Sadhana Education Society's
L. S. Raheja College of Arts & Commerce
Gujarati Linguistic Minority Institute

BOOKLET

DEPARTMENT OF
MATHEMATICS , STATISTICS AND COMPUTER

FROM 2016 TO 2022

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INTRODUCTION:

From its inception to the present, the Department of Mathematics has evolved and grown in several directions. In the last five years, this change has been particularly striking in terms of faculty recruitment, research output and the diversity of research pursued. To consolidate and sustain these achievements and to enable continued future growth we outline the Department's goals and the challenges it faces.

MEMBERS OF DEPARTMENT:

NAME OF FACULTY	ACADEMIC QUALIFICATION	TEACHING EXPERIENCE (IN YEARS)	DESIGNATION
DR. SEEMA UKIDVE	• M.PHIL • Ph.D.(Mathematics) • B.Ed.	12	ASSISTANT PROFESSOR
SHRI RAMSAGAR YADAV	• M.Sc.(Mathematics) • CSIR-UGC-NET(JRF) • IIT- GATE • Diploma in brainival methods(mind maps and memory techniques) • Certificate course in Sanskrit	8	ASSISTANT PROFESSOR
VIJAYLAXMI SHETTY	·M.Sc.(Statistics)	1 Year and 8 months	ASSISTANT PROFESSOR

COURSES OFFERED BY THE COLLEGE:

Name of Programme:	F.Y.B.Com, T.Y.B.Com, F.Y.B.A, S.Y.B.A
Courses Offered:	• Mathematical and Statistical Techniques - I (Semester -I) (F.Y.B.Com) • Mathematical and Statistical Techniques- II (Semester -II) (F.Y.B.Com) • Computer Systems and Applications- V(Semester -V) (T.Y.B.Com) • Computer Systems and Applications- VI (Semester -VI) (T.Y.B.Com) • Statistics -I (Semester -1 and Semester -II) (F.Y.B.A) • Statistics -II(Semester -III and Semester -IV) (S.Y.B.A) • Statistics -III(Semester -III and Semester -IV) (S.Y.B.A)

COURSES OFFERED BY THE DEPARTMENT (PAPER TAUGHT)

SEMESTER	NAME OF THE COURSE	NUMBER OF L/T/P WEEK	NAME OF THE FACULTY
V	Computer Systems and Applications- V	3(L)/9(P)	Dr. Seema Ukidve
I	Mathematical and Statistical Techniques-I	3(L)	Dr. Seema Ukidve
VI	Computer Systems and Applications- VI	3(L)/9(P)	Dr. Seema Ukidve
II	Mathematical and Statistical Techniques-I	3(L)	Dr. Seema Ukidve

SEMESTER	NAME OF THE COURSE	NUMBER OF L/T/P WEEK	NAME OF THE FACULTY
I	Mathematical and Statistical Techniques-I	6(L)/(5)	Shri Ram Yadav
II	Mathematical and Statistical Techniques-II	6(L)/(5)	Shri Ram Yadav
V	Computer Systems and Applications- V	3(L)	Shri Ram Yadav
VI	Computer Systems and Applications- VI	3(L)	Shri Ram Yadav
I	Statistics -I	3(L)/3(P)	Ms. Vijaylaxmi Shetty
II	Statistics -I	3(L)/3(P)	Ms. Vijaylaxmi Shetty
III	Statistics -II	3(L)/3(P)	Ms. Vijaylaxmi Shetty
III	Statistics -III	3(L)/3(P)	Ms. Vijaylaxmi Shetty
IV	Statistics -II	3(L)/3(P)	Ms. Vijaylaxmi Shetty
IV	Statistics -III	3(L)/3(P)	Ms. Vijaylaxmi Shetty
I	Mathematical and Statistical Techniques-I	3(L)	Ms. Vijaylaxmi Shetty
II	Mathematical and Statistical Techniques- II	3(L)	Ms. Vijaylaxmi Shetty

PROGRAM OUTCOME:

- **FYBCOM:**

Course Outcome: Acquire the ability to understand and analyze the problems. Develops the skill to think critically on abstract concept of mathematics.

Program Outcome: Formulates and develops mathematical arguments in logical manner. Provide a systematic understanding of the concepts and theories of Mathematical and computing their applications in the real world.

Program Specific Outcome:

Making familiar with statistical tools which are relatively used in Business. Imparting the ability to collect, present, analyze and interpret.

- **SYBA:**

Course Outcome: Students will be introduced to the various Statistical tools, which are mostly from Descriptive Statistics.

Program Outcome: This program along with other subjects help students to develop their Mathematical and Analytical Skills. Students will have exposure to the Software like R and Microsoft Excel.

