



ACTION TAKEN REPORT

Department of Physics

(School of Physical Sciences)

Academic Year 2021-2022 to 2017-2018



DIT UNIVERSITY

Mussoorie Diversion Road Dehradun, Uttarakhand-248009

Report on Action Taken

<u>Brief Decision of Board of Studies</u>	<u>Action Taken</u>
Item No. 9.4: To deliberate on initiating 3-year B.Sc. Pass Program (PCS, PSM, PCM, ZPC groups) proposed to start from Academic Year 2022-23.	B.Sc. Pass Program is deferred for next academic year 2023-24.
Item No. 9.5: To deliberate on initiating 4-year Integrated B.Sc.-B.Ed. Program proposed to start from Academic Year 2022-23.	We are working on the course structure and syllabus for this program
Item No. 9.6: To deliberate on initiating 4-year B.Sc Research/Honors Program proposed to start from Academic Year 2022-23. This program is proposed in line with the guidelines of National Education Policy (NEP 2020).	B.Sc. Research/Honors Program is deferred for next academic year 2023-24.
Item No. 9.7: To deliberate on initiating 1-year M.Sc. program after completion of 4-year B.Sc. Research/Honors Program. This program is proposed in line with the guidelines of National Education Policy (NEP 2020).	1-year M.Sc. Program is deferred for next academic year 2023-24.
Item No. 9.8: To deliberate on initiating 2-year MSc program after completion of 3-year B.Sc (Pass) Program. This program is proposed in line with the guidelines of National Education Policy (NEP 2020).	2-year MSc program after completion of 3-year B.Sc (Pass) Program is deferred for next academic year 2023-24.
Item No.9.9: To modify the eligibility criterion for admission to 2-year M.Sc. (Physics).	The changed eligibility criteria for 2-year M.Sc. (Physics) have been implemented from academic year 2021-2022.

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DIT University, Dehradun
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(Annexure 9.3)

Report on Action Taken

<u>Brief Decision of Board of Studies</u>	<u>Action Taken</u>
<p>Item No. 8.4: To deliberate on the physics courses to be offered in FFCBCS curriculum w.e.f. AY 2021-22 for the B.Tech 1 year students. The syllabi for the following courses to be put up for discussions:</p> <ul style="list-style-type: none"> i. Introduction to Mechanics – PYF102 ii. Waves and Optics and Introduction to Quantum Mechanics – PYF101 iii. Electricity and Magnetism – PYF103 	<p>The new syllabi approved by BOS will be implemented w.e.f. the academic session 2021-22</p>
<p>Item No. 8.5: To discuss the course structure of Fully Flexible Choice Based Credit System (FFCBCS) for B.Sc. (H) in Physics w.e.f. AY 2021-22.</p>	<p>The syllabi approved by the BOS will be implemented w.e.f. the academic session 2021-22.</p>
<p>Item No. 8.6: To review and revise the course structure for M.Sc. in Physics with specialization in Electronics w.e.f. AY 2021-22. These points were received as feedback from various stakeholders.</p>	<p>The changes approved by the BOS will be implemented w.e.f. the academic session 2021-22.</p>
<p>Item No. 8.7: To include more electives in PhD course structure w.e.f. AY 2021-22.</p>	<p>The following courses have been included as electives in the PhD course structure w.e.f. 2021-22:</p> <ol style="list-style-type: none"> 1. Computational Physics 2. Particle Astrophysics 3. Fundamentals of Quantum Computing 4. Renewable Energy and Resources 5. Computational Techniques and Programming
<p>Item No. 8.8: To discuss the basket of courses to be offered for awarding a minor in Physics w.e.f. AY 2021-22</p>	<p>The basket of courses for Minor in Physics will be offered to the students w.e.f AY 2021-22.</p>

