



DEPARTMENT OF PHYSICS  
GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY  
HISAR - 125 001, HARYANA (INDIA)

No. PHY/2021/ 4787  
Dated:- 09-09-2021

To

The Assistant Registrar (Academic),  
GJUS&T, Hisar.

Sub: Annual Report for the year 2019-20 (01.07.2019 to 30.06.2020).

Kindly refer to your office letter No. Acad/ AC-1/2021/4688-96 dated: 07.09.2021 on the subject cited above.

The requisite information, as desired by you, on the prescribed format is enclosed herewith along with the soft copy (send to e-mail [academicbranch@rediffmail.com](mailto:academicbranch@rediffmail.com)).

*Sujata*  
9/9/2021  
CHAIRPERSON

**ANNUAL REPORT PROFORMA  
(01.07.2019 TO 30.06.2020)**

(I) Name of the Department: PHYSICS

(II) Year of Establishment: 1996

(III) (a) State the vision of the Department:

To inspire the young students towards understanding and learning the fundamental concepts of Physics and their applications for the development of new technologies in the national interests.

(b) State the mission of the Department:

The mission of the Department of Physics is to provide strong qualitative and quantitative knowledge along with developing a problem-solving aptitude among the students that may open up a wide range of career choices to them. This also includes continuous refinement of quality research, development of frequently updated research-based innovative curricula and techniques to impart greater visibility to the learner and global recognition of the department. The department strives to achieve its mission by executing novel research ideas with an emphasis on interdisciplinary and applied research. The faculty members promote the highest ethical principles in scientific research and are open to scientific and technological changes.

(c) State the objective of the Department: (As resolved by Staff Council)

- (i) To impart research as well as career-oriented quality education and training to young minds in Physics by offering a mixture of Pure and Applied Physics with state-of-the art facilities.
- (ii) The students in the department are trained and prepared according to the needs of current research, academics and industry requirements.
- (iii) The courses provide the basic knowledge in Physics and offer various options of specializations in Photonics, Laser Physics, Opto-electronics, Materials Science (Nanomaterials, Thin films and Glasses), Nuclear Physics etc.
- (iii) To strengthen the research facilities in the areas of Materials Science, Opto-Electronics, Lasers and Optics, Photonics and Computational Physics. The department procures grants from various funding agencies such as DST, UGC, CSIR, DRDO, AICTE & DAE-BRNS etc.
- (iv) For the job-placement of students, training and placement cell invites industries for the campus interviews.

(IV) Programme(s) offered in the department

| Programme                          | Sanctioned intake  | Present students' strength |
|------------------------------------|--|----------------------------|
| Ph.D.                              | 94   | 75                         |
| P.G                                | 54 (Pre.) + 54 (Final) = 108                               | 51 + 53 = 104              |
| 5 year Dual Degree B.Sc.-M.Sc.     | 49(I-Year) + 39(II-Year) + 39(III-Year) + 34 (IV-Year)=161 | 37+36+28+20 = 121          |
| Teaching Physics in B.Tech Courses | 600 (approx.)  |                            |

(V) Faculty details

(Attach a list of the Faculty along with their qualifications, teaching and research experiences, and any specific achievements (if any))

| Professor  |        | Associate Professor |        | Assistant Professor |        |
|------------|--------|---------------------|--------|---------------------|--------|
| Sanctioned | filled | Sanctioned          | filled | Sanctioned          | Filled |
| 2          | -      | 4                   | 3      | 15                  | 11     |

(VI) Office staff details

| Designation        | Sanctioned | Filled |
|--------------------|------------|--------|
| Tech. Asstt. (G-I) | 1          | 1      |
| Assistant          | -          | 1      |
| Steno Typist       | 1          | -      |
| Clerk cum DEO      | 1          | 1      |
| Store Keeper       | 1          | -      |
| Lab. Attendant     | 5          | 7      |
| Peon               | 1          | 1      |

(VII) a. Students detail in respect of M.Sc. Programme

| Programme | Sanctioned Intake | Students admitted 1 <sup>st</sup> Year | Students Present in Final Year |
|-----------|-------------------|--|--------------------------------|
| 54        | 51                | 54                                     | 53                             |

- b. Students' detail in respect of MCA Programme - NIL
- c. Students' detail in respect of B.Tech , B.Pharm. and B.P.Th. Programmes - NIL
- d) Detail of Foreign Students if any, admitted in the Department

| Sr. No. | Name of Course | No. of students Admitted | Name of Country |
|---------|----------------|--------------------------|-----------------|
| 1.      | Ph.D.          | 1                        | Ethiopia        |

(VIII) Research Scholars

| Intake capacity | Total no of Ph.D. students | Registered during the year | Thesis completed during the year | Specify number of different fellowships |
|-----------------|----------------------------|----------------------------|----------------------------------|---|
| 94              | 75                         | 19                         | NIL                              | JRF-26,<br>URF-2, HSCST-1, RUSA-1       |

