SACRED HEART COLLEGE, CHALAKUDY

(AFFILIATED TO UNIVERSITY OF CALICUT)

THRISSUR, KERALA - 680307

AQAR 2021-22

CRITERION III

3.5.1 - Number of Collaborative activities for research, Faculty exchange, Student exchange/ internship during the year



Submitted to

National Assessment and Accreditation Council

Collaborative activity conducting Two-Week Interdisciplinary Online Faculty Development Program

Report

The Departments of Physics and Chemistry, Sacred Heart College for Women, Chalakudy, conducted a Two Week Interdisciplinary Online Faculty Development Programme on "**Structural Analysis Using Rietveld Refinement, Microscopic and Compositional Analysis**" in collaboration with the six colleges of Kerala (Bishop Moore College, Mavelikkara, St. John's College, Agra, Catholicate College, Pathanamthitta, St. Joseph's College for Women, Alappuzha, Assumption College (Autonomous), Changanacherry and St. Joseph's College (Autonomous), Irinjalakuda) and GAD-TLC of MHRD, under the Govt. of India, in the time schedule of 29 September to 13 October 2021.

Dr. Nijo Varghese from the Department of Physics and Dr. Santhosh Paul from the department of Chemistry were the conveners of the program from the college's side. Dr. Sr. Reena Ittychan and Ms. Fency K F from the department of Physics and Dr. Laina A L from the department of Chemistry were successfully completed the course.

The programme was arranged as different sessions which cover expertise areas in material science and research. Each session was handled by experts in the particular field. On the inauguration day 29 September 2021, the Chief Patron address was given by Dr.Vimal Rarh, Project Head and joint Director GAD TLC. Also the keynote address of the FDP was given by Prof. A. K.Bakshi, Vice Chancellor, PDM University, Haryana and the Chairman of GAD-TLC of MHRD. He spoke on the topic "Achieving Excellence in Science in India in the 21st century - Challenges and Opportunities". He covered the topics like Qualities of a good teacher, Gender gap in research and Challenges faced by researchers in the 21st scenario. The session was chaired by Dr. Tintu K Kuruvilla, Assistant Professor of Physics, Bishop Moore College, Mavelikara.

Dr. Sr. Reena Ittyachan felicitated in the inaugural function



Link sessions 1: Topic: Online FDP Program - GAD TLC-Day 1

Start Time : Sep 29, 2021 14:26

Meeting Recording:
https://us02web.zoom.us/rec/share/qJBDgHCN-CsCvuaF4VRtGGiiqL3_Fwz6xQiUNqqRyTb-o7WdjBK3rcqNn8rrRxID.v2W7S73ERilWMyJz

Access Passcode: @rD12JtB

In the afternoon session Prof. K. Muralidhar, Former HOD, Department of Zoology, University of Delhi and currently working on the Advisory Board of the Inter – University Centre for Teacher Education at Banaras Hindu University and a visiting Professor to Annamalai, Madras and Hyderabad Universities. He spoke on the topic "Ethics in science –
A Perspective". Prof. K. Muralidhar started the session by explaining the Morals, Laws and Ethics, Professional Ethics, Ethics of Science, Limitations of Science and how to recognize unethical practice were explained and highlighted.
Second day of the FDP programme on 30th September 2021 starts with the interdisciplinary talk of Dr. Law Well Man P, Assistant Professor of Law, Govt. Law College, Kozhikode. He spoke on the topic "Intellectual Property Rights-Significance of Trademarks in startups and Business Enterprises". Dr. Law Well Man started the session by explaining the various aspects of Intellectual Properties like Patent, industrial designs, copyright, semiconductor

chip, plant variety, geographical indications, trade secrets and trademarks in detail with quoting examples from our day to day life. The session was highly informative and the speaker elaborated the idea of Intellectual Property rights by quoting various examples of our daily life. The session was highly interactive and was chaired by Dr. Dhanya I, Assistant Professor of Physics, Catholicate College, Pathanamthitta.

Second session of the day is handled by Prof. Dr. Ramesh C Gaur, Dean and Director (Library & Information) & Head - Kala Nidhi Division of Indira Gandhi National Centre for the Arts (IGNCA), New Delhi. He spoke on the topic "Plagiarism in Research". The session

was narrated with different types of plagiarism and main ethics that should follow in research. The session was highly informative and was chaired by Dr. Achamma George, Assistant Professor of Physics, Catholicate College, Pathanamthitta. Finally he gave a clear idea regarding citation and referencing. All reference styles are elucidated with free software like Mendeley, Zotero and PDFVIEWERVIEW.

Lecture V & VI of the FDP programme was arranged on 02nd October 2021 and is handled by Dr. A Sundaresan, Professor in Jawaharlal Nehru Centre for Advanced Scientific Research and now he is Chair of Chemistry & Physics of Materials Unit. His lecture mainly focused on the topic "Introduction to Crystallography". The session began with basic concept of crystallography and had a detailed discussion regarding space groups, crystal structure, Bravis Lattice etc. The sessions were highly informative and got a thorough basic knowledge related to crystal systems and structures for solid state materials. The session was chaired by Dr. Achamma George and Dr. Dhanya I, Assistant Professor (s) of Physics, Catholicate College, Pathanamthitta.

Day 4 of the programme on 4 October 2021 was hosted by Christ College, Irinjalakuda and the resource person was Dr. Madhu Chennabasappa, Assistant Professor, Department of Physics, Siddaganga Institute of Technology, Tumkur, Karnataka. The topic of the day was "Structural Analysis Using Rietveld Refinement, Microscopic and Compositional Analysis". The first session began at 9.30 am with the theory of how to 'see' atoms using X

rays. The use of X-ray diffraction in studying phase purity, quantification, crystalline / amorphous nature of material, strain, stress & defect detection, crystalline size detection and thickness were mentioned. The second session began at 11.30 am and the resource person is Dr. Praveen Managutti, who is pursuing is post-doctoral research in France. The second session gave a hands-on training for the participants.

Day 5 of FDP was hosted by Christ College, Irinjalakuda on 5 October 2021. The first session was led by Dr. Madhu Chennabasappa and he continued the lecture

of the previous day on X-ray diffraction and crystallography. The first session of the day was concluded by revisiting some of the software for Rietveld refinement. The second session was led by Dr. Praveen Managutti, it is a hands-on training session and the instructor first demonstrated the use of the open source software like QualX and WinPLOTR and the session ended with the final use of the software FullProf.

Day 6 programs of FDP were coordinated by Sacred Heart College, Chalakudy on 6 October 2021 and the resource person is Dr. Madhu Chennabasappa. The session began at 9.30 am. He continued the profile matching analysis on NaCl using WinPlotr and EDPCR and he explained the Rietveld refinement by using the example of Ba0.7Zr0.3TiO3.He also shown another example of multiphase identification, profile matching and introduction of atoms. The second session began at 11.40 am by Dr. Praveen Managutti who gave a hands-on training for the participants.

