

REPORT OF

GSBTM SPONSORED FIFTEEN DAYS UG-CBC

CRASH WORKSHOP

**For preparation of National Level Competitive Exams in Life Sciences for
admission to PG Courses**

08th – 22st January, 2024 (15 Days)

Jointly organized by



Government Science College, Vankal

Ta: Mangrol, Dist: Surat

and

Gujarat State Biotechnology Mission [GSBTM], Gandhinagar

Department of Science & Technology, Government of Gujarat

ABOUT COLLEGE

Located in the tribal region of South Gujarat, Government Science College Vankal is one of the premier public funded colleges in the state of Gujarat. The College was established by the Department of Education, Government of Gujarat in the year 2012 to provide and promote quality education to the youth coming from underprivileged tribal communities.

The college is affiliated to Veer Narmad South Gujarat University, Surat. Since its inception, the college has been playing a pivotal role in bringing about a marked change in the erstwhile underdeveloped tribal region by enrolling around a 1000 students every academic year. Besides regular academics

a number of training and skill development programs are regularly organized to enhance the competency of students.

The college has state of the art infrastructure and basic research facilities to promote all-round development of students. At present, the college boasts of its academic excellence with highly capable and dedicated faculties well versed and established in their respective disciplines and selected through GPSC.



OVERVIEW OF WORKSHOP

Higher education (post-graduation) from an institution of national repute is a dream for all undergraduate students. However, due to limited number of seats in postgraduate courses, most of the premium institutes of research and education in the field of biology have stringent selection norms designed to access and evaluate the subject expertise, eloquence dexterity and the grit of the students. Due to lack of enough subject knowledge and preparation for competitive exams, very few students from our state get admitted to premier institutes for post-graduation degrees. Realizing the need for imparting proper awareness regarding importance of competitive exams in life sciences and to prepare students for the same, GSBTM had started funding twelve day long intensive “CRASH WORKSHOP” at selected UG-CBC centers. The main aim of N-BT-CBC is to train students to be able to clear National Level Competitive examinations like IIT-JAM, GAT-B, CUCET, JGEEBILS etc. and start “Transcripting their Brighter Bio Future” career in biotechnology and allied areas.

N-BT-CBCs are operated by co-ordinators and deputy co-ordinators, who are faculties in these institutions and they help in coaxing the undergraduate students for preparing and appearing in the National Competitive Exams.

The Crash workshop provides 120 hours of competitive exam preparation training to final year B.Sc. students for cracking national level competitive exams in the field of biotechnology and allied sciences by means of expert lectures, rigorous practice tests, study material and interaction with subject experts. The workshop is free for the student participants and is wholly funded by GSBTM. The students are provided study material, accommodation (sharing basis) and refreshments during the workshop.

The present workshop was the second workshop been organized by Under Graduate Capacity Building Cell (UG-CBC) of Government Science College, Vankal after getting selected as UG-CBC member in December 2022.

OBJECTIVE OF THE WORKSHOP

- To spread awareness among students about different national level competitive exams (life sciences) in which undergraduate students can appear to secure seats in post-graduation programs in premier institutes
- Introduce the student with essential and critical elements of competitive entrance exams.
- Do develop subject knowledge and analytical abilities in students
- Provide exam oriented concepts in their subject area.
- Provide necessary subject knowledge and ecosystem and encourage students to participate in national level competitive exams.

COMMITTEES FOR THE CRASH WORKSHOP:

To smooth conduction of the crash workshop the college has frame worked a committee along with all administrative, teaching & non-teaching staff members.

Organizing Committee member:

Patron	Dr. Parthiv K. Chaudhari Principal, Government Science College, Vankal
Coordinator	Dr. Anil Kumar Singh Assistant Professor and Head, Department of Microbiology, Government Science College, Vankal
Deputy Coordinator	Dr. Hemal Vankar Head, Department of Physics, Government Science College, Vankal

Steering Committee member:

Dr. Rajesh Gohel	Dr. Hemal Vankar
Dr. Vishal Rao	Mr. Vanraj Kagda
Ms. Viraj Chaudhari	Dr. Mayur Morja
Mr. Kumar Gamit	Mr. Hardik Tadvi
Mr. Mayuresh Mishra	Dr. Kunjal Patel

STATISTICAL HIGHLIGHTS OF THE WORKSHOP:

- **Total number of registered participants: 75**
- **Total number of colleges to which participants belong: 02**
Government Science College, Vankal: 74
Parul University, Vadodara: 01
- **Gender wise distribution of participants:**
Male participants: 22; Female participants: 53
- **Total duration of the lectures during the workshop: 112**
- **Total number of lectures (on different topics) delivered: 62**
- **Total number of resource persons: 37**
- **Total number of external (invited) resource persons: 29**
- **Total number of internal resource persons: 08**
- **Total duration of lectures delivered by invited resource persons: 73**
- **Total duration of lectures delivered by internal resource persons: 39**

COURSE CONTENT OF THE WORKSHOP

Course content for the crash workshop was decided based on the syllabus of GAT-B exam and the following topics were covered in the 12 day workshop.

