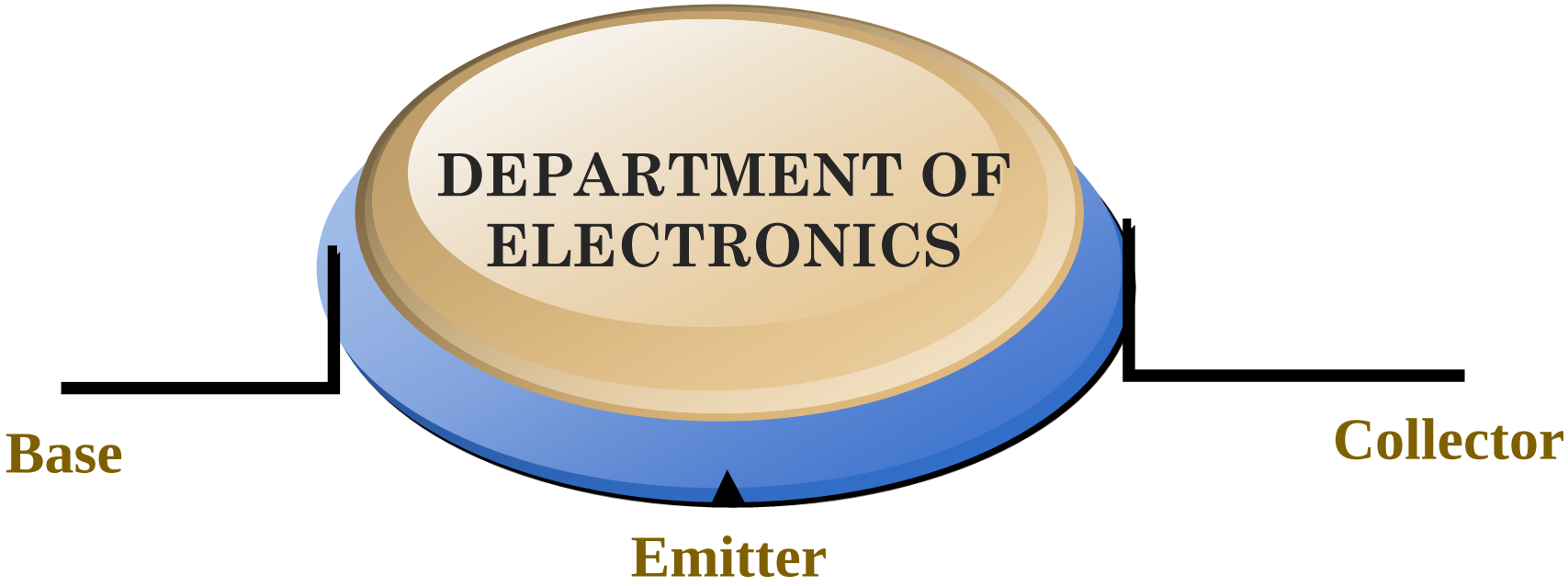
G. E. Society's

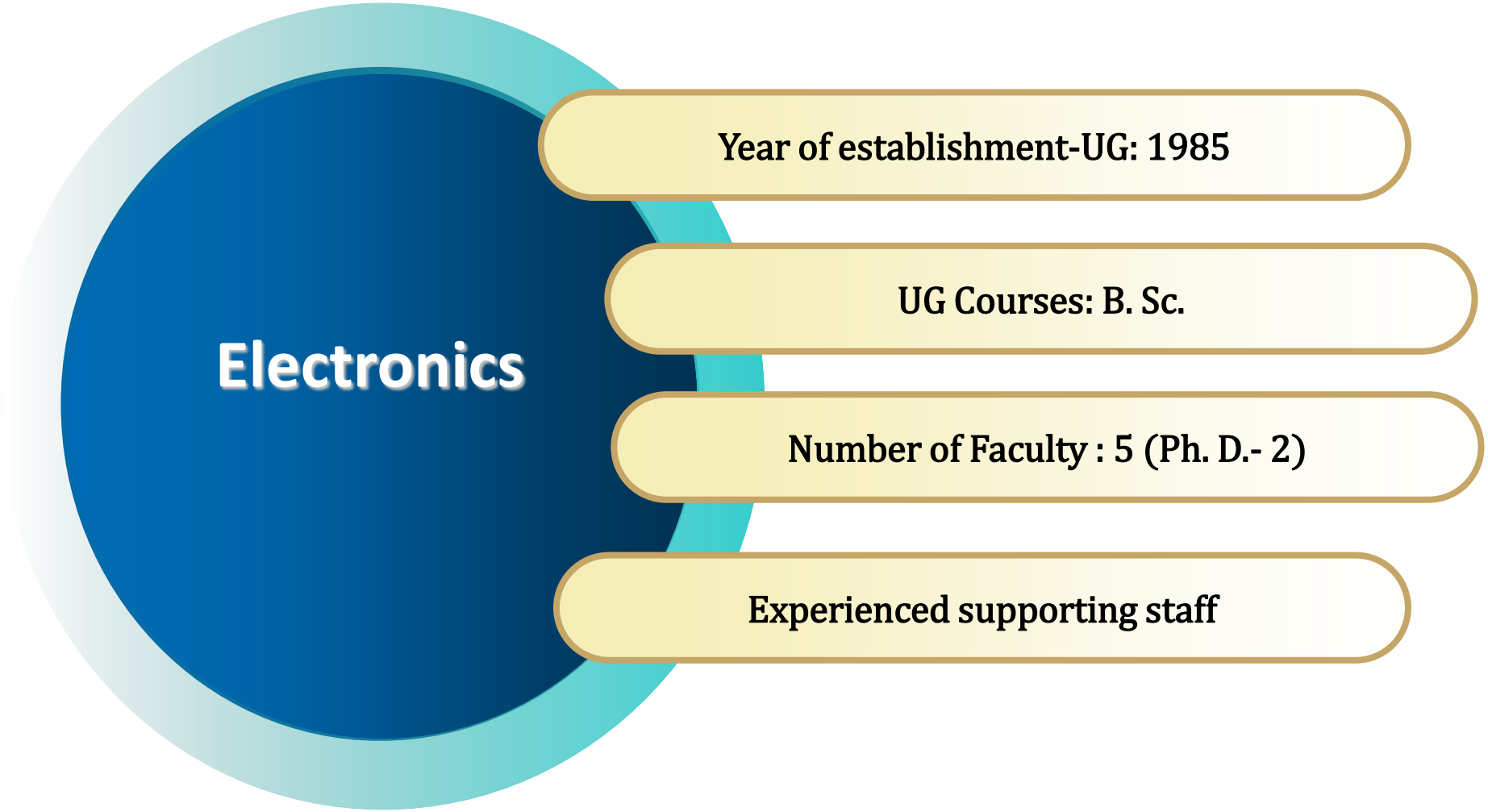
H.P.T. Arts and R.Y.K. Science, College, Nashik



Welcomes

NAAC PEER TEAM

DEPARTMENTAL PROFILE



FACULTY PROFILE

Teaching Staff

Dr. V. N. Suryavanshi
Principal
M.Sc., Ph.D.
Experience: 35 years

Dr. Siddharth D. Nimbalkar
Head & Associate Professor
M.Sc., Ph.D., SET,
Experience: 16 Years