Day 7 programmes of FDP were arranged on 07th October 2021 and are handled by Dr. Madhu Chennabasappa. The session 13 began with different spectroscopic techniques, mapping and chemical methods of analysis. The session was chaired by Dr. Dhanya I, Assistant Professor of Physics, Catholicate College, Pathanamthitta. Session -14 of the FDP programme is also handled by Dr. Madhu Chennabasappa. The session had a detailed discussion on X-ray photoelectron spectroscopy. He also discussed the simulation technique
for fitting XPS data in detail with free ware. The session was chaired by Dr. Achamma George, Assistant Professor of Physics, Catholicate College, Pathanamthitta.

Session - 15 of the FDP programme was on 08th October 2021 and is handled by Dr. Suresha S. J, Technology Manager, Center for Nano science and Engineering, Indian Institute of Science, Bangalore. The session began with fundamental idea related to Scanning Electron Microscopy and later the characterization and analysis of SEM in detail. The session was chaired by Dr. Achamma George, Assistant Professor of Physics, Catholicate College, Pathanamthitta.

Session -16 of the FDP programme was on 08th October 2021 and is handled by Dr. Bismi Gopalakrishnan, Professor, Dean, Faculty of Law, Head, School of Indian Legal Thought, Mahatma Gandhi University, Kottayam. The session began with requirements of copyright, copyright protects and fair dealing for research, study and instruction. She also discussed the difference of copy right and plagiarism in detail. The session was chaired by Dr. Dhanya I, Assistant Professor of Physics, Catholicate College, Pathanamthitta.

Session - 17 of the FDP programme was conducted on 11th October, 2021 and is handled by Dr. Suresha S. J, Technology Manager, Center for Nano science and Engineering, Indian Institute of Science, Bangalore. The session has started by

recollecting his previous talk on SEM and the instrumentation, characterization and analysis of TEM and various TEM techniques in detail. The session was chaired by Dr. Santhosh Paul, Assistant Professor of Chemistry, Sacred Heart College, Chalakudy. The next session was handled by Dr. Surendran Cherukodan who holds a PhD in Library Science and he is an expert curator. He discussed about the details regarding to the productive research and the role of journal indexing and Scientometrics.

Dr. Santhosh Paul, is chairing the session -17



Day 12 of the FDP programme was hosted by Christ College, Irinjalakuda on 12 October 2021. The first session of the day was led by Dr. Surendran Cherukodan. The resource person started the session by talking about the relevance of 'Productive Research'. He explained in detail the different citation indices and how they are calculated. The second session of the day
was handled by Dr. Priya Mahadevan, Department of Condensed Matter Physics and Material Science, S.N. Bose National Centre for Basic Sciences. She discussed about how to publish good papers in general and especially in Physics. The session attracted a lot of applause from the participants who engaged in active discussion with the speaker at the end of the session.

A feedback link was arranged to all participants after each session inorder to evaluate the response of the participants to that particular session. At the end of every session participants gave excellent feedback in the chat box. On the basis of each session a quiz link was circulated among the participants on everyday inorder to evaluate their level of understanding.

Also a project and assignment evaluation question was circulated among the participants to identify their output gained through this FDP programme.

The FDP programme actually gave a good platform for the teachers and research scholar's inorder to enhance their affinity towards materials science and its characterization techniques. Also it provides a better understanding regarding to research publication and its ethics. We believe that this FDP programme generated a fruitful outcome to all of our participants in India and abroad. Within the limitation of online mode this FDP programme won a huge success due to its extraordinary co-ordination and participation because we believe that the process of learning knowledge have no boundaries.

Brochure indicating the Collaboration between institutions:



Two-Week Interdisciplinary Online FDP

Structural Analysis Using Rietveld Refinement, Microscopic and Compositional Analysis

Two-Week Interdisciplinary Online FDP

Structural Analysis Using Rietveld Refinement, Microscopic and Compositional Analysis

29 September 2021- 13 October 2021

About the Collaborating Colleges

Bishop Moore College, Mavelikara, established in 1964 and affiliated to the University of Kerala, has been awarded A grade by NAAC in the 3rd cycle of accreditation and ranked 76 among the Colleges in India in the NIRF ranking 2020. The College offers 11 undergraduate, four postgraduate and two research programmes in Science, Commerce, Arts and Humanities along with two UGC-sponsored add-on courses, and also provides opportunities for students to carry out Summer Research Projects at reputed institutes in the country. The undergraduate programmes in the Science departments are supported under the DBT-STAR College scheme. The College has become an active hub of research with well equipped laboratories, over 100 publications in international journals, a number of completed major and minor research projects, the research facilities being enhanced by utilizing funds under the DST-FIST scheme and KSCSTE SARD project scheme. The research centres have collaborative projects with institutes like the UGC – DAE Consortium for Scientific Research, BARC Mumbai and IUAC, Delhi.

St. John's College, Agra, was established in 1850 by the Church Missionary Society of England through the efforts of the Agra C.M.S. Association which came into being in 1840. From 1862 to 1888 the College remained affiliated to Calcutta University and later up to 1927 to Allahabad University. In 1927 with the formation of Agra University, the then Principal of the College Dr. A.W. Davies became its first Vice-Chancellor and the College was affiliated to the Agra University. The college became a First Grade College in 1891 with B.A. and LL. B. classes, and affiliation was granted in 1893 for postgraduate classes. Thus it has the rare distinction of being a postgraduate institution of more than a century's standing. The college has sixteen post graduate departments with facilities for research and three under graduate departments. The college also runs five self-financed recognized courses viz, B.Com(Vocational), B.B.A., B.Ed, D.El.Ed, M.A(Urdu), Post Graduate Diploma in Clinical Psychology and two partially self-financed degree programs in B.Sc with Industrial Chemistry & BSc with Computer Science. The foundation stone of the Centenary Wing was laid by Bharat Ratna Sarvapalli Radhakrishnan, former President of India, in 1958 and was opened by Bharat Ratna Pt. Jawaharlal Nehru, the first Prime Minister of India, in 1959, with the words "I have come to pay tribute to this temple of learning." The College has very distinguished alumni, the foremost of them being the late Dr. Shanker Dayal Sharma, the former President of India present situation.

Catholicate College, Pathanamthitta founded in 1952 on the serene Basil Hills has a rich legacy of almost seven decades and is affiliated to Mahatma Gandhi University, Kottayam. The motto of this temple of learning is "Fear of the Lord is the beginning of wisdom." It imparts value-based education aimed at the holistic and intuitive growth of the individual so as to fulfill the vision of creating an educated and enlightened society for a brave new world. It has been re-accredited by NAAC with CGPA 3.60, A Grade and is one of the Thirteen special grade colleges in Kerala. The college has eight research departments and offers fifteen PG Programmes, thirteen UG Programmes and one Integrated MA Programme in the aided stream. The college was identified by the department of science and technology, government of India, for FIST funding. The college has been awarded ISO 9001-2008 certification. Current year, the college is celebrating its platinum jubilee. The college has been endeavoring to shape the destiny of a community in the fullest spirit of its stated mission, an educated, enlightened society for a brave new world.

