

4th Semester Projects for the Session-2021

S. No	Project Title	Faculty	Students
1	<i>Analysing properties of perovskites using Artificial Intelligence (Machine Learning)</i>	Dr Farooq H Bhat	Asrar Mushtaq (Phy-19-07) Zubair Ahmad Bhat (Phy-19-14)
2	<i>Microscopic theory of many-body quantum systems - A Review Study</i>	Dr Niyaz A Rather	Muazim Jan (Phy-19-03) Akeel Abdullah (Phy-19-11)
3	<i>Applications of Phosphor based Oxides with special focus on WLED's</i>	Dr Mir H Rasool	Arjumand Ashraf (Phy-19-09) Syed Najmus Saqib (Phy-19-19)
4	<i>Study of Accretion Disks in X-ray Binaries</i>	Dr Bari Maqbool	Muntha Majid (Phy-19-18)
5	<i>Two-Dimensional Structured Illumination Microscopy Technique.</i>	Dr Mandeep Singh	Benazir Akhter (Phy-19-13) Musabiah Rashid (Phy-19-06)
6	<i>Study of break-up fusion reactions with heavier mass targets</i>	Dr Suhail A Tali	Syed Sajad Ahmad (Phy-19-01) Irfan Gani Teli (Phy-19-15)
7	<i>Investigation of ESR and Photoelectron studies of Potassium Sodium Niobate ceramics</i>	Dr. Tanveer A Dar	Afaq Nissar (Phy-19-12)
8	<i>Applications of Perovskite oxides with special focus on Solar Cells</i>	Dr Shah Aarif Ul Islam	Sheeraz Raja (Phy-19-10) Haris Ali (Phy-19-08)
9	<i>Study of Electrical properties of CNT-Se bilayer compound semiconductor mixed by Swift Heavy Ion Irradiation</i>	Dr Shabir A Kumar	Tauseef Ahmad Ganayee (Phy-19-17) Zahid Hussain Beigh (Phy-19-21)

4th Semester Projects for the Session-2020

S. No	Project Title	Faculty	Students
1	<i>Study of Valence and Spin States of Transition Metals using CTM4XAS</i>	Dr Farooq H Bhat	YOUNIS HAMEED (IUST0118011801), MUNEER RASHEED (IUST0118011716) and ASIF ALI (IUST0118011479)
2	<i>Second Quantization and BCS theory in Nuclear Physics</i>	Dr Niyaz A Rather	Suhail Arshid (IUST0118011527), Asifa Jan (IUSTO118011539), Fazil Ismail (IUST0118011770) and Tooba Muzaffar (IUST011801187)
3	<i>Study of Non-Statistical Fluctuations in Relativistic Nucleus-Nucleus Collisions</i>	Dr Mir H Rasool	Zuhra Aijaz (PHY-18-02), Rasiya Rafiq (PHY-18-08)' Bisma Farooq (PHY-18-09), Sobiya Saif (PHY-18-11)
4	<i>Application of Mathematica in Physics</i>	Dr Muzammil A Bhat	Mr. Umar Parrey IUST0118011872
5	<i>Investigation of Structural and Electrical properties of Selenium based Compound Semiconductors</i>	Dr Shabir A Kumar	Amir Hassan Wani, IUSTS0118011535 Waqar Ahmad Sheikh IUST0118011453 and Mukhtar Ahmed IUST0118011523
6	<i>Density Functional Theory: An Introduction</i>	Dr Tanveer A Dar	Ms. Insha Akbar, IUST0118011625 Ms. Batoola Akhtar, IUST0118011600 Ms. Ruqayah Farooq, IUST0118011786 Ms. Rafia Mushtaq IUST0118011715

4th Semester Projects for the Session-2019

S. No	Project Title	Faculty	Students
1	<i>Nilsson Model – A review study</i>	Dr Niyaz A Rather	Aadil Bashir Wani (PHM-17-01) Muneer Ahmad Mir (PHM-17-06) Mohmad Aaqib Rather (PHM-17- 12) and Gazendfer Bashir (PHM-17-18)
2	<i>Multiplicity and pseudorapidity distributions of particles produced in $^{28}\text{Si-Em}$ interactions at 14.6 GeV</i>	Dr Mir H Rasool	Shahidah Nazeer (PHM-I7-11), Shazia Fareed (PHM-17-14), Zarifa Iqbal Lone (PHM-17-04), Saqib Uz Zaman (PHM-17-16)
3	<i>Scintillation Detectors</i>	Dr. Jaffar Sadiq E	Sajjad Hussain, IUST0117009609 Muzaffar AhNayak IUST0117009632 and Mohammad Zahid, IUST0117009718
4	<i>Nonlinear Evolution equation from Physical Problem: The Toda Equation</i>	Dr Muzammil A Bhat	Kousar Quereshi, IUST0117009574 Rabia Maqbool Lone, IUST011709998 and Asrar Ahmad Chopan IUST0117009873
5	<i>Study of Physical Properties of Compound Semiconductor Materials used For Solar Cell Applications</i>	Dr Shabir A Kumar	Masarat Jabeen, IUST0117009578 Roomey Jan, IUST0117010607 Parray Arjumand IUST0117009967 and Zakir Hussain Bhat IUST0117010194
6	<i>Structural and Raman Studies of Alkaline Niobate Composites</i>	Dr Tanveer A Dar	Sajad Ahmad Dar, IUST0117009591 Malik Aurangzeb, IUST0117010476 Basit Shaheen, IUST0117010581 and Shahir Ahmad Parray IUST0117010707

4th Semester Projects for the Session-2018

S. No	Project Title	Faculty	Students
1	<i>Simulation of XAS Spectrum of Transition Metals (Mn, Fe, Co, Ni, Cu) using CTM4XAS Program.</i>	Dr Farooq H Bhat	ASHIQ RAMZAN (IUST0116008592), HUMIRAH AZIZ (IUST0116008032), NIGHAT YOUSUF (IUST0116008706) and ZIA UL HAQ (IUST0116007957)
2	<i>WKB Approximation - An Alternate Derivation</i>	Dr Niyaz A Rather	Muneerul Mushtaq (IUST0116008096), Yasmeena Yassin (IUST0116008385), Asif Qurashie (IUST0116008707) and Naveed Akbar (IUST0116008094)
3	<i>General Characteristics of Particles produced in Nucleus-Nucleus collisions at Relativistic energies</i>	Dr Mir H Rasool	Shahnaza Akther (IUST0116007833), Nusrat Fatima (IUST0116008099), Zamrooda Rahman (IUST0116008816) and Ruqaya Mushtaq (IUST0116008088)
4	<i>MSW Effect in Solar Neutrino Flux</i>	Dr. Jaffar Sadiq E	Humaira Farooq (IUST01160080)
5	<i>Investigation of Physical properties of Selenium Based Compound Semiconductors</i>	Dr. Shabir A Kumar	Aadil Gulzar Dar, IUST0116007827 Mujtaba Nazir IUST0116009021 and Lateef Ahmad Dar IUST0116007944
6	<i>Electronic structure prediction of some Perovskites by first principles calculations: (SnAlO₃ and PbTaO₃)</i>	Dr. Shakeel A Khanday	Farhana Nazir (IUST0116008513) Shoque Maqbool (IUST0116009266) Tabish Ashraf (IUST0116007855) Asif Majid (IUST0116008492)