Mr. Sagar S. Varade
Assistant Professor
M.Sc., NET, SET
Experience: 13 Years

Mr. Prakash M. Mali
Assistant Professor
M.Sc., NET
Experience: 13 Years

Miss. Pallavi B. Khare
Assistant Professor
M.Sc. SET
Experience: 5 Year

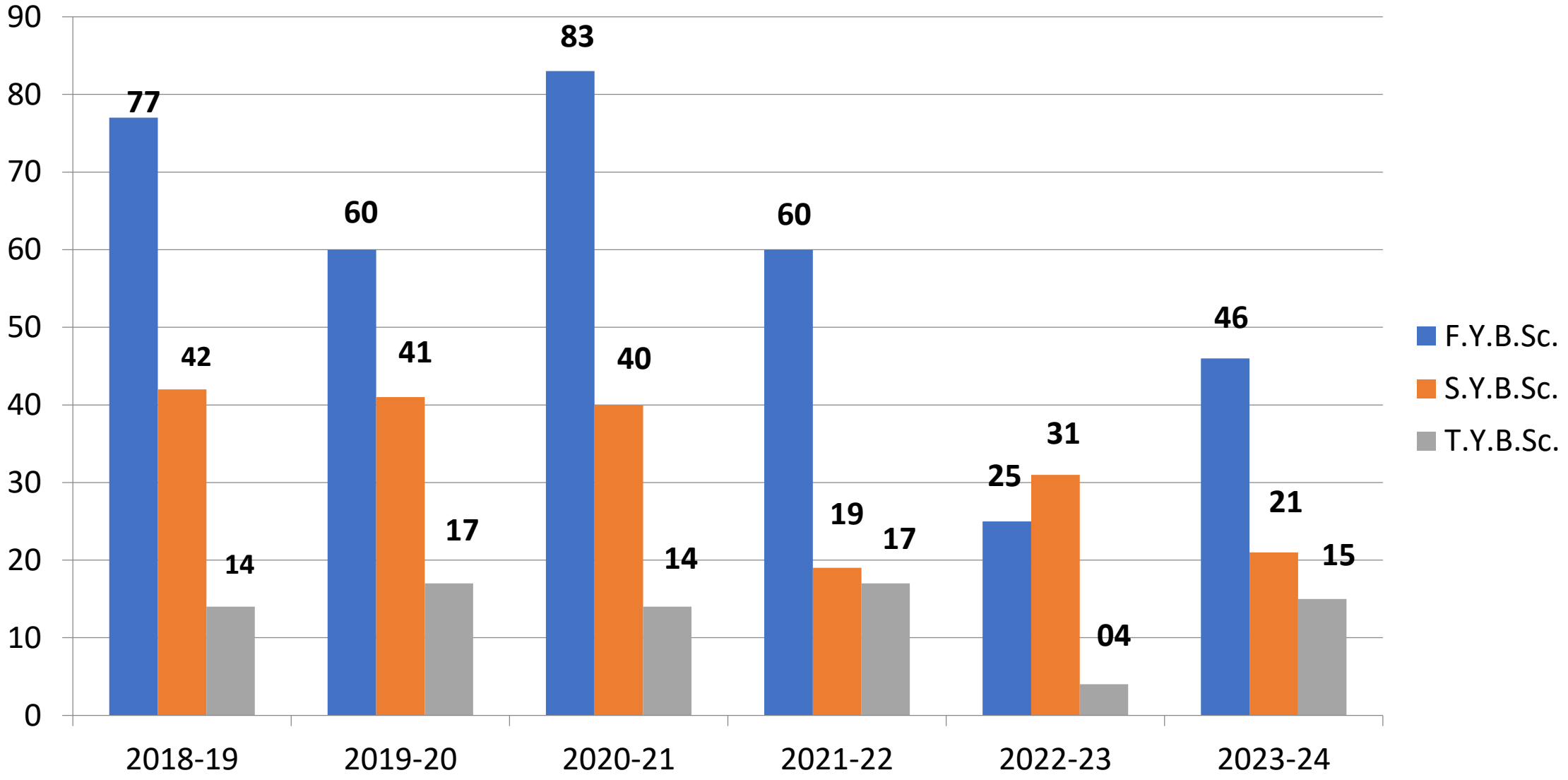
FACULTY PROFILE

Non-Teaching Staff

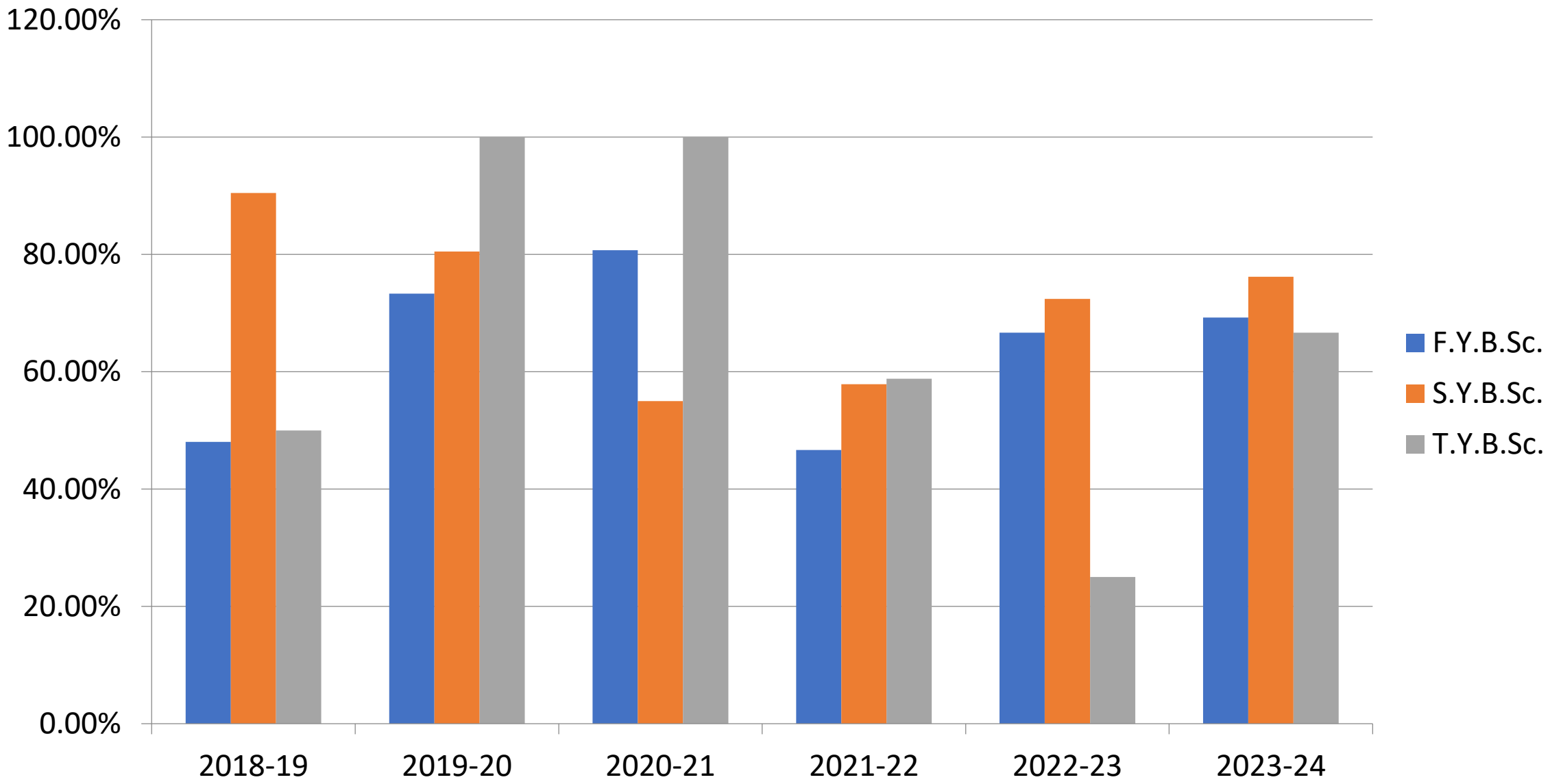
Mr. Rajendra J. Jadhav
Lab Attendant
Experience: 23 years