Sacred Heart College, Chalakudy, is an institution managed by the Alvernia province of Franciscan Clarist congregation, affiliated to the University of Calicut and aided by the Kerala government. The College, established in 1980, as a junior college with Pre-degree courses was upgraded to a first grade status in 1991 and is presently offering eight Under Graduate and six Post Graduate courses. The motto of the college is "LUX IN TENEBRIS LUCET" (Light Shines in Darkness). The College is located in a peaceful semi urban locality, the lush green gardens and well designed infrastructure provide the perfect ambience for learning, sharing and development of the students. The college was re-accredited by NAAC with A+ grade (CGPA 3.55) in 2017. The Department of Physics has been maintaining a unique position in the College in respect of overall performance, ever since it was established. Physics Department aims at moulding totally competent physicists with ingenuity, adaptability, social commitment, ethical values and spiritual elevation that can provide innovative leadership in academia and society.

Christ College, Irinjalakuda was started in 1956, by the Devamatha Province of the Carmelites of Mary Immaculate (CMI), an indigenous religious congregation founded in 1831 by Saint Cyriac Elias, a religious priest and versatile genius, who envisioned education as a tool for liberation and development. Founded as per the provisions of the Indian Constitution, part III, Article 30(1) and administered by Christ College Educational Society, (Regd. No. 137/75), this college is a Minority institution. College is affiliated to University of Calicut. Christ College is included under the sections 2(f) and 12B of the University Grants Commission (UGC) and was reaccredited by National Assessment and Accreditation Council (NAAC) with A grade (3.21) in the third cycle. Following recommendation from state government; the college has been conferred the "Autonomous status" by University Grants Commission (UGC) during the year 2015, the Diamond Jubilee year of the college. Christ College is part of a century-old tradition of CMI education that is at its heart, Christian and open to all sections of society. It offers an ideal vision of education that is aware of and responsive to the challenges of the nation's present situation.

The details of the institutions participating in the collaboration

Two-Week Interdisciplinary Online FDP

Structural Analysis Using Rietveld Refinement, Microscopic and Compositional Analysis

29 September 2021- 13 October 2021

सत्यमेव जयते

Programme Schedule

Date	Time	Section Title	Speaker
29/09/2021	9.30 am to 11.00 am	Inauguration	
	11.30 am to 1.00 pm	Ethics in Science-A Perspective	**Prof. K Muralidhar**
30/09/2021	9.30 am to 11.00 am	Intellectual Property Rights - Significance of Trademarks in Startups & Business Enterprises	**Dr. Lawwellman P.**
	11.30 am to 1.00 pm	Plagiarism In Research	**Prof. Dr. Ramesh C Gaur**
01/10/2021	9.30 am to 11.00 am	Introduction to Crystallography – 1	**Prof. A Sundaresan**
	11.30 am to 1.00 pm	Introduction to Crystallography - 2	**Prof. A Sundaresan**
04/10/2021	9.30 am to 11.00 am	Introduction to FullProf suite -Winplotr, Checkcell,Indexing	**Dr. Praveen Managutti**
	11.30 am to 1.00 pm	Phase analysis, Profilefitting and space group analysis using FullProf	**Dr. Praveen Managutti**
05/10/2021	9.30 am to 11.00 am	Rietveld refinement using FullProf – single phase analysis	**Dr. Madhu Chennabasappa**
	11.30 am to 1.00 pm	Rietveld refinement - quantitative analysis of multi phase samples	**Dr. Madhu Chennabasappa**
06/10/2021	9.30 am to 11.00 am	Hands on training analysis of low symmetry structures (orthorhombic and monoclinic)	**Dr. Madhu Chennabasappa**
	11.30 am to 1.00 pm	Introduction to nanomaterial analysis using XRD	**Dr. Madhu Chennabasappa**
07/10/2021	9.30 am to 11.00 am	Introduction to Elemental Analysis techniques - XPS, EDAX, ICP	**Dr. Madhu Chennabasappa**
	11.30 am to 1.00 pm	Elemental oxidation analysis using deconvolution of High-res XPS spectra	**Dr. Madhu Chennabasappa**
08/10/2021	9.30 am to 11.00 am	Scanning Electron Microscopy	**Dr. Suresha S. J.**
	11.30 am to 1.00 pm	Intellectual Property Rights -Copyright Management & Plagiarism Issues	**Prof. (Dr.) Bismi Gopalakrishnan**
11/10/2021	9.30 am to 11.00 am	Productive Research - Role of Journal Indexing and Scientometrics	**Dr. Madhu S. Nair**
	11.30 am to 1.00 pm	Productive Research - Role of Journal Indexing and Scientometrics	**Dr. Madhu S. Nair**
12/10/2021	9.30 am to 11.00 am	Transmission Electron Microscopy	**Dr. Suresha S. J.**
	11.30 am to 1.00 pm	The Art of Writing and Publishing Papers in International Journals	**Prof. Priya Mahadevan**
13/10/2021		Valedictory	

Faculty from Sacred Heart college who has been part of this course

SL.NO.	Name of the faculty	Session taken
1	Dr. Nijo Varghese	Convener from SH College
2	Dr. Santhosh Paul	Convener from SH College
3	Dr. Sr. Reena Ittyachan	Participant
4	Ms. Fency K F	Participant
5	Dr. Laina A L	Participant

Certificate issued to Dr. Nijo Varghese, Convenor of the course



Guru Angad Dev
Teaching Learning Centre
A Centre of Ministry of Education
under PMMMNMTT

सत्यमेव जयते
Government of India
Ministry of Education

Sri Guru Tegh Bahadur
Khalsa College
University of Delhi

Certificate

29th September to 13th October 2021

NATIONAL ONLINE REFRESHER COURSE/TWO WEEK FACULTY DEVELOPMENT PROGRAM
(INTERDISCIPLINARY)

Structural Analysis using Rietveld Refinement, Microscopic and Compositional Analysis

This is to certify that

DR. NIJO VARGHESE OF DEPARTMENT OF PHYSICS, SACRET HEART COLLEGE, CHALAKUDY

has contributed as **Convenor** in National Online Refresher Course/Two Week Faculty Development Program jointly organized by Guru Angad Dev Teaching Learning Centre, SGTB Khalsa College, University of Delhi and St. John's College, Agra; Bishop Moore College, Mavelikara; Catholicate College, Pathanamthitta; Sacred Heart College, Chalakudy & Christ College (Autonomous) Irinjalakuda under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) of Ministry of Education. This online Refresher Course/FDP is equivalent to face to face Refresher Course/FDP.