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Report on Action Taken

Brief Decision of Board of Studies Action Taken

<p>Item No. 7.4: To deliberate on the physics courses to be included in FFCBCS curriculum for the B.Tech I year students. The syllabi for the following courses to be put up for discussions:</p> <ul style="list-style-type: none"> i. Introduction to Mechanics – PY102 ii. Waves and Optics and Introduction to Quantum Mechanics – PY103 iii. Introduction to Electromagnetic Theory – PY104 	<p>The new syllabi approved by BOS were implemented in the academic session 2020-21</p>
<p>Item No. 7.5: To deliberate on the Open Elective courses to be offered to B.Tech students in the VIII Semester. The syllabus for the following courses to be put up for discussions: Nano Scale Science and Technology</p>	<p>The syllabi approved by the BOS was implemented in the academic session 2020-21.</p>
<p>Item No. 7.6: To revise the course structure of B.Sc. (H) in Physics (viz interchanging the courses on Digital Systems and Applications & Analog Systems and Applications in the III and IV semester) and introducing new electives in V & VI semesters</p>	<p>The changes approved by the BOS were implemented in the academic session 2020-21.</p>
<p>Item No. 7.7: To deliberate on the elective courses to be offered to B.Sc (H) Physics students in the V and VI semesters. The syllabi for the following elective courses to be put up for discussions:</p>	<p>The approved elective courses were offered to B.Sc (H) Physics students in the V and VI semesters for the academic batch 2020-21.</p>



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<ul style="list-style-type: none"> i. Introduction to Astronomy and Astrophysics ii. Computational Physics - I iii. Computational Physics - II iv. Introduction to Quantum Computation v. Physics of Semiconductor Devices 	
<p>Item No. 7.8: To review and revise the course structure and syllabus for M.Sc. in Physics with specialization in Electronics.</p>	<p>The new course structure approved by BOS was implemented for the academic session 2020-21.</p>
<p>Item No. 7.9: To include a 2 credit course on 'Research and Publication Ethics' in PhD course structure.</p>	<p>The proposed course was included in the course structure w.e.f. 2020-21</p>

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Report on Action Taken

Brief Decision of Board of Studies Action Taken

<p>Item No. 6.4: To deliberate on the proposed curriculum of AICTE for the Physics course for B.Tech I year students. The syllabi of following courses were discussed and approved by the BOS:</p> <ol style="list-style-type: none"> i. Introduction to Mechanics ii. Waves and Optics and Introduction to Quantum Mechanics iii. Introduction to Electromagnetic Theory 	<p>The new syllabi approved by BOS were implemented in the academic session 2019-20</p>
<p>Item No. 6.5: To deliberate on the courses being offered to B.Sc (H) Physics student in the V and VI semesters. The syllabi for the following core courses to be offered to the B.Sc (H) Physics students in V and VI were reviewed and approved by BOS.</p> <ol style="list-style-type: none"> i. Quantum Mechanics and Applications ii. Solid State Physics iii. Electromagnetic Theory iv. Statistical Mechanics 	<p>The syllabi approved by the BOS were implemented in the academic session 2019-20.</p>
<p>Item No. 6.6: To deliberate on the courses being offered to B.Sc (H) Physics student in the V and VI semesters. The syllabi for the following discipline specific elective courses to be offered to the B.Sc (H) Physics students in V and VI semesters were reviewed and</p>	<p>The syllabi approved by the BOS were implemented in the academic session 2019-20.</p>



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<p>approved by BOS.</p> <ol style="list-style-type: none"> i. Nuclear and Particle Physics ii. Experimental Techniques iii. Physics of Devices and Instrumentation iv. Applied Dynamics v. Nano Materials and Applications vi. Advanced Mathematical Physics vii. Classical Dynamics viii. Atmospheric Physics ix. Earth Science x. Embedded Systems - Introduction to Microcontroller xi. Biophysics xii. Economics 	
<p>Item No. 6.7: To deliberate on the changes proposed in the course structure for M.Sc. in Physics with specialization in Electronics. The Board members agreed to the suggestions made in the Course Structure of the M.Sc. in Physics with specialization in Electronics program and the new Course Structure for the M.Sc. Physics program was recommended.</p>	<p>The new course structure approved by BOS was implemented for the academic session 2019-20.</p>