(IX) Sponsored Research/ Consultancy Projects

| Sr. No | Title of the Project   | Name of the Investigator | Project in process | Awarded during the current year | Completed during the current year | Nature: Research/ Consultancy |
|--------|--|--------------------------|--------------------|---------------------------------|-----------------------------------|-------------------------------|
| 1      | Growth of two dimensional layered nanomaterials for their possible applications in Nano-electronic and Energy harvesting devices | Dr. Ravi Bhatia          | 2015-20            |                                 |                                   | Research                      |
| 2      | DST FIST / For setting up of Material Science and Computational Lab  | Department level         | 2017-22            |                                 |                                   | Research                      |
| 3      | Development and Optimization of transparent conducting oxide thin films for photovoltaic applications                            | Dr. Devendra Mohan       | 2017-20            |                                 |                                   | Research                      |
| 4      | "Investigation of crystal structure, dielectric and magnetic properties of Ho doped BiFeO <sub>3</sub> multiferroics"            | Dr. Sujata Sanghi        | 2017-20            |                                 |                                   | Research                      |
| 5      | Study of crystal structure dielectric and magnetic properties of Tb and Ho-doped BiFeO <sub>3</sub> based function multiferroic  | Dr. Sujata Sanghi        | 2017-19            |                                 | 2019                              | Research                      |
| 6      | Investigation on fiber Machzehnder interferometer (MZI) measurement sensors  | Dr. Ajay Shankar         | 2017-19            |                                 | 2019                              | Research                      |
| 7      | Synthesis and characterization of modified lead free ABO <sub>3</sub> provskite ceramics   | Dr. Neetu Ahlawat        | 2017-20            |                                 | 2020                              | Research                      |
| 8      | Scattering matrix determination from SLS experiment  | Dr. David Joseph         | 2017-19            |                                 | 2019                              | Research                      |
| 9      | Simulation and Modelling of Chalcopyrites: Promising Materials for Solar Cells   | Dr. Ramesh Kumar         | 2017-19            |                                 | 2019                              | Research                      |

|                   |   |                          |         |      |      |          |
|-------------------|---|--------------------------|---------|------|------|----------|
| 10                | Band gap engineering of binary and ternary DMS compounds to tune magnetic response for Spintronics devices              | Dr. Hardev               | 2017-20 |      | 2020 | Research |
| 11                | Light and Vibration Energy Harvesting   | Dr. Vivek Gupta          | 2018-19 |      | 2019 | Research |
| 12                | "Synthesis of TMDs and their Heterostructures for their Possible Applications in FETs, Photo detectors and Solar Cells" | Dr. NVSP Sameera Ivaturi | 2018-23 |      |      | Research |
| 13                | Synthesis & Characterization of modified BZT ceramics   | Dr. Neetu Ahlawat        | 2019-20 | 2019 | 2020 | Research |
| 14                | "Structural, Electronic and Thermoelectric properties of Topological materials"   | Dr. Hardev               | 2019-20 | 2019 | 2020 | Research |
| 15                | Development of a nuclear structure model based on short ranged correlations of the nucleons                             | Dr Ranjeet               | 2019-20 | 2019 | 2020 | Research |
| 16                | Synthesis and characterization of oxide glasses for IR applications   | Dr. Rajender Kundu       | 2020-21 | 2020 |      | Research |
| 17                | Thermo electric energy harvesting   | Dr. Vivek Gupta          | 2020-21 | 2020 |      | Research |
| 18                | To organise INSPIRE Internship Science Camp   | Dr. Ravi Bhatia          | 2018-19 |      | 2019 | Research |
| <b>Total = 16</b> |   |                          |         |      |      |          |

(X) Number of Publications of the Faculty (in Total)

| Books and Book Chapters/Monographs etc |          | Research papers |              |          |              |
|--|----------|-----------------|--------------|----------|--------------|
| International                          | National | International   |              | National |              |
| 0                                      | 0        | Refereed        | Non refereed | Refereed | Non refereed |
|  |          | 37              | 0            | 0        | 0            |

(XI) Faculty wise detail of publication during the period

a) Books/Book Chapters/ Monograph etc. NIL

| Authors | Title | Year of publication | Type of books (Text/Reference/Report) |
|---------|-------|---------------------|---------------------------------------|
|         |       |                     |                                       |