Mr. Ranjeet B. Sulgewar
Lab Attendant
Experience: 16 Years

Student Enrollment



Result Analysis



Staff Achievements

- Prin. Dr. V. N. Suryawanshi has awarded by “BEST TEACHER AWARD 2024” from Sarwajanik Vachanalaya, Nasik.
- Prof. Dr. A. B. Chourasia had completed two minor research project funded by BCUD, SPPU Pune. He was also working as “Placement Officer” of the college cell.
- Three students were doing the research under the guidance of Dr. A. B. Chourasia & one student has submitted Thesis to SPPU Pune on 7Th April 2025. his work was Granted an Innovation Patent on “SYNTHESIS PROCESS OF DOWN – CONVERSION $Ba_3NaLa\ (PO_4)_3F$ PHOSPOR FOR ENHANCEMENT IN SOLAR CELL EFFICIENCY” from Australian Government patent on 24th November 2021.
- Prof. S. D. Nimbalkar has received Ph. D. degree in Dec. 2024 from Dr. Babasaheb Ambedkar Marathwada University, Chh. Sambhaji Nagar, he has been Participated and presented 05 research papers in International and National conferences. His work was recognized by Granted Design Patent of “BIRD NEST MONITORING DEVICE” from patent office GOVERNMENT OF INDIA on 23th August 2022.
- Total Publications of the staff in UGC Care list and peer reviewed journal during last five years is 28
- Prof. P. M. Mali and Prof. S. S. Varade has successfully completed “Faculty Development Program” Organized by Central University of Jammu.

Students Achievement

- Rushikesh Kamble student of S. Y. B. Sc. was placed first order of merit in volleyball event organized in annual sport meet of the college, Feb. 2025.
- Pratibha Wagh student of T.Y. B.Sc. participated in cultural program at Prime Minister rally -2025, held at New Delhi on 27th Jan. 2025.
- Abhijeet Sharma student of T.Y. B.Sc. has been selected in Indian Navy in 2019.
- Sakshi Jalamkar student of T.Y. B.Sc. participated in zonal level research project competition (Avishkar 2024), and secured second prize in paper presentation held at K. K. Wagh College, Nasik in 2024.
- Soham Tarle and Sai Jagtap students of T.Y. B.Sc. were awarded by best NSS Volunteer among boys and presented Electronic project titled “LPG Gas Detector Using GSM Module ” and has secured 3rd rank, organized by DES Pune University in 2025.

Departmental Timetable

GOKHALE EDUCATION SOCIETY'S

H.P.T. ARTS AND R.Y.K. SCIENCE COLLEGE, NASHIK-05

ELECTRONIC SCIENCE DEPARTMENT

T.Y.B.Sc. TIME TABLE

SEM I 2023-24, W.E.F. 1/09/2023

TIME	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
11:40 to 12:30	SDN	PMM	SSV	PMM	SSV	SSV
12:30 to 01:20	PMM	SDN	SDN	SSV	PMM	PMM
01:20 to 01:30	RECESS					
01:30 to 02:20	ABC	ABC	ABC	ABC	ABC	ABC
02:20 to 03:10	SDN	SDN	PMM	SSV	SSV	SDN
03:20 to 06:40	PRACTICAL II	PRACTICAL I	PROJECT			

1. ABC: Dr A B Chourasia
2. SDN: Mr S D Nimbalkar
3. SSV: Mr S S Varade
4. PMM: Mr P M Mali

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Electronics Dept
HPT/RYK College
Nashik - 5

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Departmental Workload

GOKHALE EDUCATION SOCIETY'S

H.P.T. ARTS & R.Y.K. SCIENCE COLLEGE NASHI 422005

Department of Electronic Science

WORKLOAD DISTRIBUTION SHEET 2023- 2024 SEM I

Sr. No	Staff Name	Theory	Practical	Project	Total	Sign.
1.	Prof.Dr.A.B.Chourasia	S.Y.(P-1), T.Y.(P-1), T.Y.(P-3) =09	S.Y. 5X1=05	02	16	
2.	Prof.S.D.Nimbalkar	S.Y.(P-2)T.Y.(P-VI(A)), T.Y.(P- X) =09	S.Y. , F.Y 5+4=09	03	21	
3.	Mr.S.S.Varade	F.Y.(P-I),T.Y.(P-II), T.Y(P-XI)=09	F.Y, T.Y 4+5=09	03	21	
4.	Mr.P.M.Mali	F.Y.(P-II), T.Y.(P-IV), T.Y.(P-V) =09	F.Y, T.Y 4+5=09	02	20	

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Program Specific Outcome

PO1: To provide in-depth knowledge of scientific and technological aspects of Electronics

PO2: To prepare the students to apply the acquired knowledge towards planning, designing and building electronic applications.

PO3: Train students to be an entrepreneur or part of the industry, through experiments, projects, hands on training, industrial visits and market surveys.

PO4: Ability to apply knowledge of mathematics and science in solving electronics related problems

PO5: Ability to design and conduct electronics experiments, as well as to analyze and interpret data

PO6: Ability to design and manage electronic systems or processes that conforms to a given specifications

Course Outcome

CO1: Identify basic Component and systems used in analog circuits

CO2: Explain fundamental laws and elements of electrical circuits

CO3: Distinguish between different logic families based on their performance parameters

CO4: Analyze basic combinational logic circuits for simple applications

CO5: Know and understand structure of HDL and Verilog.

CO6: Understand different modelling styles in Verilog.

SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE
T.Y. B.Sc. ELECTRONIC SCIENCE
2021 PATTERN CBCS
Discipline Specific Elective Course

EL 356(A): Paper VI(A): Optics and Fiber Optic Communication

SEMESTER V CREDITS: 2 LECTURES: 36

Course Outcomes: After completing the course, the students will be able to
CO1: To acquire Knowledge of optical fiber communication system.
CO2: To understand different parameters of optical fibers.
CO3: To learn essential optical components of Fiber Optic Communication.
CO4: To analyze and integrate fiber optical network components in variety of networking schemes.

UNIT 1: Overview of Optics and Optical Fiber Communication (14 LECTURES)
History of fiber optic systems, block diagram, Fiber material, fiber cables and fiber fabrication, fiber joints, fiber connectors, splicer, Propagation of light in optical fiber, acceptance angle, numerical aperture, Types and specification of optical fiber, Advantages of optical fiber communication, applications

UNIT 2: Transmission Characteristics of Optical Fiber (8 LECTURES)
Attenuation, absorption, linear and nonlinear scattering losses, bending losses, modal dispersion, waveguide dispersion and pulse broadening, Dispersion shifted and dispersion flattened fibers, Measurement of optical parameters, attenuation and dispersion

UNIT 3: Optical Sources and Detectors (8 LECTURES)
Sources: Coherent and non-coherent sources, quantum efficiency, modulation capability of optical sources, Working principle and characteristics of - LEDs, Laser diodes, Modulation in laser diodes, Detectors: PIN and APD, Noise analysis in optical detectors

UNIT 4: Optical Networks (6 LECTURES)
Architecture of optical transport networks (OTNs), network topologies, Introduction to Synchronous optical networking (SONET) and synchronous digital hierarchy (SDH).