Prof. Jaswinder Singh
Principal
S.G.T.B. Khalsa College
University of Delhi

Dr. Vimal Rarh
Project Head & Joint Director
GAD-TLC of Ministry of Education

UNIQUE CERTIFICATE No: GAD-TLC/21-22/FDP-60/OT-007

Certificates issued to Ms. Fency K F and Dr. Sr. Reena Ittyachan



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(INTERDISCIPLINARY)

Structural Analysis using Rietveld Refinement, Microscopic and Compositional Analysis

This is to certify that

FENCY K F of **SACRED HEART COLLEGE, CHALAKUDY**

has **successfully completed** National Online Refresher Course/Two Week Faculty Development Program jointly organized by Guru Angad Dev Teaching Learning Centre, SGTB Khalsa College, University of Delhi and St. John's College, Agra; Bishop Moore College, Mavelikara; Catholicate College, Pathanamthitta; Sacred Heart College, Chalakudy & Christ College (Autonomous) Irinjalakuda under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) of Ministry of Education. This was conducted in online mode with two week's involvement in a Flexible mode. This online Refresher course/FDP is equivalent to face to face Refresher Course/FDP. The two week's involvement included attendance during live/recorded sessions, hands on activities, submission of quizzes, assignments and project. The participant has obtained **Grade "A+"** as required for promotion under CAS of UGC and AICTE.

Prof. Jaswinder Singh
Principal
S.G.T.B. Khalsa College
University of Delhi

Dr. Vimal Rath
Project Head & Joint Director
GAD-TLC of Ministry of Education

UNIQUE CERTIFICATE No: GAD-TLC/21-22/OFDP60/030

LIGHT SHINES IN DARKNESS



List of Participants

List of participants

	Full Name(in Capital Letters)	Whatsapp Number
1	Mary Linsa K S	9847934404
2	DR. VEENA GOPALAN E	9495272619
3	DHANYA JOSE	9562448328
4	shanu AS	9526232728
5	Aswathy B R	9400147645
6	SUMAYYA K	7025297011
7	SONA G KRISHNAN	9400498308
8	Dr. RESHMI C. P.	9349171626
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18	DEEPA N BHADRAN	9961033428
19	Dr.Sreekanth J Varma	9496179724
20	SULFIKKARALI NK	9961784970
21	SMITHA S	9446852753
22	Dr. AMITH YADAV H.J.	9110237033
23	Dr. RAJI KOSHY	9497030497
24	Dr. Mary Varughese	9446682687
25	ANJU RAJAN	9497786744
26	SREE ROOP S S	9447719576
27	Dr.vinodkumar.R	8281517122
28	RISHI M	944770229
29	DEEPA RANI S	9447001175
30	MINAL AMBARISH BHATT	9428182768
31	DR. MAHIMA HABIL MASSEY	9411877727
32	SHAFEER KHAN S	9809650567

47	Bessy Mary Philip	9526418566
48	Dr MALINI K A	9495220673
49	FAIROOSA KK	8547091960
50	Dr. Wilson K C	9895008865
51	DR. AYISHABI P K	9496424001
52	ASWATHY SUDHAKAR S.	9048903524
53	RAZANA K R	8547270504
54	Shyni V	8606811068
55	NIDA ASHRAF	8281611440
56	DR. R G VAIDYA	9916124740
57	VASANTHI B	8547871830
58	DESAI HARSHAL BAKULBHAI	9428641151
59	ATHIRA S	9544647296
60	PRABHAJYOTHI P S	9895629682
61	NIDHIN PAUL	8281731383
62	DR. VEERABHADRAYYA ALIAS RUDRAYY M	8792300875
63	ACHAMMA GEORGE	9977408843
64	VEENA V S	8547885916
65	VISHAL KOTHA	9488659155
66	REMYA M	8281357630
67	AKSHAYA S	9886661507
68	FENCY K F	9745822940
69	RANI.K.PILLAI	9447493634
70	Karthik Vinodan	9656816282
71	Deepa Thomas	9947010833
72	SANDRA SANNI	8281971653
73	S ATHIMOOLAM	9787100212
74	ATEED AHMAD	9458275531
75	Dr.A.SELVAN	8072749020
76	GAYATRI NAIR G	9496033395
77	NARAYAN GAONKAR	9448995642
78	MOHAMMED ZIYAD P A	9747616705
79	Shereef A	8943430021
80	SENA SIVADAS	9446013612
81	SAFNA K	9744095610
82	INDU TREESA JOCHAN	7559019853
83	SMITHA BHASKARAN	9544116733
84	Ramesh Chandran B R	7907916423
85	SAVITA PRIYA	7269875976
86	DR SREELEKHA M	9526115115
87	Priyadarsini G.	9497454413
88	NITHYA S VARMA	9497278568
89	VIPIN V K	9847473022
90	SOUMYAMOL K S	8848711661
91	MANU K B	8547105139
92	REMYA KRISHNAN M	9946822472
93	DR.DIPUNADAS C.N	94004 22405

94	RESHMA.P.R	9495008060
95	Dr.D.SHINEY MANOJ	9443579687
96	DR. ANUJA E. V.	8547762452
97	ANUSHA M G	9495983361
98	Dr Nisha Nandakumar	808699173
99	UMADEVI T U	9645850383
100	Dr.Sujesh Baby	9446963119
101	DEEPTHI N RAJENDRAN	9446556736
102	PRAVEEN C S	7510511129
103	PAULRAJ ARUN KUMAR	8.2105E+11
104	ABHILASH KUMAR R G	9496648407
105	Dr.Brightson Arul Jacob	9600220603
106	SHERRY SEBASTIAN	9496802714
107	DR.SUTHEERTHA S.NAIR	9446555263
108	REJEENA V RAJAN	9.19446E+11
109	SINU MATHEW	9496944541
110	SHEENA T V	9747304241
111	Dr. VIPIN C BOSE	9446675922
112	Dr. Anooja J Babu	8156929890
113	Dr. Aiswarya Raj A. S.	9497815988
114	MANJUSHREE S.G	7204148771
115	DR. VAIJAYANTI JITESH AMDOSKAR	8793289248
116	MANUJA M	9946289169
117	VANDANA SAHAYOG JAMDAR	9869169824
118	Chithra B	9947419882
119	Dr. Honnur Krishna	9449002086
120	Dr. VIJAYALAKSHMI A EDALLI	9481854514
121	C.VINCENT JERIN	9443692835
122	ANKITA BISHNOI	9991217316
123	AKASH DANIEL GEORGI	8129134930
124	ANISHA JOSEPH	9562873889
125	Manju s john	7306090480
126	AMBA PRASAD	9400600113
127	NITHYA.P	9446222004
128	Dr. MALLIKARJUNAIAH K. J.	9844205070
129	Vishnu Narayanan(CB.SC.D*PHY21005-FT)	9526323757
130	LAINA A. L.	8281081399
131	Merin George	9400203003
132	Aleena P A	7591918510
133	Dr.ABHA.K	9995292521
134	SARITHA UK	9605574925
135	SIJI K MARY	9496883739
136	DR. SHIVANAND MADOLAPPA	9482283189
137	Dr. MANISHA TANWER	9881060912
138	JESSYAMMA KURIAN	8281920915
139	JAVEESH ALEX	9447845672

Inter Collegiate Energy Quiz Competition (INTER QUIZ 2022)

Energy Conservation Society (ECS) in collaboration with the Energy Club and Physics department of Sacred Heart College, Chalakudy with the support of Energy Management Centre-Kerala conducted an inter-collegiate Energy Quiz competition on 22nd August 2022, Monday at college auditorium. The formal inauguration session started with prayer. The Principal, Dr.Sr.Irene welcomed the gathering. The program marked its commencement with the pledge taken by students and the teachers about the conservation of energy, the pledge was recited by Dr.K.Soman (President, Energy Conservation Society), followed by the Presidential address. Smt. Sindhu Loju (Vice chairperson, Chalakudy Municipality) inaugurated the function.Smt.Sathyabhama (ECS chairperson, Thrissur) felicitated the occasion . Vote of thanks was proposed by Mr. Trinayanan (General Secretary,ECS).

