DEPARTMENT NAME: ELECTRONICS AND COMMUNICATION ENGG. DEPARTMENT

Report for 1st January 2022 to 31st March, 2022

I.   **Details of M.E. Programmes:**

ME Subjects	Batches	Name of the Faculty
Research Seminar	**2021 (Regular)**	**Dr. Sandeep Singh Gill**
Digital Image Processing (ECE-1202)	**2021 (Regular)**	**Dr. Amod Kumar**
VLSI Design(ECE-1205)	**2021 (Regular)**	**Dr. Balwinder Raj**
Embedded System Design (ECE-1201)	**2021 (Regular)**	**Dr. Kanika Sharma**
Wireless & Mobile Communication	**2021 (Regular)**	**Dr. Garima Saini**
Advance Computer Network	**2021 (Regular)**	**Dr. Balwinder Singh Dhaliwal**
Research Seminar	**2019 (Modular)**	**Dr. Sandeep Singh Gill**
Informative Theory & Coding	**2021 (Modular)**	**Dr. Balwinder Singh Dhaliwal**
VLSI Design	**2021 (Modular)**	**Dr. Balwinder Raj**
Advanced Digital Signal Processing	**2020 (Modular)**	**Dr. Amod Kumar**
Embedded System Design	**2019 (Modular)**	**Dr. Kanika Sharma**
Wireless & Mobile Communication	**2019 (Modular)**	**Dr. Garima Saini**

II.

   A.   **STUDENT TRAINING Organized:**

Sr. No.	Name of the Course alongwith dates & place	No. of weeks	Participation		Total No. of Participants
			Poly	Engg.	
1.	**Embedded and VLSI**			04	04

   B..   **INTERNATIONAL CONFERENCES Organized**

Sr. No.	Name of the Seminar/Conference	Total No. of Participants

   C.   **NATIONAL CONFERENCES ORGANIZED:**

Sr. No.	Name of the Seminar/Conference	Total No. of Participants

III   **WORKSHOPS/STC CONDUCTED (OTHER THAN CURRICULUM DEVELOPMENT WORKSHOPS):**

Sr. No.	Name of the Workshop along with dates and venue	Total No. of Participants

III A. STC CONDUCTED Details:

Sr. No.	Name of the Workshop along with dates and venue	Total No. of Participants
1.	MATLAB & ITS Application 03.01.2022 to 07.01.2022 on line Dr. Garima Saini	13
2.	Free and open-Source ICT Tools for Effective Teaching Learning and Research 03.01.2022 to 08.01.2022 online Dr. Balwinder Singh Dhaliwal	56
3.	Image and Embedded Processing (ICT-ECE-144) 17.01.22 -21.01.22 on line Dr. Amod Kumar/ Dr. Kanika Sharma	02
4.	AI and Soft Computing Algorithms for Antenna Design on line 17.01.2022 to 21.01.2022 Dr. Balwinder Singh Dhaliwal	47
5.	Artificial Neural Networks (ICT-14) 17.01.22 o 21.01.22 on line Dr. Amod Kumar	11
6.	Biomedical image and Signal Processing 17.01.2022 to 21.01.2022 online Dr. Meenakshi Sood	15
7.	Advance Pedagogy 17.01.2022 to 12.01.2022 Dr. SS Gill (CP-21-163)	30
8.	Nano Electronic: Materials, Devices and Circuits online 24.01.2022 to 28.01.2022 Dr. Balwinder Raj	43
9.	5G & Beyond 31.01.2022 to 04.02.2022 online Dr. Garima Saini	32
10.	Digital Marketing 21.02.2022 to 25.02.2022 online Dr. Balwinder Singh Dhaliwal/ Dr. KGS	18
11.	ECE Lab Practices for Polytechnic Teachers 28.02.2022 to 11.03.2022 online Dr. Balwinder Raj / Dr. Kanika Sharma	17
12.	Advance Pedagogy 02.03.2022 to 08.03.2022 Dr. SS Gill (CP-21-165)	54
13.	Advanced Pedagogy 02.03.2022 to 08.03.2022 (CP-21-164) Dr. SSG	30
14.	Residential Training for Copa, Data Entry Operator 5.03.2022 to 14.03.2022 Dr. SSGill (CP-21-163)	13
15.	Residential Training for Engineering Drawing & Workshop Calculation 5.03.2022 to 14.03.2022 (CP-21-164) Dr.SSGill	15
16.	Residential Training for Electronic Mechanic Radio & TV 05.03.2022 - 14.03.2022 Dr. SS Gill	10
17.	Advanced Pedagogy 9.03.2022 to 16.03.2022 Dr. SS Gill (CP-21-165)	54
	Advanced Pedalogogy 09.03.2022 to 16.03.2022 Dr. SS Gill (CP-21-165	56
18.	Digital Media Tools for Effective Teaching Learning 14.03.2022 to 18.03.2022 online Dr. Balwider Singh Dhaliwal	38
19.	Industry Oriented STC on VLSI Design Tools 21.03.2022 to 25.03.2022 online Dr. Sandeep Singh Gill/ Dr. Balwinder Raj	16

20.	Embedded Artificial Intelligence 21.03.2022 to 25.03.2022 online Dr. Amod Kumar / Dr. Kanika Sharma	40
21.	Advanced Pedagogy 23.03.2022 to 29.03.2021 Dr. SS Gill (CP-21-167)	63

IV. INSTRUCTIONAL MATERIAL DEVELOPMENT

Sr. No.	Type of Instructional Material Developed	Author(s) /Team	Project Completed In progress	Specific Achievements during the year	Target date of completion
PRINT MATERIAL					
NON-PRINT MATERIAL					

INSTRUCTIONAL MATERIAL DEVELOPMENT

Type of Instructional Material	No. Completed during 2021-22	Remarks (if any)
PRINT :		
Text Books		
Lab. Manuals		
Teachers' Manual		
Modules		
Readers		
Any other (Please specify)		
NON-PRINT :		
Video Films	02	
CAI Packages		
Experimental Kits		
Charts		
Any other (Please specify)		

Information above to be given only in case of completed Learning Resources. Title of the material(s) (topics/subjects as the case may be) should also be given.