RECOMMENDED BOOKS:
1. Optical fiber communication – Principles and practice, J.M. Senior, PHI
2. Fiber optics and Optoelectronics, R.P. Khare, Oxford University Press
3. Optical fiber communication, G. Kaiser McGraw Hill

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GHOKHALE EDUCATION SOCIETY'S

HPT ARTS AND RYK SCIENCE COLLEGE, NASIK.

INTERNAL EXAMINATION-2024

CLASS- T.Y.B.Sc. SUBJECT- ELECTRONIC SCIENCE PAPER- VI

TIME- 60 Min. TOTAL MARKS- 15 DATE- 24/09/2024

Questions A) Attempt any five of the following: **Marks-05**

1) State any two applications of LASER.
2) Define the term 'Critical angle'.
3) What are the types of Structure of LED?
4) State the types of losses in optical Fiber.
5) What are the applications of Optical Fiber communication system?
6) State the types of optical Fiber cable.

Questions B) Shorts answer questions, Solve any three. **Marks-06**

1) What do you mean by quantum efficiency?
2) List the elements of optical fiber communication system and explain function of it.
3) Write short notes on connector and splice.
4) Explain the types of losses in optical fiber.

Questions C) Long answer questions, solve any one. **Marks-04**

1) State total internal reflection phenomena.
2) Explain the construction of graded index optical fiber and state its advantages.

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G.E. Society's
HPT Arts and RYK Science College
Department of Electronics 2024-25
Internal assessment
TY-B.Sc.
Paper VI- Optics and Fiber Optics Communication, SEM-V

Sr. No.	Roll No.	Name of the Students	Gender	Written Test (15 Marks)			Home Assignment (10 marks)	Presentation (05 Marks)	Internal Marks (Out of 30)
				Q1 (5)	Q2 (6)	Q3 (4)			
1	1	Bhadoria Nikhil Pramodsingh	Male	03	04	02	6	4	19
2	2	Chinchore Saee Sanjay	Female	5	5	2	8	3	23
3	3	Chahakar Rushikesh D.	Male	3	4	2	4	4	17
4	4	Gore Manasi Sanjay	Female	5	5	3	7	2	22
5	5	Jalamkar Sakshi Kailash	Female	3	4	2	7	3	19
6	6	Jagtap Sai Uttam	Male	5	3	1	5	3	17
7	7	Pai Sriraksha Yogesh	Female	2	2	0	8	4	16
8	8	Pure Om Balkrishna	Male	2	3	1	5	4	15
9	9	Patankar Kirti Krishna	Female	4	5	2	6	3	20
10	10	Tarle Soham Prabhakar	Male	4	2	1	7	3	17
11	11	Wagh Pratibha Gunwant	Female	5	2	2	6	2	17

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Electronics Dept
HPT/RYK College
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G.E. Society's
HPT Arts and RYK Science College
Department of Electronics 2024-25
Internal assessment & Course Outcome Mapping Analysis
TY-B.Sc.
Paper VI- Optics & FOC, SEM-V

COURSE OBJECTIVE OUTCOMES CO1, CO2, CO3 & CO4.

Sr. No.	Roll No.	Name of the Students	Gender	Written Test (15 Marks) CO1	CO2	CO3	Home Assignment (10 marks) CO3	Presentation (05 Marks) CO4	Internal Marks (Out of 30)
				Q1 (5)	Q2 (6)	O_3			
1	1	Bhadoria Nikhil	Male	3	4	2	6	4	19
2	2	Chinchore Saee	Female	5	5	2	8	3	23
3	3	Chahakar Rushikesh	Male	3	4	2	4	4	17
4	4	Gore Manasi	Female	5	5	3	7	2	22
5	5	Jalamkar Sakshi	Female	3	4	2	7	3	19
6	6	Jagtap Sai	Male	5	3	1	5	3	17
7	7	Pai Shriraksha	Female	2	2	0	8	4	16
8	8	Pure Om	Male	2	3	1	5	4	15
9	9	Patankar Kirti	Female	4	5	2	6	3	20
10	10	Tarale Soham	Male	4	2	1	7	3	17
11	11	Wagh Pratibha	Female	5	2	2	6	2	17
TOTAL				41	39	18	69	35	202
Average				3.72	3.54	1.63	6.27	3.18	18.36

Partially Aligned	0.75- 1.0	Criteria 60%	09	06	03	08	09
Mostly Aligned	1.00- 2.00						
Fully Aligned	2.00- 3.00	Scale 3	2.45	1.63	0.81	2.18	2.45
Mapping			Fully Aligned	Mostly Aligned	Partially Aligned	Fully Aligned	Fully Aligned

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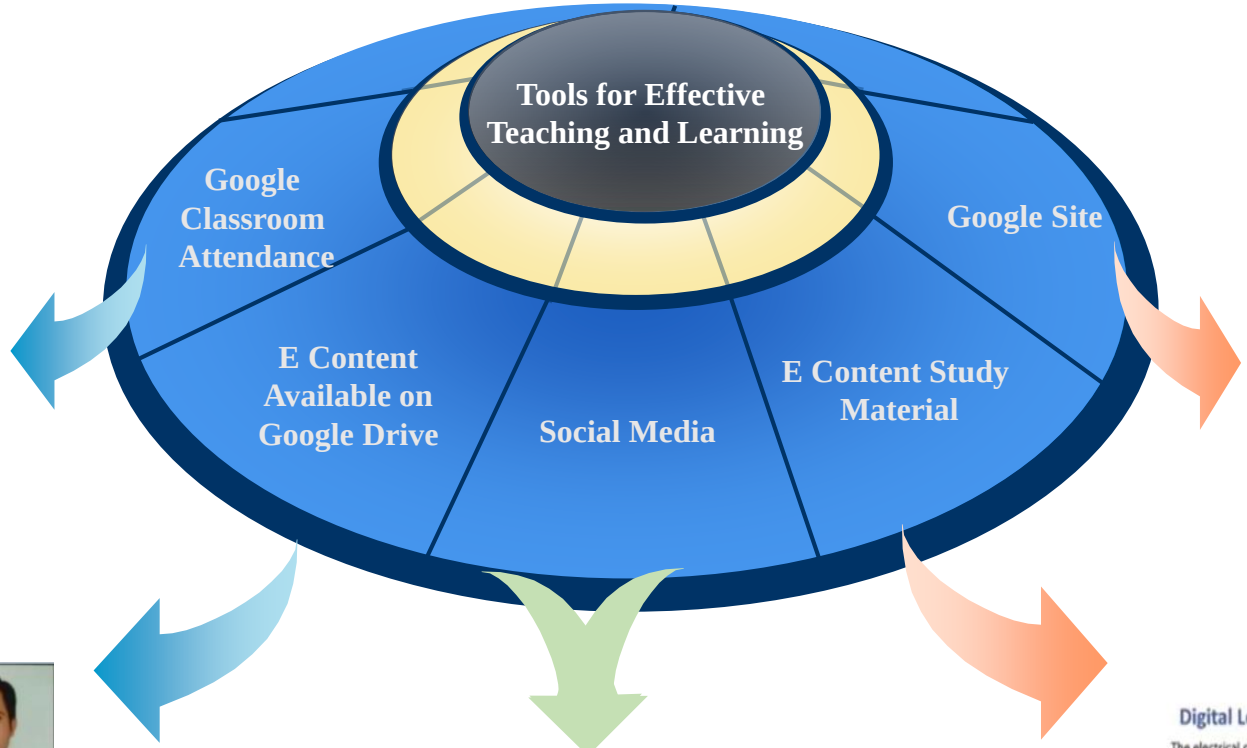
Curricular planning and implementation