Mr. Baby Kuriakose (Consulting Energy Technologist) served as the quiz master. 28 teams participated in the competition. The quiz was conducted in two rounds and 8 teams qualified for the final round. The first position was bagged by Manju Thomas & Anjali Jino of St. Theres's College Ernakulam. The second position was secured by John Regis & Anand Varma R of Christ College, Irinjalakuda . The third position was achieved by Daya Das P. K & Shahanas T. S of Mar Thoma College for Women ,Perumbavoor. The Programme concluded with the valedictory Session. Ms.Shiji Shanmugan (ECS Member) felicitated the session.The Principal, Dr Sr.Irene distributed the prize for winners. Ms Fency K F (Asst.Prof. Physics, Sacred Heart Cchalakudy) proposed the vote of thanks.

The quiz competition was an attempt to bring awareness amongst the youth about the dire need for the conservation of energy for a better future and make them aware about their responsibilities for the same.

Brochure of the event



ENERGY CONSERVATION SOCIETY(ECS) Reg.No 654/92/TVM
Since 1992

Energy Management Centre Kerala

S.H. College Chalakudy

ENERGY CONSERVATION SOCIETY(ECS) SACRED HEART COLLEGE, CHALAKUDY

Inter Collegiate Energy Quiz Competition (Inter Quiz 2022)

Supported by Energy Management Centre, Kerala

2022 August 22

Programme Schedule

9.30 am: Registration

10 am: Inaugural Session

Prayer:

Welcome Address: Dr. Sr. Irene (*Principal, SH College, Chalakudy*)

Pledge:

Presidential Address: Dr. K. Soman (*President, Energy Conservation Society)*

Inauguration: Smt. Sindhu Loju (*Vice Chairperson, Chalakudy Municipality)*

Felicitation: Smt. E.Sathyabhama Teacher(*Chairman, ECS,Thrissur Chapter*)

Vote of thanks: Shri. Trinayanan (*General Secretary, ECS*)

10.30 am: Quiz Session I

Quiz Master: Mr. Baby Kuriakose (*Consulting Energy Technologist*)

11 am: Tea Break

11.30 am: Quiz Session II

1.30 pm: Valedictory Session

Welcome:

Presidential Address:

Inauguration and Prize distribution:

Felicitation:

Vote of thanks:

Lunch

2 pm: End









Energy Quiz- intercollegiate quiz competition on 22/08/2022

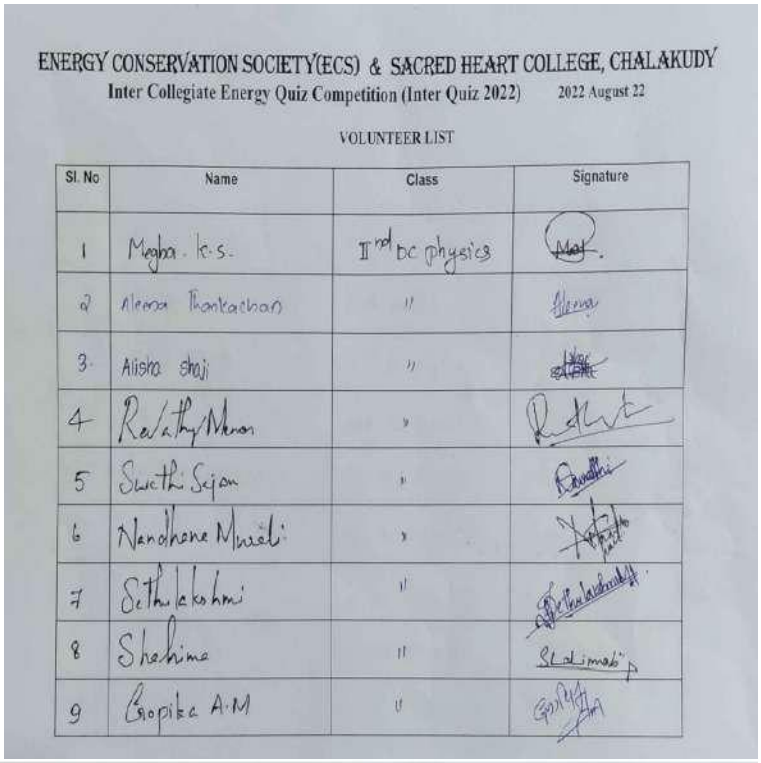
List of Participants

sl.no.	NAME	COLLEGE
1	Abia cleetus	Sacred Heart college,Chalakudy
2	Sona Mariya	Sacred Heart college,Chalakudy
3	ManuRaj K	SNM College,Maliyankara
4	Mithranand	SNM College,Maliyankara
5	Sajin Nisam	MES College Asmabi
6	Deepak T.U.	MES College Asmabi
7	Kenaz V S	KKTM Govt.College
8	Sravan shaji	KKTM Govt.College
9	Manju Thomas	St.Teresa’s College
10	Anjaly Jino	St.Teresa’s College
11	Daya Das P K	Marthoma College,Perumbavoor
12	Shahanas T S	Marthoma College,Perumbavoor
13	John Regis	Christ College,Irinjalakuda
14	Anand Varma R	Christ College,Irinjalakuda
15	Swathy S	Vimala College,Thrissur
16	Akshaya Nair	Vimala College,Thrissur
17	Manjusha M R	SNM College,maliankkara
18	Hridya C S	SNM College,maliankkara
19	Sayyida Fathima	MES Asmabi college
20	Shafna	MES Asmabi college
21	Govind V Kartha	KKTM Govt.College, pullut
22	Fahansha	KKTM Govt.College, pullut
23	Sr.Nikhila Paul	Sacred Heart College Chalakudy
24	Anila K J	Sacred Heart College Chalakudy