V. CURRICULUM DEVELOPMENT

A. CURRICULA DESIGNED:

B.   CURRICULA REVISED:

C.   CURRICULUM DEVELOPMENT WORKSHOPS:

Sr. No.	Name of Curriculum	Number of Subjects/Course	Beneficiary States	Participation		
				Poly.	**Ind.**	**Others**

VI.   RESEARCH AND DEVELOPMENT

Sr. No.	Name of Project	Team	Beneficiary State	Status of Project completed/ In progress	Specific work done during the year	Target date of completion
A. RESEARCH STUDIES						
1.	AICTE RPS project titled "Memristive Non-volatile SRAM Cell Design for AI Applications"	Dr. SS Gill and Balwinder Raj		In progress		
B. DEVELOPMENT PROJECTS						
C. DISSERTATION FOR MASTER'S DEGREE PROGRAMMES COMPLETED						
1.	EEG based pain Estimation	Dr. Amod Kumar and Dr. Kanika Sharma		Completed		

VII.   EXTENSION SERVICES AND CONSULTANCY

Sr.No.	Name of Project	Team	Beneficiary Organization	Status of Project Completed/in Progress	Specific work done during the year
A. EXTENSION SERVICES PROJECTS:					
B. CONSULTANCY PROJECTS:					
1.	Antenna Testing	Dr. Garima			

		Saini and Balwinder Singh Dhaliwal			

VIII. TRAINING PROGRAMMES ATTENDED BY THE INSTITUTE FACULTY/STAFF

Sr. No.	Title of Training Programme	Period of Training	Venue	Attended by
1.	Attended International E-Conference on Innovations and Challenges in Research publishing	February 22-23,2022	Online Organized by Chitkara University Chandigarh	Dr. Balwinder Raj
2.	Research Trends in Wireless Sensors Networks	March 07-16,2022	Online Organized by NIT Warangal	Dr. Kanika Sharma

IX. IN-HOUSE TRAINING PROGRAMMES

Sr. No.	Title of Training Programme	Period of Training	Attended by
1	Attended one week Short Term Course on NBA Accreditation through outcome based Education (ICT-MED-5)	21-25 Feb 2022	Dr Balwinder Raj

X. OTHER CONTRIBUTIONS INCLUDING INDIVIDUAL CONTRIBUTION

A. PATENTS/COPYRIGHT

Sr.No.	Name of Patents/Copyright	Author (s) Name

B. PAPERS PUBLISHED BY THE INSTITUTE FACULTY:

SCI JOURNAL

Sr.No.	Name of the Paper Published	Author (s) Name
1.	**Design of Spintronics based MRAM and Comparative Analysis and MJT and Silicon MOSFET", journal of Silicon, Springer Accepted 05 Feb 2022**	**Parul Sharma, Sandeep Singh Gill and Balwinder Raj**
2.	**Design and Comparative Analysis of various Mixed Halide Perovskite Solar Cells involving different Hole Transport Materials to improve Efficiency, Journal of Optical Materials, Elsevier**	**Divya Sharma, Rajesh Mehra and Balwinder Raj**
3.	**"Moble Phone Radiations Effect on the synchronization Between Heart and Brain," Wireless Personal Communications, 2022. https://doi.org/10.1007/s11277-022-09509-0**	**Suman Pattnaik, Balwinder singh Dhaliwal and Shyam Sunder Pattnaik,**

C. PAPERS PUBLISHED BY THE INSTITUTE IN <u>INTERNATIONAL</u> JOURNAL OTHER THAN SCI JOURNALS

Sr.No.	Name of the Paper Published	Author (s) Name

D. PAPERS PUBLISHED BY THE INSTITUTE FACULTY IN <u>NATIONAL</u> JOURNAL

Sr.No.	Name of the Paper Published	Author (s) Name
1	Design and Analysis of various Solar Cell Technologies for Improvements in Efficiencies, Indian journal of Engineering and Materials Sciences(IJEMS) Accepted 23 Feb 2022	Divya Sharma, Rajesh Mehra and Balwinder Raj

E. PAPERS PUBLISHED / PRESENTED IN <u>INTERNATIONAL</u> CONFERENCES/SEMINARS

Sr.No.	Title of the Paper Presented/Accepted alongwith a Name of the Conference/Seminar (venue, with date)	Author (s) Name
1.	"Compact Z-Shaped Flexible Microstrip Antenna for UHF ISM Band Application," International Conference on "Recent Trends in Engineering Science, Technology and Management (IC-RTETM-2022), Guru Gobind Singh Polytechnic, Nashik	Mandar P. Joshi, Jayant G. Joshi and Balwinder Singh Dhaliwal

PAPERS PUBLISHED / PRESENTED IN <u>NATIONAL</u> CONFERENCES/SEMINARS

Sr.No.	Title of the Paper Presented/Accepted alongwith a Name of the Conference/Seminar (venue, with date)	Author (s) Name
1.	"Design and Analysis of Patch Antenna for Three Substrates Operating at 2.4 GHz," National Conference on Recent Trends in Communication, Computing and IoT (RTCCI-2022), GES's R.H. Sapat College of Engineering, Management Studies and Research, Nashik, 12th February 2022.	Shivam Bansal, Sachin Maithani, Balwinder Singh Dhaliwal, Garima Saini

Professor & Head
ECE Department