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Action Taken Report (2018-19)
Department of Applied Sciences
(Physics)

Action(s) taken	The new curriculum approved by BOS was implemented in the academic session 2018-19	Head	July 2018
Item No. 5.2	To deliberate on the courses being offered to B.Sc. (H) Physics students in the III and IV semesters. The syllabi for the following courses to be put up for discussions: i. Mathematical Physics – II (PY206) ii. Thermal Physics (PY207) iii. Digital Systems and Applications (PY208) iv. Mathematical Physics – III (PY216) v. Elements of Atomic and Modern Physics (PY217) vi. Analog Systems and Application (PY218) vii. Basic Instrumentation Skills (PY219) Renewable Energy and Energy Harvesting (PY108)		
Action(s) taken	The syllabi approved by the BOS were implemented in the academic session 2018-19.	Head	July 2018
Item 5.3	To deliberate on the changes being proposed in the syllabus of Photonics Technology being offered as an open elective in the VIII Semester of B.Tech.		
Action(s) taken	The changes approved by the BOS were implemented for the academic session 2018-19	Head	July 2018
Item 5.4	To deliberate in the changes proposed in the Course Structure of Ph.D Physics program.		
Action(s) taken	The new course structure approved by BOS was implemented for the academic session 2018-19.	Head	July 2018
Item 6.1	To deliberate on the proposed curriculum of AICTE for the Physics course for B.Tech I year students. The syllabi for the following courses to be put up for discussions: i. Introduction to Mechanics ii. Waves and Optics and Introduction to Quantum Mechanics Introduction to Electromagnetic Theory		



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**Action Taken Report (2017-18)
Department of Applied Sciences
(Physics)**

Item 3.8	The BOS experts also suggested to introduce some new experiments on LASERS and fiber optics in the engineering Physics lab being offered to B.Tech1st Year students. Some virtual experiments may also be included in this lab.		
Action(s) taken	New experiments on fiber optics using laser diode laser were included in the B.Tech first year lab.	Lab OC Engg Phys. Lab	July 2017
Item 4.1	Finalization of "B.Sc. (H) in Physics" program to be offered by the Department of Physics, DIT University.		
Action(s) taken	The Department initiated the B.Sc. (H) Physics program in the session 2017-18. A total of 13 admissions were received in the first year of the launch of program. Two labs namely Mechanics Lab and Waves and Optics Lab was set up to provide hand-on training to the BSc (H) Physics I year students.	Head	July 2017
Item No. 4.2	Changes in the course structure and syllabi for the Ph.D Physics Program of DIT University.		
Action(s) taken	The changes approved by the BOS were implemented. Department of Physics got a total of 5 admissions in the Ph.D program in the academic session 2017-18.	Head	July 2017
Item No. 4.3	Changes in the syllabi for the Engineering Physics, Nanoscale Science and Technology and Photonics Technology being offered to B.Tech students of DIT University.		
Action(s) taken	The changes approved by the BOS were implemented for the academic session 2017-18	Head	July 2017
Item 5.1	To deliberate on the proposed new curriculum of AICTE for the Physics course for B.Tech I year students. The syllabi for the following courses to be put up for discussions: i. Introduction to Mechanics (PY101) ii. Waves and Optics and Introduction to Quantum Mechanics (PY102) iii. Introduction to Electromagnetic Theory (PY103) iv. Quantum Mechanics for Engineers (PY104) v. Oscillation, Waves and Optics (PY201)		



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Action Taken Report (2016-17)
Department of Applied Sciences
(Physics)