	A	B	C	D	E	F
1	Timestamp	Name	Mobile no.	Roll no.	email	Email address
2	07/09/2020 19:29:08	Swara ,Samruddhi	8805646840	12	siddhunimbalkar2@gmail.com	
3	08/09/2020 12:57:53	Yogesh Dixit	8999076071	260	Yogeshdixit1333@gmail.com	
4	08/09/2020 12:58:00	Omkar Mankar	9834224581	2106	omkar9834224581@gmail.com	
5	08/09/2020 12:58:45	Mankar shital sunil	7666428895	238	mankarsheetal9@gmail.com	
6	08/09/2020 13:01:16	Fiza rafik bagwan	8669140373	301	fizarafikbagwan@gmail.com	
7	08/09/2020 13:02:06	Gagare Saurabh Sopa	9158290226	75	Saurabhgagare2001@gmail.com	
8	08/09/2020 13:02:57	Bagul Sudarshan Krus	9834493985	118	sudarshanbagul2582@gmail.com	
9	08/09/2020 13:04:35	Pawale Suraj Bhanud	9850634948	78	sp8198962@gmail.cc	
10	08/09/2020 13:05:09	Chitnis Ojas Amit	9923461662	70	ojaschitnis1@gmail.c	
11	08/09/2020 13:05:44	Arshad Shaikh	7387695410	103	arshadshaikh4062@gmail.com	
12	08/09/2020 13:05:56	Omkar Nandu aher	8830891623	71	omkaraher05022001@gmail.com	
13	08/09/2020 13:06:21	Jadhav Mayur Sham	7499087787	77	mayur042002@gmail.com	
14	08/09/2020 13:29:40	Aniket Wankhade	9552954941	72	Wankhadeaniket25@gmail.com	
15	08/09/2020 13:44:56	Shubham Kishorendra	9168080120	102	shubhamsutar916@gmail.com	
16	08/09/2020 14:17:16	Ayan sayyad	9145639786	76	ayansayyed11111@gmail.com	
17	10/09/2020 19:11:13	Ankita Netawate	9604098653	108	ankitan96040@gmail.com	
18	10/09/2020 19:11:18	Pooja gaidhani	7499546289	228	poojagaidhani2903@gmail.com	



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HPT Arts and RYK Science College
Nashik

Square wave potential

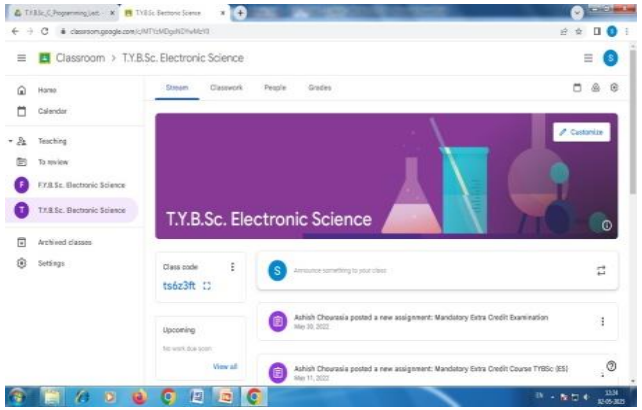
By

Prof. P. M. Mali
Department of Electronic Science

Gokhale Education Society's
H.P.T. Arts & R.Y.K. Science College,
Nashik

T. Y. B. Sc.
Paper II: Semester I
EL342: Microcontrollers
Lecture 1

By
Mr. S. S. Varade
Department of Electronic Science



Digital Logic Gates

The electrical circuits which perform logical operations are called *gates*.

All data manipulation is based on *logic*

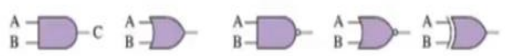
Logic follows well defined rules, producing predictable digital output from certain input.

Main Logic gates are AND, OR, NOT, NAND, NOR and XOR

NOT

A	C
0	1
1	0

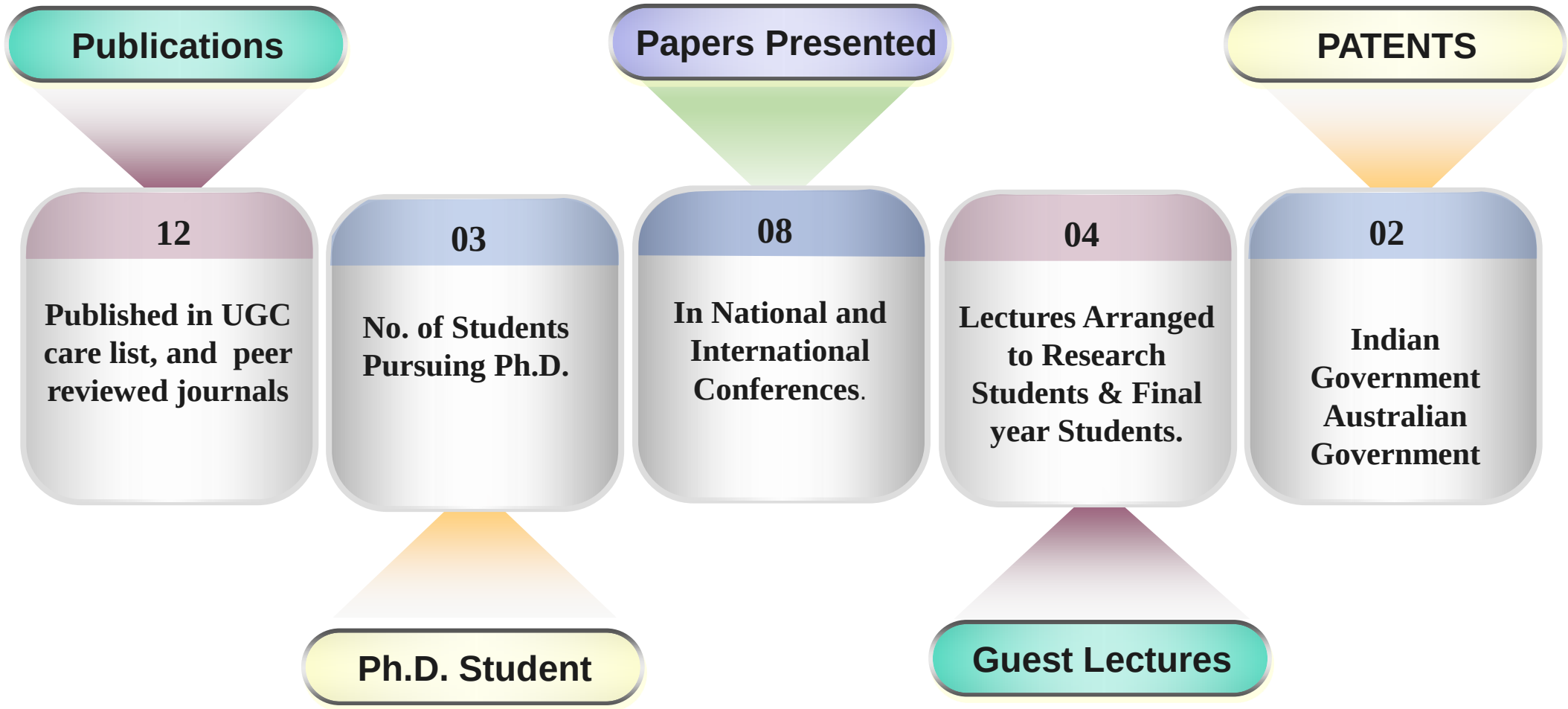
AND			OR			NAND			NOR			XOR		
A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
0	0	0	0	0	0	0	0	1	0	0	1	0	0	0
0	1	0	0	1	1	0	1	1	0	1	0	0	1	1
1	0	0	1	0	1	1	0	1	1	0	0	1	0	1
1	1	1	1	1	1	1	1	0	1	1	0	1	1	0



Digital logic gates NAND and NOR are called universal logic gate because we can construct all other logic gates using NAND gate or NOR gate alone.