b) Papers/ Articles in Journals: 37 in number

| Sr No | Authors   | Year | Title of paper  | Name of journal                               | Publishers                    | Vol. & No. | Pages     | Impact factor |
|-------|---|------|---|---|-------------------------------|------------|-----------|---------------|
| 1     | A. Chahal, S. Kumar, A. Panghal, A. Kumar, J. Singh, P. Singh and B.S. Bajwa, | 2019 | Study of Uranium in Drinking Water around the Sohna Fault Line in Haryana State, India  | Journal Geological Society of India, Springer | Springer                      | 94         | 428-436   | 1.459         |
| 2     | Amanjeet, A. Kumar, S. Kumar  | 2019 | Uranium Levels in Groundwater of North India: A Review  | Asian Journal of Chemistry                    | Asian Publication Corporation | 31 (6)     | 1195-1199 | 0.54          |
| 3     | Singh J., Agarwal A., Sanghi S., Bhasin T., Yadav M., Bhakar U.               | 2019 | Holmium induced structural transformation and improved dielectric and magnetic properties in Bi <sub>0.80</sub> La <sub>0.20</sub> FeO <sub>3</sub> multiferroics                   | Journal of Magnetism and Magnetic Materials   | Elsevier                      | 487        | 165337    | 2.993         |
| 4     | Bhasin T., Agarwal A., Sanghi S., Yadav M., Meenal, Singh J.                  | 2019 | Investigation of Multiferroic Properties of Spinel Ferrite (ZnFe <sub>2</sub> O <sub>4</sub> ) and Ferroelectric (Na <sub>0.5</sub> Bi <sub>0.5</sub> TiO <sub>3</sub> ) Composites | Integrated Ferroelectrics                     | Taylor & Francis online       | 20(1)      | 163-177   | 0.836         |
| 5     | Singh J., Agarwal A., Sanghi S., Yadav M., Bhasin T., Bhakar U.               | 2019 | Investigation of the crystal structure, magnetic properties and dielectric properties of Ho substituted Bi <sub>0.90</sub> La <sub>0.10</sub> FeO <sub>3</sub> multiferroics        | AIP Conference Proceedings                    | AIP Publishing                | 2142 (1)   | 090010    | 0.415         |
| 6     | Singh J., Agarwal A., Sanghi S., Rangi M., Bhasin T., Jangra S.               | 2019 | Structural, Dielectric and magnetic Properties of (Ho, Ti) Modified BFO   | AIP Conference Proceedings                    | AIP Publishing                | 2142 (1)   | 040028    | 0.415         |
| 7     | Bala R., Agarwal A., Sanghi S., Sanjay  | 2019 | Electrical characterization and dielectric behavior of PbO·Bi <sub>2</sub> O <sub>3</sub> ·Ga <sub>2</sub> O <sub>3</sub> glasses   | AIP Conference Proceedings                    | AIP Publishing                | 2142 (1)   | 040032    | 0.415         |

|    |  |      |  |  |   |              |               |       |
|----|--|------|--|--|---|--------------|---------------|-------|
| 8  | Yadav M.,<br>Agarwal A.,<br>Sanghi S.,<br>Tuteja M.,<br>Bhasin T., Singh<br>J. | 2019 | Effect of Nd and Ti<br>doping on crystal<br>structure refinement,<br>optical, dielectric and<br>magnetic properties of<br>Bi <sub>0.90</sub> Nd <sub>0.10</sub> FeO <sub>3</sub><br>multiferroic | Materials<br>Research<br>Express                     | IOP<br>Publications                             | 6<br>(10)    | 106107        | 1.620 |
| 9  | Kaswan K.,<br>Agarwal A.,<br>Sanghi S., Singh<br>J.                            | 2019 | Improved multiferroic<br>properties of bismuth<br>ferrite and sodium<br>bismuth titanate based<br>multiferroic composites  | AIP<br>Conference<br>Proceedings                     | AIP<br>Publishing                               | 2115<br>(1)  | 030493        | 0.415 |
| 10 | Singh J.,<br>Agarwal A.,<br>Rangi M.,<br>Kaswan K.,<br>Yadav M.,<br>Bhakar U.  | 2019 | Crystal structure<br>transition and<br>multiferroic properties<br>in Bi <sub>1-x</sub> HoxFeO <sub>3</sub> (x =<br>0.05, 0.10, 0.15, &<br>0.20) ceramic by<br>rietveld analysis                  | AIP<br>Conference<br>Proceedings                     | AIP<br>Publishing                               | 2115<br>(1)  | 030022        | 0.415 |
| 11 | Singh J.,<br>Agarwal A.,<br>Sanghi S.,<br>Bhasin T.,<br>Yadav M.,<br>Bhakar U. | 2019 | Holmium induced<br>structural transformation<br>and improved dielectric<br>and magnetic properties<br>in Bi <sub>0.80</sub> La <sub>0.20</sub> FeO <sub>3</sub><br>multiferroics                 | Journal of<br>Magnetism<br>and Magnetic<br>Materials | Elsevier  | 487          | 165337        | 2.993 |
| 12 | Rangi M.,<br>Sanghi S.,<br>Agarwal A.,<br>Jangra S.,<br>Sangwan J.             | 2019 | The crystal structure,<br>refinement and<br>dielectric properties of<br>Ba and Mn substituted<br>bismuth ferrite   | AIP<br>Conference<br>Proceedings                     | AIP<br>Publishing                               | 2142<br>(1), | 040027        | 0.415 |
| 13 | Rishi Pal, Sneh<br>Lata Goyal,<br>Vinay Gupta<br>and Ishpal<br>Rawal           | 2019 | MnO <sub>2</sub> -Magnetic Core-<br>Shell Structured<br>Polyaniline Dependent<br>Enhanced EMI<br>Shielding Effectiveness:<br>A Study of VRH<br>Conduction  | ChemistrySelect                                      | European<br>Chemical<br>Societies<br>Publishing | 4<br>(31)    | 9194-<br>9210 | 2.109 |
| 14 | Rishi Pal, Sneh<br>Lata Goyal and<br>Smriti Sharma                             | 2019 | Facial Synthesis of<br>Polyaniline and its<br>Nanocomposites for<br>Room Temperature<br>Methanol Sensors   | AIP<br>Conference<br>Proceedings                     | AIP<br>Publishing                               | 2115<br>(1)  | 030217        | 0.415 |
| 15 | Rishi Pal and<br>Sneh Lata Goyal   | 2019 | Polyaniline-Graphene<br>Composite as<br>Chemiresistor: A<br>Theoretical Approach   | AIP<br>Conference<br>Proceedings                     | AIP<br>Publishing                               | 2220<br>(1)  | 080021        | 0.415 |