Item 3.4	The approved final Course Structure, Curriculum and Syllabi of the program "M.Sc. in Physics" are attached herewith.		
Action(s) taken	Program "M.Sc. in Physics with specialization in Electronics" was offered from Department of Physics. The curriculum recommended by BOS was implemented. The existing facilities & faculties in EECE department were utilized.	Responsibility Head	Target Date July 2016
Item 3.5	The syllabi for the following existing courses offered for the B.Tech, M.Tech and PhD programs were put forward for discussions on modification of syllabi. i. Engineering Physics (OA1210) ii. Engineering Physics- II (OA3010) iii. Photonics Technology (OZ010) iv. Nano Scale Science and Technology (OZ020) BOS approved these courses and their contents		
Action(s) taken	BOS approved courses were offered to students	Head	July 2016
Item 3.6 & 3.7	Recently, a Materials Research Laboratory has been set up by the Department of Physics from the seed money provided by the DIT University. The experts, therefore, suggested that a course on "Materials Science and Engineering" can be offered to all branches of B.Tech. Programs in the II-year by the Physics Department. This idea was also supported by the fact that the faculty of the Physics Department has Ph.Ds and postdoctoral experience in this field.		
Action(s) taken	The B.Tech students were offered to perform their experimental work of B.Tech. Projects in Materials Research Lab.	Lab OC Materials Research Lab	July 2016



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Action Taken Report (2014-15)
Department of Applied Sciences
(Physics)

Item 2.1	The syllabus of the B. Tech. 1 Year Engineering Physics (PYT-101) was put up for discussions. After due deliberations the changes proposed by the experts were incorporated making it more comprehensive.		
Action(s) taken	The changes approved by the BOS were implemented for the academic session 2014-15.	Responsibility Head	Target Date July 2014
Item 2.2	The experts also suggested that the Engineering Physics Lab (PYP-151) should be more syllabus oriented. It was proposed to delete some experiments and include instead experiments on polarization, lasers and fiber optics.		
Action(s) taken	The changes approved by the BOS were implemented for the academic session 2014-15	Head	July 2014
Item 2.3	Next deliberations were done on the proposed elective to be run for B.Tech. Final year, M. Tech. and Pre-PhD students by the Physics Department.		
Action(s) taken	The electives were offered to B.Tech Final Year Students	Head	July 2014
Item 2.4	The experts were of the opinion that the numbers of students opting for these electives should be restricted to not more than 15-20.		
Action(s) taken	The number of students allotted the electives were as per the university policy	Head	July 2014
Item 2.5	For the elective course on Photonics Technology, it was suggested that the course content should be focused and in-depth. Also attempts should be made to have some demonstrates for hands-on-experience can be set-up in the proposed Research Lab. of the Physics Department. Also the students can be given live demonstrations of the various photonic devices and processes in Dehradun based DRDO labs and IIT Roorkee.		
Action(s) taken	The course curriculum designed was as per the suggestions of BOS.	Head	July 2014
Item 2.6	The subject of Nano Scale Science and Technology should be built up from the basics starting from the side effects in materials. This should lead to the influence of reducing the size to Nanoscale on various material properties such as mechanical, optical and electrical. The course may take few specific application of the size effects.		
Action(s) taken	The course curriculum designed was as per the suggestions of BOS.	Head	July 2014
Item 2.7	The experts felt that the University should initiate infrastructure development to enhance research and innovation in the respective faculties and departments. For this initial seed money may be provided.		
Action(s) taken	The faculty of Physics Department was granted seed money projects by the university. The department initiated the setup of Materials Research ab.	Head	July 2014
Item 3.2	For the growth of the Physics Department from an undergraduate to postgraduate level the department put forward a proposal for a new program "M.Sc. in Physics with specialization in Electronics" to be offered by the Physics Department. The expert members of the BOS also agreed with the proposal and the suggested curriculum and syllabi were put up for discussions.		



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Item 3.3

It was also discussed that the existing infrastructures, facilities and faculties available in the Electronics and Communication Engineering Department can also be utilized to provide the necessary basic electronics laboratory components for the proposed M.Sc. Physics program.



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