NAND gate can be built using 4 MOSFETs (2NMOS and 2PMOS).

Research Output



Patents

Australian Government
IP Australia

CERTIFICATE OF GRANT
INNOVATION PATENT

Patent number: 2021106705

The Commissioner of Patents has granted the above patent on 24 November 2021, and certifies that the below particulars have been registered in the Register of Patents.

Name and address of patentee(s):
Ashish Chourasia of Department of Physics, H.P.T. Arts and R.Y.K. Science College Nasik 422005 India
Dheeraj Dhiman of Department of Physics, H.P.T. Arts and R.Y.K. Science College Nasik 422005 India
Yatish Parauha of Department of Physics, R.T.M. Nagpur University Nagpur 440033 India
Prashant Bokare of Department of Civil Engineering, O. P. Jindal University Raigharh 496109 India
Sanjay Dhoble of Department of Physics, R.T.M. Nagpur University Nagpur 440033 India

Title of invention:
A SYNTHESIS PROCESS OF DOWN-CONVERSION Ba3NaLa(PO4)3F PHOSPHOR FOR ENHANCEMENT IN SOLAR CELL EFFICIENCY

Name of inventor(s):
Chourasia, Ashish; Dhiman, Dheeraj; Parauha, Yatish; Bokare, Prashant and Dhoble, Sanjay

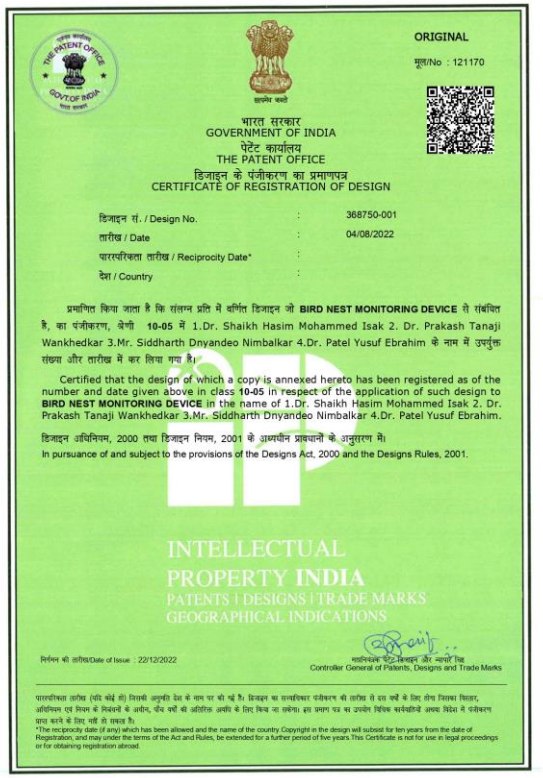
Term of Patent:
Eight years from 24 August 2021

NOTE: This Innovation Patent cannot be enforced unless and until it has been examined by the Commissioner of Patents and a Certificate of Examination has been issued. See sections 120(1A) and 129A of the Patents Act 1990, set out on the reverse of this document.

Dated this 24th day of November 2021

Commissioner of Patents

PATENTS ACT 1990



ORIGINAL
मूल/No : 121170

भारत सरकार
GOVERNMENT OF INDIA
पेटेंट कार्यालय
THE PATENT OFFICE
डिजाइन के पंजीकरण का प्रमाणपत्र
CERTIFICATE OF REGISTRATION OF DESIGN

डिजाइन सं. / Design No.	:	368750-001
तारीख / Date	:	04/08/2022
पारस्परिकता तारीख / Reciprocity Date*	:	
देश / Country	:	

प्रमाणित किया जाता है कि संलग्न प्रति में वर्णित डिजाइन जो **BIRD NEST MONITORING DEVICE** से संबंधित है, का पंजीकरण, श्रेणी **10-05** में 1.Dr. Shaikh Hasim Mohammed Isak 2. Dr. Prakash Tanaji Wankhedkar 3.Mr. Siddharth Dnyandeo Nimbalkar 4.Dr. Patel Yusuf Ebrahim के नाम में उपर्युक्त संख्या और तारीख में कर लिया गया है।

Certified that the design of which a copy is annexed hereto has been registered as of the number and date given above in class **10-05** in respect of the application of such design to **BIRD NEST MONITORING DEVICE** in the name of 1.Dr. Shaikh Hasim Mohammed Isak 2. Dr. Prakash Tanaji Wankhedkar 3.Mr. Siddharth Dnyandeo Nimbalkar 4.Dr. Patel Yusuf Ebrahim.

डिजाइन अधिनियम, 2000 तथा डिजाइन नियम, 2001 के अध्यधीन प्रावधानों के अनुसरण में।
In pursuance of and subject to the provisions of the Designs Act, 2000 and the Designs Rules, 2001.