|    |   |      |   |   |  |          |             |       |
|----|---|------|---|---|--|----------|-------------|-------|
| 16 | Anil Kumar, Preeti Sharma, Kumar, Anupinder, R. S. Kundu & Rajesh Punia             | 2019 | Effect of Diamagnetic Ion Substitution on Structural and Magnetic Properties of Nd <sup>3+</sup> Modified Solid Solutions                               | Integrated Ferroelectrics                         | Taylor and Francis                           | 203 (1)  | 176-182     | 0.83  |
| 17 | Sunita Rania, R. S. Kundu, N. Ahlawat, K. M. Sangwan, Suman Rani, A. Kumar          | 2019 | Investigation of optical parameters of titanium substituted strontium borate glasses by Mott Davis's and hydrogenic excitonic model                     | Journal Of Optoelectronics And Advanced Materials | INOE Publishing House - Integra Natura Omnia | 21 (1-2) | 114-118     | 0.58  |
| 18 | Renu Daulta, V K Garg, Balvinder Singh  | 2019 | Natural radioactivity in soil, associated radiation exposure and cancer risk to population of Eastern Haryana, India                                    | Journal of the geological society of India        | Springer                                     | 94 (5),  | 525-532     | 1.459 |
| 19 | P Sharma, N Berwal, N Ahlawat, AS Maan, R Punia                                     | 2019 | Study of structural, dielectric, ferroelectric and magnetic properties of vanadium doped BCT ceramics   | Ceramics International                            | Elsevier                                     | 45 (16)  | 20368-20378 | 4.527 |
| 20 | Sunita Rani, R.S. Kundu, Neetu Ahlawat, Suman Rani, Kanta Maan Sangwan, Kanika Rani | 2019 | Bismuth Modified Physical and Optical Properties of Barium Boro-Tellurite Glasses   | AIP Conference Proceedings                        | AIP Publishing                               | 2115 (1) | 030255      | 0.415 |
| 21 | Priyanka Khandelwal, N. Ahlawat, R.S. Kundu, Kanta Maan Sangwan, Shakti Bajja       | 2019 | Influence of Sr-doping on Structural and Ferroelectric Properties of BaTiO <sub>3</sub> Ceramics  | AIP Conference Proceedings                        | AIP Publishing                               | 2115 (1) | 030599      | 0.415 |
| 22 | Neelam Berwal, N. Ahlawat, Devendra Mohan, R. Punia, N. Kishore                     | 2019 | Non-linear Optical Properties of SiO <sub>2</sub> Modified Bi <sub>2</sub> O <sub>3</sub> -TeO <sub>2</sub> -B <sub>2</sub> O <sub>3</sub> Glass System | AIP Conference Proceedings                        | AIP Publishing                               | 2142 (1) | 140025      | 0.415 |
| 23 | Kanta Maan Sangwan, N. Ahlawat, R.S. Kundu, Suman Rani, Sunita Rani                 | 2019 | Structural, Dielectric and Ferroelectric Properties of Substituted BaZrTiO <sub>3</sub> Lead-free Ceramics  | AIP Conference Proceedings                        | AIP Publishing                               | 2115 (1) | 030027      | 0.415 |