25	Fathimath safna K P	Markaz Art & Science college, Athavanad
26	Fathima sajeeha	Markaz Art & Science college, Athavanad
27	K N Nasim	MES Asmabi college
28	Vaishnav K H	MES Asmabi college
29	Revathi Rajeev	Marthoma College for Women,perumbavoor
30	Shahima Shahazada	Marthoma College for Women,perumbavoor
31	Axet Jose	SNGC Vazhukumpara
32	Diljin Devassy	SNGC Vazhukumpara
33	S M Chindha	Sacred Heart College,Chalakudy
34	Vafa Mariam T P	Sacred Heart College,Chalakudy
35	Anagha P S	PMGC, Chalakudy
36	Devika A m	PMGC, Chalakudy
37	Aiswarya Ramesh	Mar Thoma college for women
38	Treesa Maria Stanley	Mar Thoma college for women
39	Shahana Sharin P	Markaz Arts and Science college
40	Dilshana C P	Markaz Arts and Science college
41	Adil Nafih P	Markaz Arts and Science college
42	Jusaila Sherin	Markaz Arts and Science college
43	Ramesh G S	Sree Sankara College,Kalady
44	Vishnu A R	Sree Sankara College,Kalady
45	Ayisha Farheen	Sacred heart College,Chalakudy
46	Luluva V S	Sacred heart College,Chalakudy
47	Trence Alfy Mathews	Christ College (Autonomous)
48	Irin Davis	Christ College (Autonomous)
49	Shine Paul	Sree narayana guru college of Advance studies

50	Rachel Jolly	Sree narayana guru college of Advance studies
51	Nandana Jayan	Marthoma college for women,Perumbavoor
52	Ansila Anas	Marthoma college for women,Perumbavoor
53	Nithuna Rajan	Marthoma college for women,Perumbavoor
54	Ameena M K	Marthoma college for women,Perumbavoor

List of volunteers

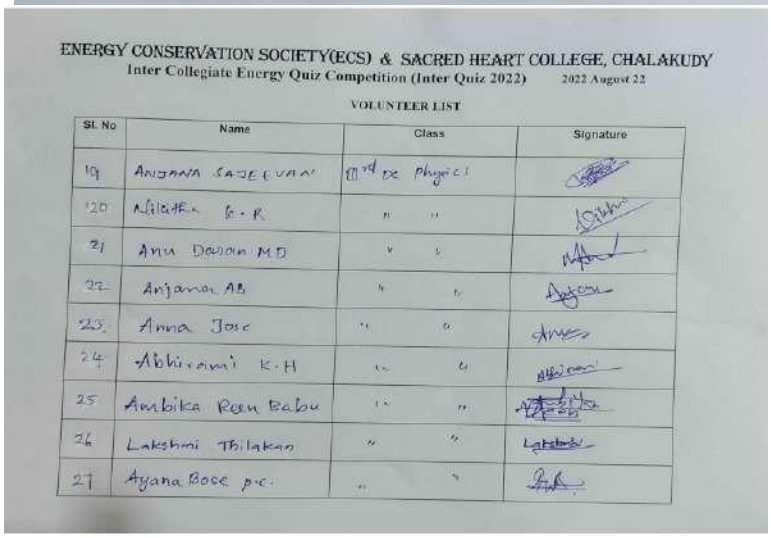


ENERGY CONSERVATION SOCIETY(ECS) & SACRED HEART COLLEGE, CHALAKUDY

Inter Collegiate Energy Quiz Competition (Inter Quiz 2022) 2022 August 22

VOLUNTEER LIST

Sl. No	Name	Class	Signature
1	Megha. k.s.	II nd bc physics	
2	Meera Thankachan	"	
3	Aiswa Shaji	"	
4	Rethy Menon	"	
5	Swathi Sajan	"	
6	Nandhana Murali	"	
7	Sethulakshmi	"	
8	Shahina	"	
9	Gopika A.M	"	



ENERGY CONSERVATION SOCIETY(ECS) & SACRED HEART COLLEGE, CHALAKUDY

Inter Collegiate Energy Quiz Competition (Inter Quiz 2022) 2022 August 22

VOLUNTEER LIST

Sl. No	Name	Class	Signature
19	ANJANA SAJEEVAN	II nd bc physics	
20	Nilatha K.R	" "	
21	Anu Devan MD	" "	
22	Anjana AB	" "	
23	Anna Jose	" "	
24	Abhirami K.H	" "	
25	Ambika Ravi Babu	" "	
26	Lakshmi Thilakan	" "	
27	Ayana Bose p.c.	" "	

ENERGY CONSERVATION SOCIETY(ECS) & SACRED HEART COLLEGE, CHALAKUDY

Inter Collegiate Energy Quiz Competition (Inter Quiz 2022) 2022 August 22

VOLUNTEER LIST

Sl. No	Name	Class	Signature
28.	Ritty Lonappan	2nd Msc Physics	
29	Ameesha. K.V	"	
30	Jsna Shaji	2nd Msc Physics	
31	Aibel John	2nd Msc Physics	
32	Akhyneen Thomas	"	
33	Sandra Ravi	2nd msc Physics	
34	Meena MOL V T	2nd msc Physics	
35	Rheba Suresh	II MSc Physics	
36	Arshna Pullikkudi	"	

ENERGY CONSERVATION SOCIETY(ECS) & SACRED HEART COLLEGE, CHALAKUDY

Inter Collegiate Energy Quiz Competition (Inter Quiz 2022) 2022 August 22

VOLUNTEER LIST

Sl. No	Name	Class	Signature
37	Angel Rose Baiju	IInd DC Physics	
38	SHAHNA.CT	IIIrd DC PHY	
39	Blessy Babu	IIIrd DC PHY	

Copy of the certificate issued to the winners.



ENERGY CONSERVATION SOCIETY(ECS)
Reg No 694/02/TVM
COMMITTED TO ENERGY AND ENVIRONMENTAL CONSERVATION AND SUSTAINABLE DEVELOPMENT
Since 1992

Energy Management Centre - Kerala

Sacred Heart College Chalakudy

8th Inter Collegiate

Energy Quiz Competition 2022

MERIT CERTIFICATE

Certify that Mr./Ms. SHAHANAS.T.S

MARTHOMA COLLEGE, PERUMBAVOOR has won THIRD Prize in the 8th Inter Collegiate Energy Quiz Competition. Organised by Energy Conservation Society, Supported by Energy Management Centre Govt. of Kerala and Sacred Heart College Chalakudy, as part of Energy Conservation Promotional Programmes.

Chalakudy
22-08-2022

General Secretary
Energy Conservation Society

Principal
Sacred Heart College

ENERGY CONSERVATION SOCIETY CHALAKUDY

SACRED HEART COLLEGE CHALAKUDY

Collaborative programme report with Kerala Agronomy Research Station, Chalakudy 2021-22

We have collaborated with Kerala Agronomy Research Center Chalakudy, which comes under Kerala Agricultural University and the lead functions are water management for rice and rice-based cropping system and other annual crops. The department collaborated with them to organize seminars and observe International Soil Day, etc. in order to create a new academic as well as practical and analytical thinking among students. We have created a very good rapport with them by collaborating programmes consistently every year.

Every year new batch of our students are experiencing the soil awareness classes and instrumental analysis available in the Agronomy Station. Various programmes such as quiz, proverb contest, etc. were conducted to encourage and widen the knowledge horizon of the students. The soil testing demonstration classes gives very good understanding about the nature of different soil and the importance of testing the soil before cultivating vegetables, fruits plants and any other type of crops. It imparts very practical knowledge about the importance of different nutrients essential for plants and crops.