Program Specific Outcomes: From Birth to Death Statistics is everywhere in the world . The most discussed jobs in 21st century are from Statistics fields. In the world of Data Science and Machine Learning,Statistics is very useful.
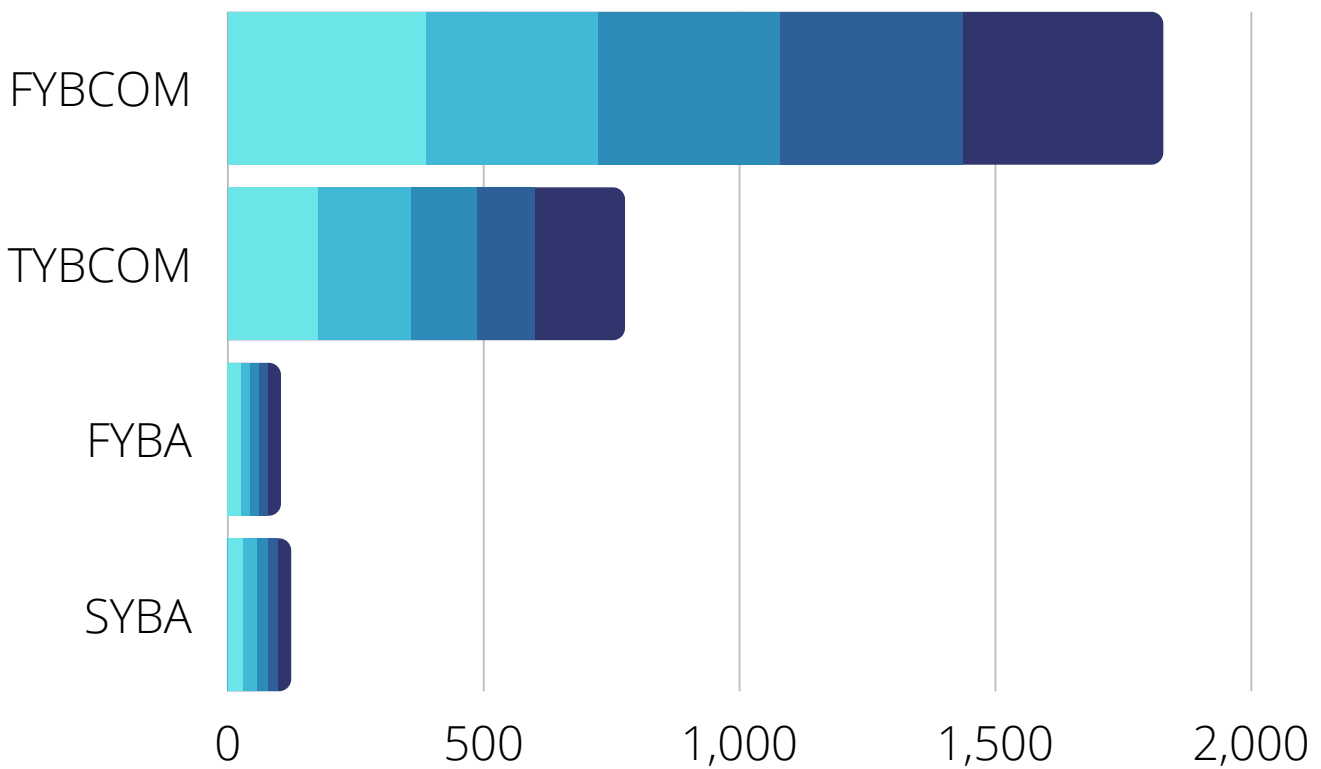
- **TYBCOM :**

Course outcome: To make students familiar with computer environment and operating Systems. To introduce students with accounting packages like Tally.

Program Outcome: After completing gradution, students can get skills regarding various Aspects like Marketing Manager, Selling Manager over all Administration Abilities of the Company.

Program Specific Outcome: The students can get the knowledge,skills and attitudes during the End of the B.Com degree course. By goodness of the preparation they can turn into a Manager, Accountant, Auditor, Teacher, CS, Stock Agents etc.

STUDENT DATA:

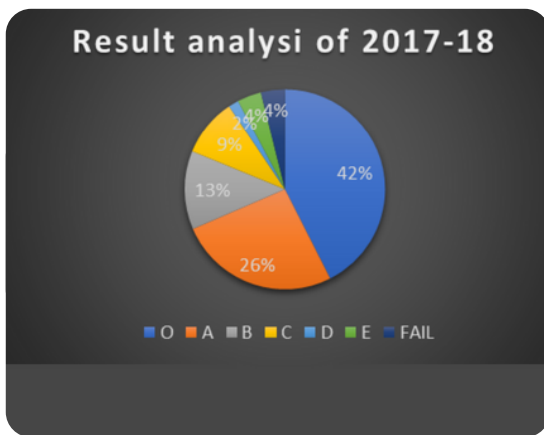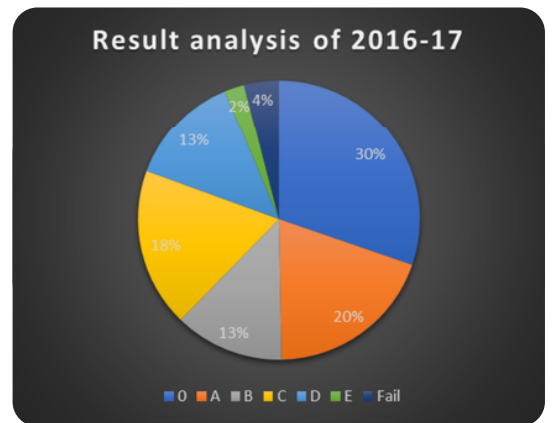| CLASS	2016–17	2017–18	2018–19	2019–20	2020–21
FYBCOM	386	336	356	357	393
TYBCOM	175	181	129	113	177
FYBA	25	17	17	17	26
SYBA	28	28	20	20	26

TEACHING LEARNING METHODS:

- Time Table is prepared and topic distribution is done accordingly.
- Hands on practice is provided to ensure effective learning
- Guest Lecture are arranged to familiarise the students with practical aspects of the topics
- Chalk and Board Methods are used primarily to teach mathematical and statistical rigours
- To supplement the teaching and make it effective Information and
- Communication Technologies are used extensively.
- Through interactive quizzes and question answer sessions
- During Tutorial sessions students are given personal attention to clarify their doubts
- Standard syllabus oriented books and online resources.
- Workbooks and e-learning materials etc.
- Tutorials books are prepared by the department.
- Ensuring all lectures are engaged according to the time table.
- Ensuring that Syllabus is completed as per the teaching plan
- Feedback is obtained from the students from time to time by the faculty
- The teaching methods are revised according to the students needs.
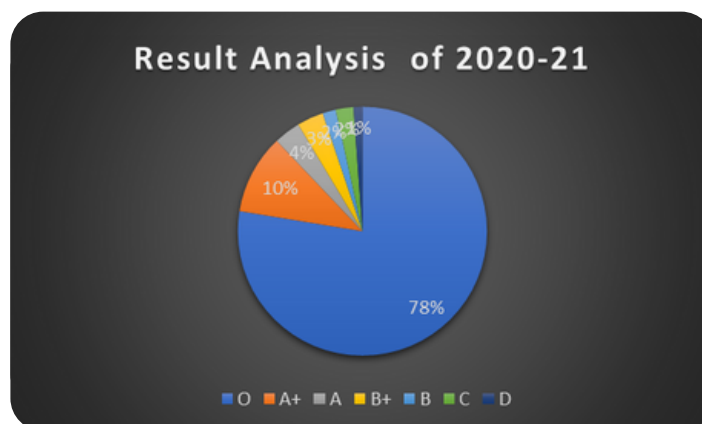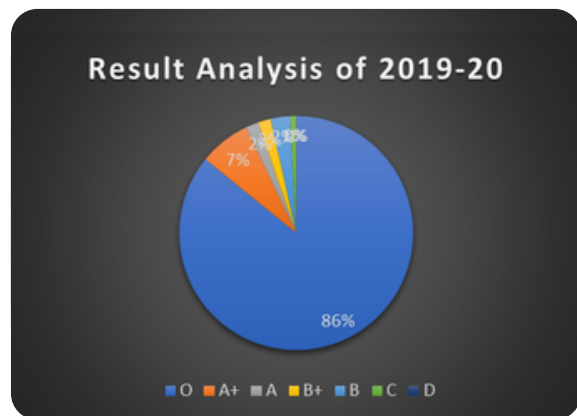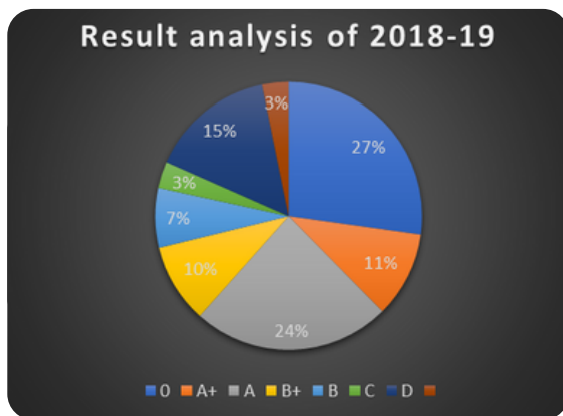- The department conduct induction for new students.