|    |  |      |   |                                  |                    |             |               |       |
|----|--|------|---|----------------------------------|--------------------|-------------|---------------|-------|
| 24 | Sandeep Yadav,<br>Sonia Kumari,<br>Monika Barala,<br>Devendra<br>Mohan, Rakesh<br>Dhar, S.K.<br>Chaudhary                              | 2019 | Estimation of physical<br>and nonlinear optical<br>parameters of vanadate<br>glasses  | AIP<br>Conference<br>Proceedings | AIP<br>Publishing  | 2142<br>(1) | 050012        | 0.415 |
| 25 | Pawan Kumar,<br>Sneh Lata<br>Goyal, Sneh Lata<br>Goyal, Pradip K<br>Sarkar   | 2020 | Excitation function<br>calculations in proton-<br>induced nuclear<br>reactions on Zn and Cu<br>upto 80 MeV  | Indian Journal<br>of Physics     | Springer           | 95          | 325-33<br>5   | 1.947 |
| 26 | N Berwal, N<br>Ahlawat, D<br>Mohan, A<br>Ohlan, R Punia,<br>N Kishore  | 2020 | Study of vibrational<br>spectroscopy, linear and<br>nonlinear optical<br>properties of borate-<br>modified<br>tellurium-silica-bismut<br>hate glasses | Indian J Phys                    | Springer           | 94          | 1643-1<br>652 | 1.947 |
| 27 | Kanika Rani, N.<br>Ahlawat, R.S.<br>Kundu,<br>Priyanka<br>Khandelwal,<br>Agam<br>Rani, Navneet<br>Ahlawat, Rajesh<br>Parmar            | 2020 | Optical and Physical<br>Properties of<br>Magnesium modified<br>Borate Glass System  | AIP<br>Conference<br>Proceedings | AIP<br>Publishing  | 2220        | 080031        | 0.415 |
| 28 | Agam Rani, N.<br>Ahlawat, R. S.<br>Kundu, Vinay<br>Pratap Singh  | 2020 | Study of Dielectric<br>Behavior and<br>Conductivity Formalism<br>of Modified Calcium<br>Copper Titanate<br>Ceramic                                    | AIP<br>Conference<br>Proceedings | AIP<br>Publishing  | 2220        | 080052        | 0.415 |
| 29 | Rishi Pal, Sneh<br>Lata Goyal,<br>Ishpal Rawal<br>and Smriti<br>Sharma   | 2020 | Efficient Room<br>Temperature Methanol<br>Sensors based on<br>Polyaniline/Graphene<br>Micro/Nanocomposites  | Iranian<br>Polymer<br>Journal    | Springer           | 29          | 591-60<br>3   | 1.899 |
| 30 | Chakresh Jain,<br>Saumya<br>Saumya,<br>Geetika Jain,<br>Ranjeet Dalal,<br>Namrata<br>Agrawal,<br>Ashutosh<br>Bhardwaj, Kirti<br>Ranjan | 2020 | Modeling of neutron<br>radiation-induced<br>defects in silicon<br>particle detectors  | Semicond. Sci.<br>Technol.       | IOP<br>Publication | 35<br>(04)  | 5021          | 2.352 |

|    |   |      |  |                                  |                  |         |        |       |
|----|---|------|--|----------------------------------|------------------|---------|--------|-------|
| 31 | R. Dalal  | 2020 | SRC based model for the nuclear structure  | J. Phys.: Conf. Ser.             | IOP Publication  | 1643    | 012126 | 0.599 |
| 32 | D.P.Rai, Tuan V. Vu, Amel Laref, M.P.Ghimire, P.K.Patra and Sunita Srivastava       | 2020 | Electronic and optical properties of 2D monolayer (ML) MoS <sub>2</sub> with vacancy defect at S sites   | Nano Structures & Nano- Objects  | Elsevier         | 21      | 100404 | 5.45  |
| 33 | Sumandeep Kaur, Ashok Kumar, Sunita Srivastava, K. Tankeshwar and Ravindra Pandey   | 2020 | Novel Phosphorus Based 2D Allotropes with Ultra High Mobility  | Nanotechnology                   | IOP Publications | 31 (32) | 325702 | 3.874 |
| 34 | Gagandeep, Mukhtiyar Singh, Ramesh Kumar & Vinamrita Singh.                         | 2020 | Investigating the impact of layer properties on the performance of p-graphene/CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> /n-cSi solar cell using numerical modelling | Superlattice and Microstructures | Elsevier         | 140     | 106468 | 2.658 |
| 35 | PV Prakash Madduri, N Manikanthababu, I Sameera, Ravi Bhatia, AP Pathak, V Saikiran | 2020 | Approach-to-magnetic saturation of Fe nanoparticle/nanorod encapsulated multi-walled carbon nanotubes under heavy ion irradiation  | Physica B: Condensed Matter      | Elsevier         | 577     | 411773 | 2.436 |
| 36 | Rishi Pal, Sneha Lata Goyal and Ishpal Rawal  | 2020 | High-performance solid state supercapacitors based on intrinsically conducting polyaniline/MWCNTs composite electrodes   | Journal of Polymer Research      | Elsevier         | 27      | 179    | 3.097 |
| 37 | Shah J., Verma K.C., Agarwal A., Kotnala R.K.                                       | 2020 | Novel application of multiferroic compound for green electricity generation fabricated as hydroelectric cell   | Materials Chemistry and Physics  | Elsevier         | 239     | 122068 | 4.094 |

