

DYAL SINGH COLLEGE, KARNAL

CERTIFICATE COURSE IN COMPUTATIONAL PHYSICS

NAME OF THE PROGRAMME : BASIC PF COMPUTER AND C++ PROGRAMING

DURATION : ONE YEAR

PROGRAMME OUTCOMES (POs)		
PO1	Knowledge	Capable of demonstrating comprehensive disciplinary knowledge gained during course of study.
PO2	Communication	Ability to communicate effectively on general and scientific topics with the scientific community and with society at large.
PO3	Problem Solving	Capability of applying knowledge to solve scientific and other problems.
PO4	Individual and Team Work	Capable to learn and work effectively as an individual, and as a member or leader in diverse teams, in multidisciplinary settings.
PO5	Investigation of Problems	Ability of critical thinking, analytical reasoning and research-based knowledge including design of experiments, analysis and interpretation of data to provide conclusions.
PO6	Modern Tool Usage	Ability to use and learn techniques, skills and modern tools for scientific practise.
PO7	Science and Society	Ability to apply reasoning to access the different issues related to society and the Consequent responsibilities relevant to the professional scientific practises.
PO8	Life-Long Learning	Aptitude to apply knowledge and skills that are necessary for participating in learning activities throughout the life.
PO9	Environment and Sustainability	Ability to design and develop modern systems which are environmentally sensitive and to understand the importance of sustainable development.
PO10	Ethics	Apply ethical principles and professional responsibilities in scientific practises.
PO11	Project Management	Ability to demonstrate knowledge and understanding of the scientific principles and apply these to manage projects.

PROGRAMME SPECIFIC OUTCOMES (PSOs)	
The objective of the program designed for BSc course is to foster the scientific talent of students for proficient skill in the field of education and research.	
PSO1	Acquire a thorough acquaintance, understanding and knowledge of the basic perceptions of computational Physics.
PSO2	Be accomplished with the understanding of the operating system, hardware, software, managing files and folders.
PSO3	Gain hands-on skills for carrying out certain basic and various programming language, problem mapping and solving using fundamental principles of Physics, analysis and interpretation of results.
PSO4	Have a new vision to look at the world with scientific temperament that empowers them to pursue studies at higher and research level.
PSO5	Have awareness of the impact of computational Physics on community and various commercial and environmental issues.

CO-PO Mapping Matrix for Course Code: PH-101											
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
PH-101.1	3	3	3	2	2	1	2	3	1	2	2
PH-101.2	3	3	3	2	2	1	2	3	1	2	2
PH-101.3	3	3	3	2	2	1	2	2	1	2	2
PH-101.4	3	3	3	2	2	1	2	2	1	2	2
Average	3	3	3	2	2	1	2	2.5	1	2	2

CO-PSO Mapping Matrix for Course Code: PH-101					
CO	PSO1	PSO2	PSO3	PSO4	PSO5
PH-101.1	3	3	2	2	2
PH-101.2	3	3	2	2	2
PH-101.3	3	3	2	3	2
PH-101.4	3	3	2	2	3
Average	3	3	2	2.25	2.25

B.SC Computational Lab (Add-on course)

Course Objectives: The aim of this course is to introduce students to computational methods for solving problems in physics.

Course Outcomes: At the end of this course:

CO.1 Students are able to understand the different basic concepts of computational Physics.

CO.2 Verify some fundamental principles of physics and maths using C++.

CO.3 Verified various program: even/odd, HCF, LCM, prime numbers etc .

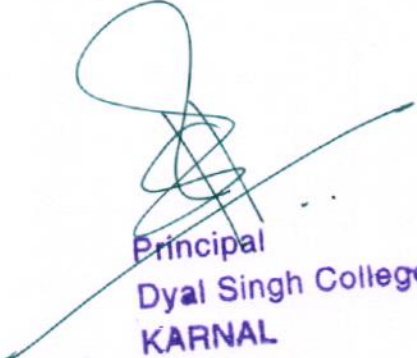
CO.4 Learn to present results and analysis in suitable form.

CO-PO Mapping Matrix for Course Code:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO.1	3	3	3	2	2	2	2	3	1	2	3
CO.2	3	3	3	2	2	2	2	2	1	2	2
CO.3	3	3	3	2	2	1	2	2	1	2	1
CO.4	3	3	3	2	2	1	3	3	2	2	3
Average	3	3	3	2	2	1.5	2.25	2.5	1.25	2	2.25

CO-PSO Mapping Matrix for Course Code: B.SC -I Lab Practical

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO.1	3	3	2	2	3
CO.2	3	3	2	2	2
CO.3	3	3	2	2	3
CO.4	3	3	2	3	3
Average	3	3	2	2.25	2.75


Principal
Dyal Singh College
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