SACRED HEART COLLEGE (AUTONOMOUS)

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Ready for
Every Good Work

A Don Bosco Institution of Higher Education, Founded in 1951 * Affiliated to Thiruvalluvar University, Vellore * Autonomous since 1987

Accredited by NAAC (4th Cycle – under RAF) with CGPA of 3.31 / 4 at 'A+' Grade

Name of the Programme: B. Sc Physics

S. No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	SUBJECT ELECTIVE II: MEDICAL PHYSICS	P539C	• To provide a knowledge on the physics principles involved in the pressure system, optical system, dynamics of human body and acoustics of human body. • To understand radiation exposure and its measurement and the working mechanism of different radiation detectors. • To learn the principles and instrumentation involved in various diagnostic systems. • To enable the students to understand the principle, instrumentation and working of biological imaging systems. To create awareness on radiation hazards and protection against radiation hazards.	On successful completion of the course, the students will be able to Explain and differentiate the various physics principles involved in the dynamics of human body and in the pressure system, optical system, and acoustics of humanbody. • understand and distinguish the various units used in radiation exposure measurement and describe the working mechanism of different radiation detectors. • Demonstrate an understanding of working principle and instrumentation of various diagnostic systems. • understand the principle, instrumentation and working of biological imaging systems and evaluate their merits and demerits. • Describe various radiation hazards and design equipment for protection against radiation hazards.	**Local, Regional & National developmental needs**

2	SUBJECT SKILL – I : ELECTRICAL CIRCUITS AND NETWORKS (THEORY)	P634S	• To develop an understanding of the basics of electrical devices and circuits. • To understand the fundamental laws of electrical circuits and various circuit analysis theorems. • To develop an understanding of single-phase and three-phase AC. • To know the effect of open circuits and short circuits • To impart knowledge of domestic wiring and circuit breakers.	On successful completion of the course, the students will be able to • Understand the symbols and working principles of electrical devices and circuits • Analyze electrical circuits (DC and AC) using mesh and network simplification theorems. • Differentiate between single-phase and three-phase AC and explain the working of AC circuits. • Explain the effects of shorts and opens in series and parallel circuits. • Understand domestic electrical wiring and the working of circuit breakers	**Local, Regional & National developmental needs**
3	BASIC INSTRUMENTATION	P641S	• To develop knowledge of principles and working of various analog meters. • To understand the principle and working of analog electrical instruments. • To impart knowledge of principles and working of digital instruments. • To learn about the working principle of various optical instruments used in measurement of physical quantities.	On successful completion of the course, the students will be able to • Acquire knowledge about the working principles of various analog meter instruments. • Understand the operation of various analog electrical instruments. • Differentiate between digital and analog instruments and explain their working. • Outline the working principle of various optical instruments.	**Local, Regional, National developmental needs**

			• To develop the skill of usage of environmental instruments.	• Gain knowledge on the working and applications of various environmental instruments.	
4	NON MAJOR ELECTIVE –I : REPAIR AND MAINTENANCE OF HOUSEHOLD APPLIANCES	NPH503	• To provide an understanding of the basics of electricity and electrical safety. • To enable the students to understand the importance of earthing and energy storage devices. • To expose the students to the principles and working of home appliances. • To learn fault finding and replacing faulty component in electric iron. • To train the students in Repaire and Maintenance of home appliances.	On successful completion of the course, the students will be able to • Recall the safety precautions and apply them whenever it is necessary • Understand the importance of earthing and acquire a knowledge on energy storage devices • Identify the fault in an electric iron box and rectify it • Explain the working of mixer, grinder, ceiling and table fans. • Install and test fluorescent lamp chock and starter	**Local, Regional & National developmental needs**