(XII) Participation of faculty in Seminars/Conferences/Workshops/Webinars and Refresher Courses etc. during the period

(a) Total Number of Seminars/Conferences attended by faculty and papers presented

| Positions                           | Attended      |          |       | Papers presented |          |       |
|-------------------------------------|---------------|----------|-------|------------------|----------|-------|
|                                     | International | National | Total | International    | National | Total |
| Professors<br>(Prof. Sujata Sanghi) | 1             | 0        | 1     |                  |          |       |

(b) International Conferences/ Seminars/ Workshops/Webinars

| Name of the Teacher/Faculty | Title of paper presented | Theme of conference/ Seminar/ Workshop   | Name of Host organization | Place                     | Dates            |
|-----------------------------|--------------------------|--|---------------------------|---------------------------|------------------|
| Sujata Sanghi               | Attended                 | 2020 Conference on Lasers and Electro-Optics ("CLEO") 11 – 15 May 2020 (Virtual) | CLEO                      | San Jose, California, USA | 11 – 15 May 2020 |

(c) National Conferences/ Seminars/ Workshops NIL

(d) Regional/ State Level Conferences/ Seminars/ Workshops – NIL

(e) Refresher Courses/ Orientation Courses

| Name of Teacher/Faculty | Title of Refresher Course  | Host organization | Dept. and University | Place | Date                     |
|-------------------------|--|-------------------|----------------------|-------|--------------------------|
| Dr. Hardev Singh        | UGC Sponsored interdisciplinary Refresher Course in Advance instrumentation technique HRDC GJU | HRDC, GJU         | Physics, GJU         | Hisar | 11-11-2019 to 23-11-2019 |
| Dr. Ramesh Kumar        | UGC Sponsored interdisciplinary Refresher Course in Advance instrumentation technique HRDC GJU | HRDC, GJU         | Physics, GJU         | Hisar | 11-11-2019 to 23-11-2019 |
| Dr. Vivek Gupta         | Theory and Technology of Silicon Solar Cells   |                   |                      |       | 26-09-2019 to 28-09-2019 |

|                      |  |                                |              |       |                                |
|----------------------|--|--------------------------------|--------------|-------|--------------------------------|
| Dr. Vivek Gupta      | India International Science Festival 2019  |                                |              |       | 05-11-2019<br>to<br>08-11-2019 |
| Dr. Ranjeet          | Faculty Induction Programme-1 conducted by UGC-HRDC, GJUS&T, Hisar                                     | HRDC, GJU                      | Physics, GJU | Hisar | 21-09-2020<br>to<br>24-10-2020 |
| Prof. Devendra Mohan | ĀTAL Academic Programme Photonics  | GJU                            | Physics, GJU | Hisar | 02-11-2020<br>to<br>06-11-2020 |
| Dr. Ramesh Kumar     | Refresher Course in Physics, HRDC, GJUST, Hisar  | HRDC, GJU                      | Physics, GJU | Hisar | 14-10-2020<br>to<br>27-10-2020 |
| Dr. Ramesh Kumar     | Faculty development program on development and management of MOOCS and online courses using LMS-MOODLE | SGTV Khalsa College, DU, Delhi | ---          | Delhi | 30-06-2020<br>to<br>04-07-2020 |
| Dr. Vivek Gupta      | International Faculty Development Program (GTEP UK)  |                                |              |       | 14-02-2020<br>to<br>17-02-2020 |
| Dr. Vivek Gupta      | TEQUIP Workshop on Recent Trends in AI, ML and ICT   |                                |              |       | 06-01-2020<br>to<br>10-01-2020 |
| Dr. Vivek Gupta      | Developing as an Online Practitioner   |                                |              |       | 01-06-2020                     |
| Dr. Vivek Gupta      | How to Teach Online?   |                                |              |       | 06-07-2020<br>to<br>11-07-2020 |
| Dr. Vivek Gupta      | Nanotechnology for Electronic and Photonic Devices   |                                |              |       | 15-06-2020<br>to<br>19-06-2020 |
| Dr. Vivek Gupta      | International Symposium on Nanoscience and Nano-Technology   |                                |              |       | 07-06-2020<br>to<br>09-06-2020 |

(f) National/International Webinars Attended - NIL

| Name of Teacher/Faculty | Title of Webinar | Host organization | Date |
|-------------------------|------------------|-------------------|------|
|                         |                  |                   |      |
|                         |                  |                   |      |

(g) Total number of Refresher/ Oriented Courses attended:

- i) Refresher Courses : 3  
ii) Oriented Courses :  
iii) Webinars :  
iv) Total :

**(XIII) Association with National and State Level Bodies (Give teacher-wise details)**

**i. Membership of Professional Bodies:**

Prof. Devendra Mohan: Indian Laser Association

Prof. Sujata Sanghi: Indian Laser Association, Optical Society of India, Materials Research Society of India

Prof. Ashish Aggarwal: Materials Research Society of India

Prof. Rakesh Dhar: Indian Vacuum Society

Prof. Sneh Lata Goel: Member Current Science Association, Indian Thermal Analysis Society

Prof. Sunita Srivastava: IPA, IAPT

Dr. Vivek Gupta: IAPT, Indian Science Congress Association (ISCA), Vijnana Bharti

Prof. R S Kundu: Materials Research Society of India, Electron Microscope Society of India.

Prof. Neetu Ahlawat: Materials Research Society of India, Electron Microscope Society of India

**(ii) Member of Expert Committees:**

Prof. Sujata Sanghi: Member Selection Committee for appointment of Assistant Professor, CUH, Mahendragarh.

Prof. Ashish Agarwal: Member Selection Committee for CAS Promotion, MDU Rohtak, Member Selection Committee for appointment of Assistant Professor, UKPSC, Uttrakhand.

Prof. Sneh Lata Goel: Member Selection Committee for appointment of Assistant Professor, UKPSC, Uttrakhand.

Prof. Rakesh Dhar: Member Screening Committee for appointment of Assistant Professor, CRSU, Jind.

**(iii) Member of Academic Bodies of the University**

Prof. Sneh Lata Goel: Member Court of GJUS & T, Hisar w.e.f. Feb. 2019 for two years  
GJ University Nominee of the Governing Body of Asha Girls College Panihar Chack, Hisar.  
Appointed as Chairperson, Women Cell of GJUS & T, Hisar w.e.f. March 2019.

(iv) Member of Academic Bodies of other institutions:

1. Prof. Sneh Lata Goel:

Member court of Chaudhary Bansi Lal University, Bhiwani vide Haryana Raj Bhawan letter no. HRB-UA-33(1)-2016/3117 dt.19-4-2018 for three years as Chancellor Nominee.

Member court of Bhagat Phool Singh Mahila Vishwavidyalaya, Khanpur Kalan (Sonepat) w.e.f. 22.12.2017 vide Haryana Raj Bhawan letter no. HRB-UA-28(1)-2016/10096 dt.22-12-2017 for three years as Chancellor Nominee.

2. Prof. Sunita Srivastava: Panjab University, MDU Rohtak

(XIV) Detail of Consultancy Project/Work in Department

| Name of Teacher | Title of the project/work | Name of Agency | Total Amount |
|-----------------|---------------------------|----------------|--------------|
|                 |                           |                |              |

(XV) Lectures (other than class) delivered (Give teacher wise detail)

| Type  | Faculty             | Topic/ Subject  | Institution | Dates      |
|---|---------------------|-----------------|-------------|------------|
| Invited talk delivered in refresher courses |                     |                 |             |            |
| Extension lectures                          | Prof. Neetu Ahlawat | Electrodynamics | CRSU, Jind  | Nov., 2019 |
| Any other                                   |                     |                 |             |            |

(XVI) Additional Duties Performed/Positions held in the University (Teacher-wise)

| Sr. No. | Name of Teacher       | Additional Positions   | Duration From To        |
|---------|-----------------------|--|-------------------------|
| 1.      | Prof. Sujata Sanghi   | Chairperson, Dept. of Physics                                  | 01-12-2018 till date    |
| 2.      | Prof. Ashish Agarwal  | Director, IQAC, GJUST, Hisar                                   | 22-05-2018 till date    |
| 3.      | Prof. Sneh Lata Goyal | Chairperson, Women cell  | March 2019 to May, 2020 |
| 4.      | Prof. Neetu Ahlawat   | Deputy Chief Warden (G)  | August 2017 to Sep 2019 |
| 5.      | Dr. Hardev Singh      | Warden (Boys Hostel)   | March 2017 to till date |
| 6.      | Dr. Vivek Gupta       | Warden (Boys Hostel)   | October, 2018           |
| 7.      | Dr. Vivek Gupta       | UGC SWAYAM Co-ordinator  | May, 2018               |
| 8       | Dr. Ranjeet           | Departmental Coordinator of Training and Placement Cell, GJUST | 1-1-2018 to 30-6-2019   |

(XVII) Training/Internship & Placement activity Information of the Department

| Activity<br>(Training/Internship<br>/Placement) | No. of Students<br>placed | No. of Companies in which<br>placed* |
|---|---------------------------|--------------------------------------|
| Held at central level                           |                           |                                      |

\*Note:- Please attach a list of companies along with number of students placed and dates of placement.

