How to Use Glucometer:https://youtu.be/Net6oCxIBbc** **4. Using a pH Meter:https://www.youtube.com/watch?v=vwY-xWMam7o** **5. Blood Smear Preparation and Staining Practical Lab: https://www.youtube.com/watch?v=KSs0SMfERuA&list=PLb8ShsGZfEVb7SSJUus5zp7YmFHiF-YSw** **6. Serum Collection and Handling: https://www.youtube.com/watch?v=SN7PiXDYZno&list=PLb8ShsGZfEVb7SSJUus5zp7YmFHiF-YSw&index=6** **7. haematology_laboratory_manual : https://faculty.ksu.edu.sa/sites/default/files/pdf_copy_haematology_laboratory_manual_cls_241.pdf**

Internal Practical Evaluation:

Component	Marks
Experiment-Writing and Conductance	5
File Maintenance/ Laboratory Record	2
Continuous Attendance and Participation	1
Viva-Voce	2
Total Marks	10

Course created by: Dr. Ghazala Zaidi

Signature:

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