The one of the important point to be mentioned here is our sincere efforts in collaborating with Kerala Agronomy Research Station opens up the job opportunities for our students too. One of our students, Ms. Anumol Andrews was working as a soil analyst at Agronomy Research Station, Chalakudy







Coordinators of the programme:

1) Dr. Santhosh Paul, Assistant Professor, Department of Chemistry, Sacred Heart College, Chalakudy
2) Dr. Mini Abraham, Associate Professor, Kerala Agronomy Research Station, Chalakudy

Student volunteers:

1. Nivedhitha P. Subhash
2. Jesna Jofy
3. Emil Maria
4. Deepthi K.
5. Bhavana K.
6. Isha P. Sunilkumar

<u>Student participants of the programme</u>

Sl. No.	Name	class
1.	Abhirami K. S.	I DC Chemistry
2.	Avanya A.	I DC Chemistry
3.	Hridaya Subash	I DC Chemistry
4.	Isha P. Sunilkumar	I DC Chemistry

5.	Sreenandhana A. S.	I DC Chemistry
6.	Suvarna K. S.	I DC Chemistry
7.	Aleena Wilson	I DC Chemistry
8.	Anagha Sunil	I DC Chemistry
9.	Aswani Jibi	I DC Chemistry
10.	Bhavana K.	I DC Chemistry
11.	Deepthi K.	I DC Chemistry
12.	Efriya P. J.	I DC Chemistry
13.	Emil Maria	I DC Chemistry
14.	Jesna Jofy	I DC Chemistry
15.	Nivedhitha P. Subhash	I DC Chemistry
16.	Souparnnika T. J.	I DC Chemistry

Collaboration between Department of Computer Science, Sacred Heart College, Chalakudy

with PURPOSE TECHNOLOGY, Aiswarya House, Republic Road, N. Paravur, Ernakulam & IMPULSE TECHNO SOLUTIONS, Anan KoIl Road, Norh Paravur, Ernamkulam

The department of computer science, Sacred heart college, chalakudy links to collaborate with PURPOSE TECHNOLOGY, Aiswarya House, Republic Road, N. Paravur, Ernakulam & IMPULSE TECHNO SOLUTIONS, Anan KoIl Road, Norh Paravur, Ernamkulam for various programs in latest technologies such as Data Mining, Machine learning and AI and so on . The period of the project for Msc computer Science students is 4 to 6 months for the academic year 2021-2022. As a part of this collaboration, the department of computer science seeks to accommodate and provide valuable guidance to any possible number of students from the list of 8 students as their convenience. PURPOSE TECHNOLOGY pick 4 of the students from the list and IMPULSE TECHNO SOLUTIONS rest of the students. The students improve their skills in those particular technologies not only but also they acquire knowledge in many other technologies .It also helps to join in the same company or they can continue the internship along with their project completion certificate.

The names of students done project with PURPOSE TECHNOLOGY are:

1. Aleena Rose Jacob,
2. Anju V A,
3. Anugraha T S,
4. Navya Wilson

The names of students done project with IMPULSE TECHNO SOLUTIONS are:

1. Naziya N Khan,
2. Righa Babu,
3. Ruksana K S,
4. Vincy Joy

Acceptance letter with collaboration

Purpose Technology
Find Your Purpose

Aiswarya House, Republic Road, N. Paravur, Ernakulam-683513
Ph: +919947299050, 9645755742 E-mail: purposetechnology@gmail.com

August 12,2022

Dr. Sr. Mini .T.V
HOD, Department of Computer Science,
S. H. College , Chalakudy

Dear Madam,

In response to your letter dated 12.8.2022 we would like to intimate you our pleasure to have a collaboration with your esteemed institution. Though we accept your invitation favorably, according to the current facility we would accommodate only 4 students from the given list of students. We would like to collaborate with you in the future years also.

For **Purpose technology LLP**

HARISHANKAR K NAIR
MANAGER

For PURPOSE TECHNOLOGIES LLP

General Manager

IMPULSE TECHNO SOLUTIONS

August 12,2022

Dr. Sr. Mini .T.V

HOD, Department of Computer Science,

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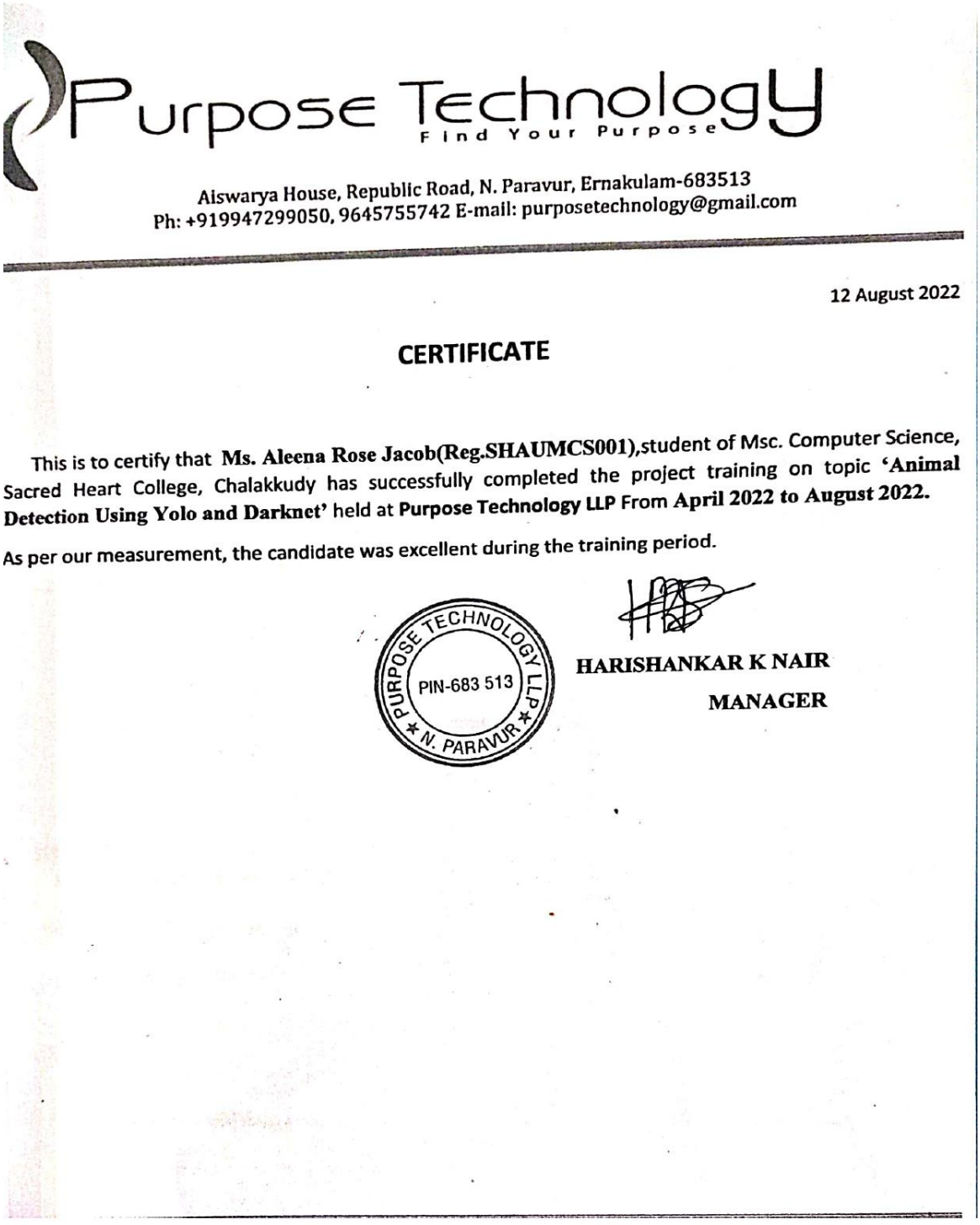
For Impulse solutions