(XVIII) Detail of Academic Activities/Professional Activities/ Programmes Organized in Department during the year:

i. Seminar /Conference/Refreshers course/Workshop/Training Programme

| Name of the Event                                      | National/<br>International | Number of<br>Participants | Duration | Dates of the<br>Event |
|--|----------------------------|---------------------------|----------|-----------------------|
| Workshop on Standardization and Calibration            | National                   | 120                       | 2 days   | 15-16 Nov 2019        |
| Two days National Webinar on "Advances in Physics"     | National                   | 120                       | 2 days   | June 25-26, 2020      |
| Webinar on Role of Physics in Global Response to Covid | National                   | 120                       | 1 day    | 12 June 2020          |

ii. Extension lecture: (with resource person & date)

| Topic  | Resource Person                            | Number of<br>Participants | Dates of the<br>Event             |
|--|--|---------------------------|-----------------------------------|
| "How scientific temper leads to new science and technology-I"                            | Prof. Amita Chandra (DU, Delhi)            | 150                       | 27 <sup>th</sup> September, 2019. |
| "How scientific temper leads to new science and technology-II"                           | Prof. Amita Chandra (DU, Delhi)            | 150                       | 27 <sup>th</sup> September, 2019  |
| "Plasma Turbulence: Challenges and Opportunities-I"                                      | Prof. Amita Das (IIT, Delhi)               | 150                       | 12 <sup>th</sup> March, 2020.     |
| "Plasma Turbulence: Challenges and Opportunities-II"                                     | Prof. Amita Das (IIT, Delhi)               | 150                       | 12 <sup>th</sup> March, 2020.     |
| Kondo Effect in Ferrimagnetic Nanocomposite of LaNiO <sub>3</sub> and CoFeO <sub>4</sub> | Prof. Prasad Vishnubhotla, IISc, Bangalore | 200                       | 21st August 2019                  |

iii. Students tour -

| Places Visited         | Number of Participants | Duration | Dates of the Event |
|------------------------|------------------------|----------|--------------------|
| GAVP, NPCIL, Fatehabad | 50                     | 1 day    | November 2019      |

iv. Industry interaction programs : (with name of company & date) - NA

| Name of the Event | Name of the Industry | Number of Participants | Duration | Dates of the Event |
|-------------------|----------------------|------------------------|----------|--------------------|
|-------------------|----------------------|------------------------|----------|--------------------|

- v. Teacher's day celebration organized by the Physics Association of the department on 5 Sept. 2019.
- vi. Noor Inaugural function organized by the Physics Association of the department on 25 October 2019.
- vii. Annual Sports Meet organized by the Physics Association of the department in Feb 2020.
- viii. Certificates were given to all the position-holders of various activities.

(XIX) Awards/ Honours received by Faculty (Give teacher-wise details about title of award, awarding agency and date of conferment)

| Name of Teacher | Title of Award | Name of Awarding Agency | National/ International | Date Conferred |
|-----------------|----------------|-------------------------|-------------------------|----------------|
|-----------------|----------------|-------------------------|-------------------------|----------------|

(XX) Any other important Information/ Achievement of the Department

- The Department is in the process of establishing/shifting in the new Physics Block TB-8.
- The Department is empowered with modern laboratories and has a vibrant research environment for conducting high quality programs at all levels.
- Faculty is actively involved in scientific research. The number of research publications of the department is 430 in Scopus database with a total of 3222 citations and h-index is 33.
- The department encourages various interdisciplinary collaborations with universities and industries in India and abroad. The alumni of the department are well placed in different Government and industrial/Academic organizations Globally.

Chaitanya  
Signature of the Chairperson  
Guru Jambheshwar University  
of Sc. & Tech., Hissar-125001



ANNEXURE

DEPARTMENT OF Physics

- (I) TOTAL NO. OF RESEARCH PAPERS PUBLISHED: 37  
NATIONAL: \_\_\_\_\_  
INTERNATIONAL: 37
- (II) TOTAL NO. OF FUNDED RESEARCH PROJECTS: 16  
COMPLETED: 12  
ON GOING: 04
- (III) TOTAL NO. OF PARTICIPATED AND CONTRIBUTED RESEARCH PAPERS:  
NIL  
SEMINARS & CONFERENCES: \_\_\_\_\_  
INTERNATIONAL LEVEL: \_\_\_\_\_
- (IV) TOTAL NO. OF BOOKS PUBLISHED: NIL
- (V) NUMBER OF SCHOLARS COMPLETED THEIR PH.D.  
DEGREE: NIL
- (VI) TOTAL NUMBER OF SCHOLARS REGISTERED TO  
PH.D. PROGRAMME 75

*Ayale*  
Chairperson  
9/9/2024  
Department of Physics  
Guru Jambheshwar University  
of Sc. & Tech., Hisar-125001