INTELLECTUAL
PROPERTY **INDIA**
PATENTS | DESIGNS | TRADE MARKS
GEOGRAPHICAL INDICATIONS

निर्गम की तारीख/Date of Issue : 22/12/2022

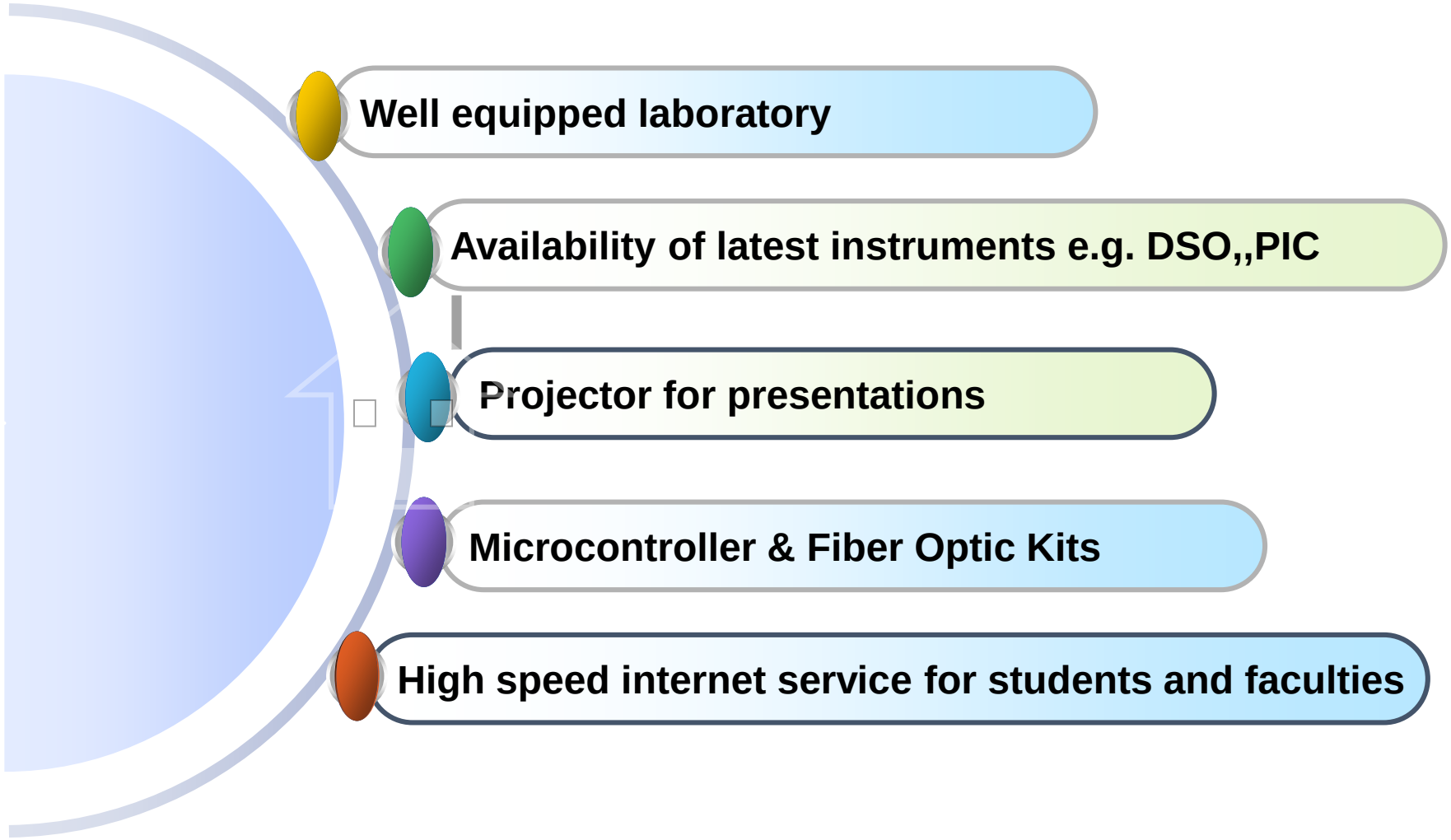
नियंत्रक महा पेटेंट, डिजाइन और व्यापार चिह्न
Controller General of Patents, Designs and Trade Marks

*The reciprocity date (if any) which has been allowed and the name of the country. Copyright in the design will subsist for ten years from the date of Registration, and may under the terms of the Act and Rules, be extended for a further period of five years.This Certificate is not for use in legal proceedings or for obtaining registration abroad.

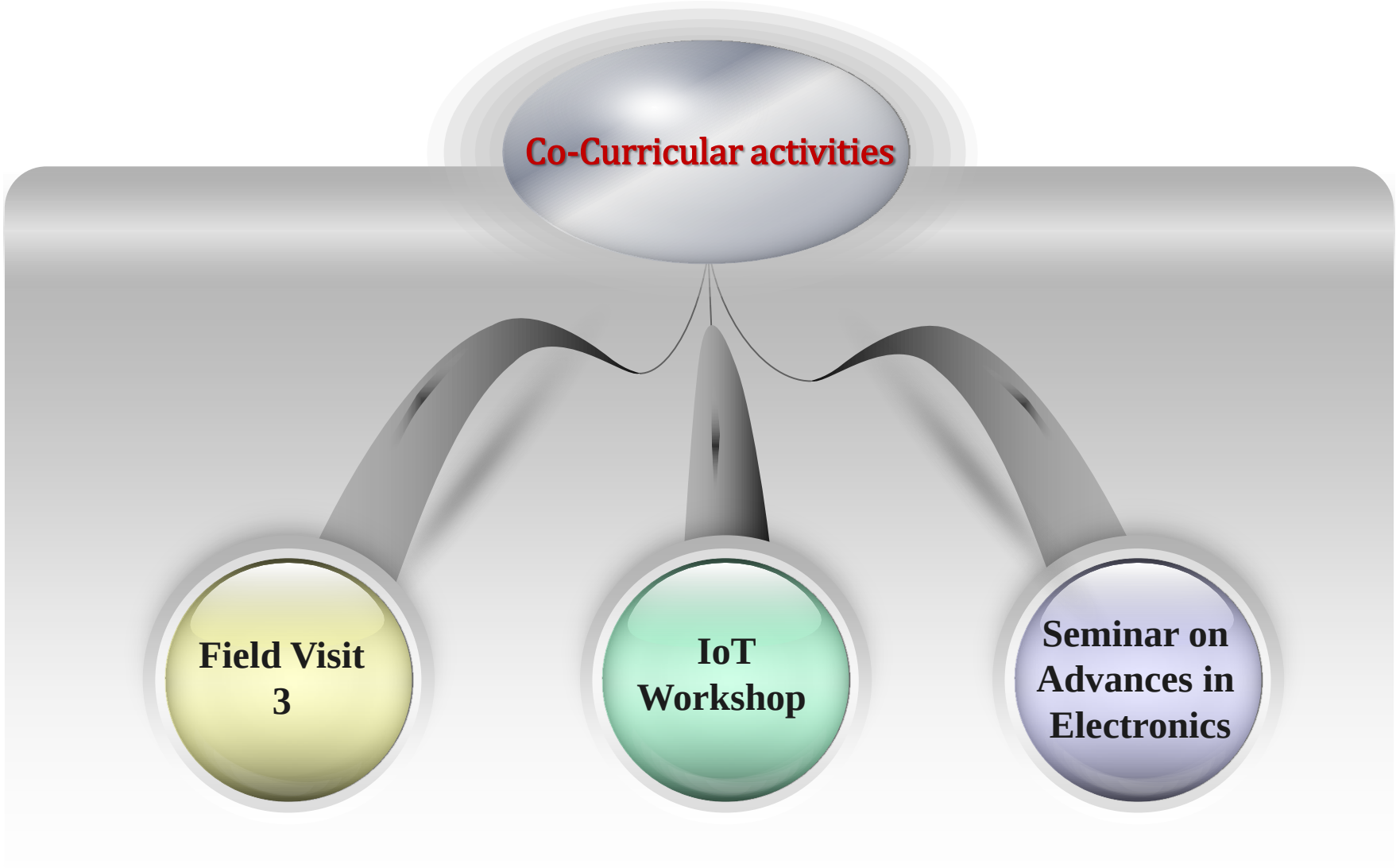
Dr. A. B. Chaurasia
Granted patent titled “A Synthesis Process of Down Conversion Ba3NaLa(PO4)3F Phosphor for Enhancement in Solar Cell efficiency"
with application No. 2021106705

Dr. S. D. Nimbalkar
Granted patent on August 04, 2022,
for the “Birds Nest Monitoring Device”
with application No. 368750-001