RIJO

MANAGER

IMPULSE TECHNO SOLUTIONS
Amman Kovil Road, North Paravur, Ernakulam
URL: www.impulsetechnosolutions.in Email: info@impulsetechnosolutions.in

Project completion certificate of students



Purpose Technology
Find Your Purpose

Aiswarya House, Republic Road, N. Paravur, Ernakulam-683513
Ph: +919947299050, 9645755742 E-mail: purposetechnology@gmail.com

12 August 2022

CERTIFICATE

This is to certify that **Ms. Aleena Rose Jacob(Reg.SHAUMCS001)**,student of Msc. Computer Science, Sacred Heart College, Chalakkudy has successfully completed the project training on topic **'Animal Detection Using Yolo and Darknet'** held at **Purpose Technology LLP** From **April 2022 to August 2022.**

As per our measurement, the candidate was excellent during the training period.

PURPOSE TECHNOLOGY LLP
PIN-683 513
N. PARAVUR

HARISHANKAR K NAIR
MANAGER

Purpose Technology
Find Your Purpose

Aiswarya House, Republic Road, N. Paravur, Ernakulam-683513
Ph: +919947299050, 9645755742 E-mail: purposetechnology@gmail.com

12 August 2022

CERTIFICATE

This is to certify that **Ms. Anju V A (Reg.SHAUMCS002)**, student of Msc. Computer Science, Sacred eart College, Chalakkudy has successfully completed the project training on topic **'Rainfall Prediction For nhancing Crop Yield Based On Machine Learning'** held at **Purpose Technology LLP** From **April 2022 to ıugust 2022.**

s per our measurement, the candidate was excellent during the training period.

PURPOSE TECHNOLOGY LLP
PIN-683 513
N. PARAVUR

HARISHANKAR K NAIR
MANAGER

Purpose Technology
Find Your Purpose

Aiswarya House, Republic Road, N. Paravur, Ernakulam-683513
Ph: +919947299050, 9645755742 E-mail: purposetechnology@gmail.com

12 August 2022

CERTIFICATE

This is to certify that **Ms.Anugraha T S (Reg.SHAUMCS003)**,student of Msc. Computer Science, red Heart College, Chalakkudy has successfully completed the project training on topic **'Pedestrain unting Based On Mobilent'** held at **Purpose Technology LLP** From **April 2022 to August 2022.**

ber our measurement, the candidate was excellent during the training period.

PURPOSE TECHNOLOGY LLP * N. PARAVUR * PIN-683 513

HARISHANKAR K NAIR

MANAGER

Purpose Technology
Find Your Purpose

Aiswarya House, Republic Road, N. Paravur, Ernakulam-683513
Ph: +919947299050, 9645755742 E-mail: purposetechnology@gmail.com

12 August 2022

CERTIFICATE

This is to certify that **Ms. Navya Wilson (Reg.SHAUMCS004)**,student of Msc. Computer Science, Sacred Heart College, Chalakkudy has successfully completed the project training on topic **'Credit Card Fraud Detection: A Comparative Study Of Random Forest And CNN'** held at **Purpose Technology LLP** From **April 2022 to August 2022.**

As per our measurement, the candidate was excellent during the training period.

PURPOSE TECHNOLOGY LLP * N. PARAVUR * PIN-683 513

HARISHANKAR K NAIR
MANAGER

IMPULSE TECHNO SOLUTIONS

12 August 2022

CERTIFICATE

This is to certify that **Ms. Naziya N Khan (Reg.SHAUMCS005)**,student of Msc. Computer Science, Sacred Heart College, Chalakkudy has successfully completed the project training on topic **'Mental Health Detection And Music Recommendation'** held at **Impulse Techno Solutions** From **April 2022 to August 2022.**

As per our measurement, the candidate was excellent during the training period.

RIJO

MANAGER

IMPULSE TECHNO SOLUTIONS COCHIN

IMPULSE TECHNO SOLUTIONS
Amman Kovil Road, North Paravur, Ernakulam
URL: www.impulsetechnosolutions.in | Email: info@ implusetechnosolutions.in

IMPULSE TECHNO SOLUTIONS

12 August 2022

CERTIFICATE

This is to certify that **Ms.Righa Babu (Reg.SHAUMCS006)**,student of Msc.Computer Science, Sacred Heart College, Chalakkudy has successfully completed the project training on topic **'Vein Biometric Recognization On Smart Phone'** held at **Impulse Techno Solutions** From **April 2022 to August 2022.**

As per our measurement, the candidate was excellent during the training period.

RIJO

MANAGER

IMPULSE TECHNO SOLUTIONS COCHIN

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Amman Kovil Road, North Paravur, Ernakulam
URL: www.impulsetechnosolutions.in | Email: info@ implusetechnosolutions.in

IMPULSE TECHNO SOLUTIONS

12 August 2022

CERTIFICATE

This is to certify that **Ms. Ruksana K S (Reg.SHAUMCS007)**,student of Msc. Computer Science, Sacred Heart College, Chalakkudy has successfully completed the project training on topic **'Tunnel Crack Detection Using Machine Learning'** held at **Impulse Techno Solutions** From **April 2022 to August 2022.**

As per our measurement, the candidate was excellent during the training period.

RIJO

MANAGER

IMPULSE TECHNO SOLUTIONS COCHIN

IMPULSE TECHNO SOLUTIONS
Amman Kovil Road, North Paravur, Ernakulam
URL: www.impulsetechnosolutions.in | Email: info@ implusetechnosolutions.in

IMPULSE TECHNO SOLUTIONS

12 August 2022

CERTIFICATE

This is to certify that **Ms. Vincy Joy (Reg.SHAUMCS008)**,student of Msc. Computer Science, Sacred Heart College, Chalakkudy has successfully completed the project training on topic **'Traffic Sign Recognizer Using CNN and VGG Network Model'** held at **Impulse Techno Solutions** From **April 2022 to August 2022.**

As per our measurement, the candidate was excellent during the training period.

RIJO

MANAGER

IMPULSE TECHNO SOLUTIONS COCHIN

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Amman Kovil Road, North Paravur, Ernakulam
URL: www.impulsetechnosolutions.in | Email: info@impulsetechnosolutions.in