RESULT ANALYSIS:

GRADE	2016-2017		2017-2018	
	No.of students	%	No. of Students	%
O	53	30.29	77	42.54
A	34	19.43	47	25.97
B	22	12.57	23	12.71
C	32	18.29	17	9.39
D	23	13.14	3	1.66
E	4	2.29	7	3.87
Pass	168	96	174	96.13
Fail	07	4	07	3.87
Total	175	100	181	100

Result analysis of 2016-17

Result analysi of 2017-18

GRADE	2018-2019		2019-2020		2020-2021	
	No. of Students	%	No. of Students	%	No. of Students	%
O	34	27.2	97	85.84	135	76.27
A+	13	10.4	8	7.08	18	10.17
A	30	24	2	1.77	6	3.39
B+	12	9.6	2	1.77	6	3.39
B	9	7.2	3	2.65	3	1.69
C	4	3.2	1	0.88	4	2.26
D	19	15.2	0	0	2	1.13
FAIL	4	3.2	0	0	3	1.70
PASS	121	96.8	113	99.99	174	98.30
Total	125	100	113	100	177	100

Result analysis of 2018-19

Result Analysis of 2019-20

Result Analysis of 2020-21

LIST OF ACTIVITIES THROUGHOUT THE YEARS:

SR.NO.	YEAR	TOPICS
1.	2016-17	Guest Lecture – Tips and Tricks to perform effectively in university exam
2.		Quiz Competition –Faster Finger First
3	2017-18	Guest Lecture–Cyber Crime: Danger and its Preventive Measures
4		SPSS
5	2018-19	Guest Lecture– Cyber Crime and Ethical Hacking
6	2019-2020	Guest lecture on Emerging Trends and Opportunities In Artificial Intelligence
		Guest lecture on " Breathing Techniques to Remain Stress-free During Examinations".
7	2020-2021	Bridge Course On Mathematics and Statistics
8		International Day Of Happiness
9		Cancer Awareness Day
10		A Two Days National Webinar On Data Analytics
11		A Three Days Lecture Series On Competitive Exams
12	2021-2022	5-Day Online International Workshop On Latex
13		Expert Talk On Srinivasa Ramaujan

ACHIEVEMENT OF STAFF

- Dr. Seema Ukidve has been IT Coordinator for digital exam paper delivery system (DEPDS)
- Dr. Seema Ukidve was called as a subject expert for Mathematics and Statistics faculty selection.
- Shri Ramsagar Yadav has been involved in revaluation and moderation.

BEST PRACTICES

- **BRIDGE COURSE:**

To boost the confidence of students and to make them understand Mathematics and Statistics lessons taught in the class this bridge course has been introduced.

This bridge course booklet contains the following basic topics:
- ✔ Factorization and defactorization of quadratics
- ✔ Surds, and other roots
- ✔ Percentage
- ✔ Laws of Indices
- ✔ Decimals
- ✔ HCF and LCM
- ✔ Fractions
- ✔ Simultaneous Linear Equations
- ✔ Logarithmic Properties
- ✔ Basic Mathematics Formulae
- ✔ Basic Statistics

- **WOW MATHS:**

"WOW! MATHS (CONNECTING MATHS TO EVERYDAY LIFE)" for the first year students of B.Com. to fill the gaps in the Mathematical learning practices by:
- ✔ Concept Visualization
- ✔ Maths Lab Activity
- ✔ Project Work
- ✔ Connecting knowledge to life outside college

- ✔ Examining students' logical thinking abilities rather than just procedural knowledge
- ✔ Enriching students with a variety of mathematical resources
- ✔ FDP AND SDP : LATEX: I.C.S.S.R. Sponsored 5-Day Online International Workshop on LaTex For Social Science Research
- **SPSS:**

MS ACCESS: Data Analytics and Business Modelling Using MS Access

- **GUEST LECTURES**

FUTURE PLANS

- To create an international centre of excellence namely **Centre for Computational and Interdisciplinary Sciences (CCIS)** covering all aspects of Physical Sciences and Social Sciences. Apart from carrying out fundamental research, other aims of the Centre would be the following:

1. To provide free consultation on concerned subject areas to other scientists / scholars / teachers in other institutions, colleges and universities.
2. To create group of excellent researchers who will be willing to take up any kind of challenging problem in the country and successfully provide solution for it.
3. To produce standard research articles, monographs etc.
4. To prepare problem-oriented research project work, so that research results in concerned areas are brought down to the common man.
5. To provide research-orientation courses for college teachers.
6. To produce excellent PhD's.

- To organize workshops /conferences in different areas funded by different National/International funding agencies such as UGC–SAP, CAS, DST–FIST, DBT, ICSSR etc.
- To sign MoUs with institutions of national, international importance, other universities, industries, corporate houses etc.