Department Infrastructure

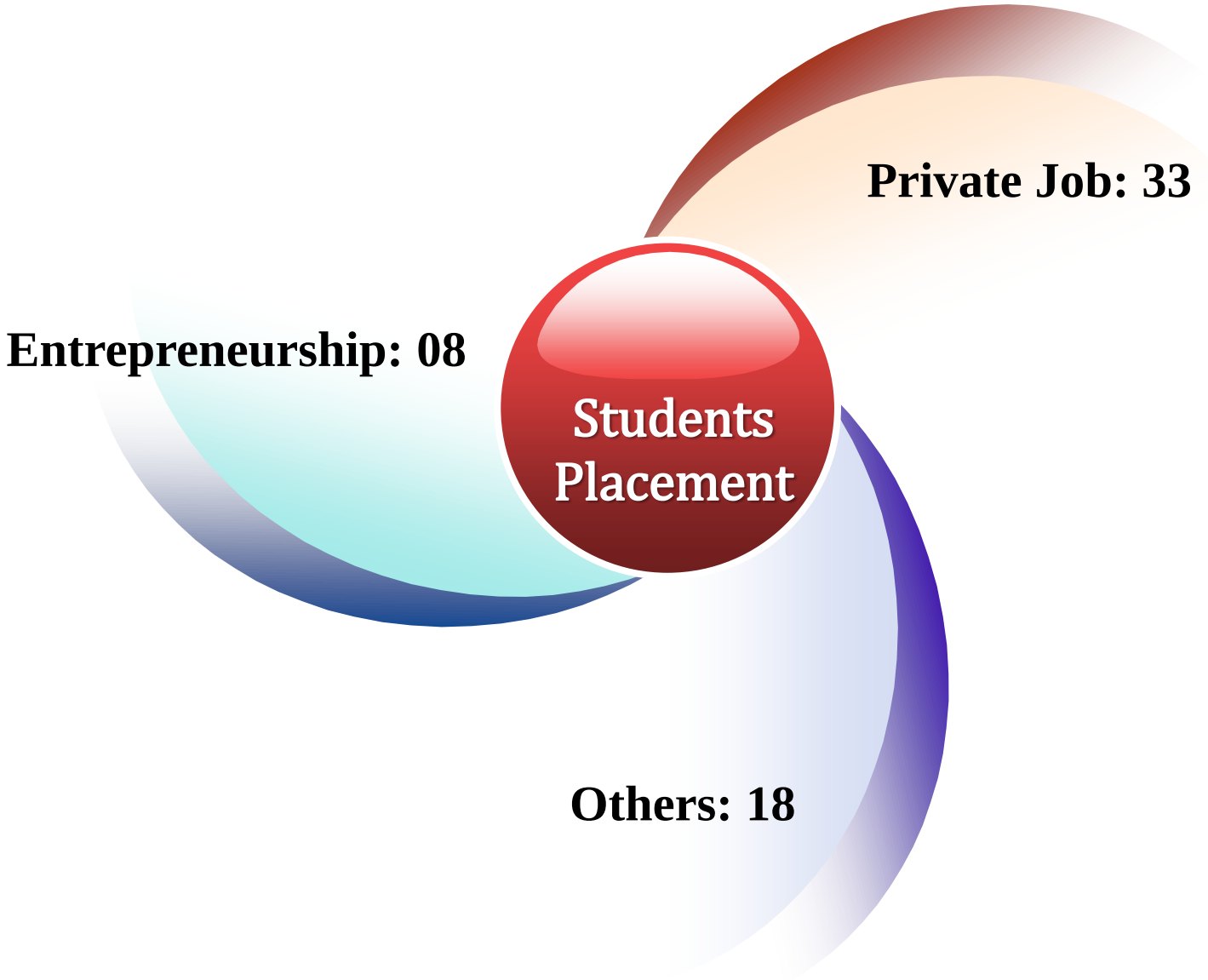


Co-Curricular activities

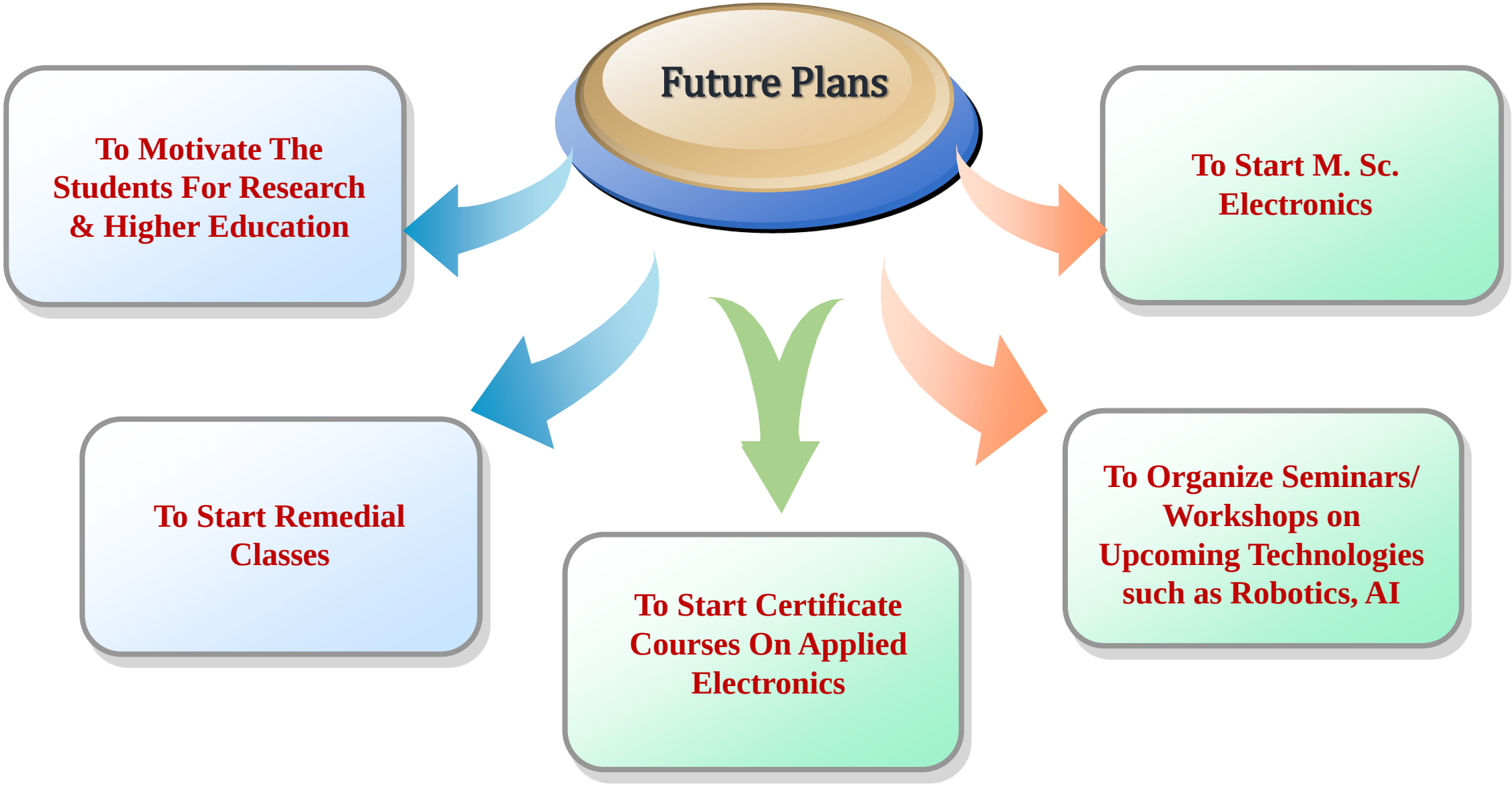


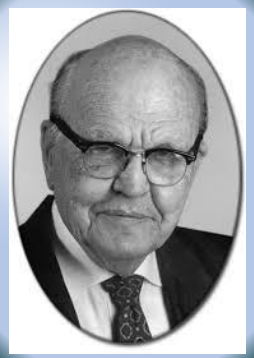
Co-Curricular activities

Students Placement

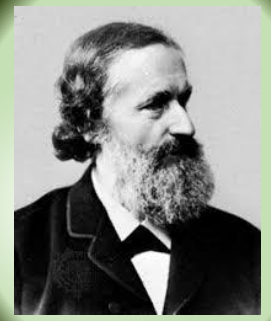


Future Plans





Jack Kilby



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THANK YOU

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