CONTENT OF WORKSHOP

Cell and Molecular Biology

- 1 Cell cycle and its regulation
- 2 Cancer biology
- 3 Apoptosis and cell death
- 4 Cellular Communication and Signaling
- 5 Inheritance biology
- 6 Central dogma (DNA replication, Transcription and Translation)
- 7 Cytoskeleton
- 8 Recombinant DNA technology

Microbiology

- 9 Bacterial genetics
- 10 Bacterial Taxonomy
- 11 Mutation and mutagenic agents
- 12 DNA damage and repair
- 13 Fermentation technology

Analytical and biophysical techniques

- 14 Electrophoresis: AGE and PAGE
- 15 Chromatography and protein purification
- 16 Spectroscopy and spectrometry
- 17 FTIR, NMR, X-ray diffraction etc.

Plant sciences and plant biotechnology

- 18 Photosynthesis
- 19 Photophosphorylation
- 20 Photorespiration

26. Endocrinology

27. Reproductive biology and sex determination

28. Embryology and developmental biology

29. Immunology basics and advanced techniques

Physical Sciences

30. Current and electricity

29. Nuclear physics

30. Semiconductors

31. Thermodynamics

Chemistry

32. Chemistry for competitive exams

33. Periodic properties

34. Named reaction in chemistry

35. Spectroscopy and Grignard reactions

Mathematics

36. Mathematics for competitive exams

21 Transport of nutrients in plants 22 Transpiration and guttation 23 Plant Biotechnology and transgenics 24 Plant hormones 25 Sensory Photobiology Animal sciences 26 Animal classification 27 Animal physiology (Circulatory, respiratory, excretory, nervous and endocrine system)	<p style="text-align: center;">Other lectures</p> 37. Non verbal communication 38. Role of communication in personality development
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WORKSHOP SCHEDULE

On all the days the workshop timing was from 8.15 a.m to 7.15 p.m (except for the first and last day). The technical sessions started at 9.00 am. The time table for all the days and the lecture schedules are provided in the table 1. On most of the days of the workshop the first lecture was either mock test or discussion on the mock test and was conducted by coordinator of the workshop Dr. Anil Kumar Singh.

INVITED RESOURCE PERSONS:

Experienced resource persons were invited from different department of the host college as well as from different institution of Gujarat. Table 2 provides the list of resource persons invited for the crash workshop.

Table 1: Time table of the workshop

Time/Date	08-01-2024	09-01-2024	10-01-2024	11-01-2024	12-01-2024	13-01-2024	16-01-2024	17-01-2024	18-02-2024	19-01-2023	20-01-2024	21-01-2024
8.00 am to 8.15 am	BREAKFAST AND PRAYER											
8.15 am to 10.00 am			Bioinformatics - I Dr. Nutan Prakash	Mock Test Discussion Dr. Anil Singh	Mock Test 2 Dr. Anil Singh	Mock Test Discussion Dr. Anil Singh	Mock Test 3 Dr. Anil Singh	Mock Test Discussion Dr. Anil Singh		Mock Test 4 Dr. Anil Singh	Mock Test Discussion Dr. Anil Singh	
	Registration and Breakfast Dr. Anil Singh	Inheritance Biology Dr. Bhavin Bhatt	Bioinformatics - I Dr. Nutan Prakash	PAGE and Its Modification Dr. Anil Singh	Organic Reaction Mechanisms Dr. Mayur Morja	Endocrine System Tabassum Kureshi	Antibiotics (Beta Lactams) Dr. Anil Singh	Mode of Action of Antibiotics Dr. Anil Singh	AMR and its detection Dr. Anil Singh	Circulatory system and Endocrine System Dr. Rajesh Senma	Introduction to Bacterial Genetics Dr. Anil Singh	HPLC and GC Dr. Sanket Ray
	Inauguration Dr. Anil Singh	Inheritance Biology Dr. Bhavin Bhatt	Amino acid and Protein Biochemistry Dr. Praveen Gupta	Plant Physiology Dr. Sanjay Siddhapara	Organic Reaction Mechanisms Dr. Mayur Morja	Endocrine System Tabassum Kureshi	Bacterial Taxonomy Dr. Sanjay Parekh	Basics of Immunology Dr. Ritesh Tandel	Plant Hormones Dr. Meghna Adhvaryu	Circulatory system and Endocrine System Dr. Rajesh Senma	Cancer Biology Dr. Aparna Singh	HPLC and GC Dr. Sanket Ray
11.00 am to 12.00 pm	Importance of competitive Exams Dr. Anil Singh	Microbial Fermentation Dr. Darshan Marjadi	Amino acid and Protein Biochemistry Dr. Praveen Gupta	Plant Physiology Dr. Sanjay Siddhapara	Carbohydrate Metabolism Dr. Sanket Charola	Recombinat DNA Technology Dr. Gopal Jee Gopal	Bacterial Taxonomy Dr. Sanjay Parekh	Basics of Immunology Dr. Ritesh Tandel	Plant Hormones Dr. Meghna Adhvaryu	Cell Division and Cell Cycle Regulation Dr. Ravi Ranjan	Cancer Biology Dr. Aparna Singh	Signal transduction Dr. Aparna Singh
	Importance of competitive Exams Dr. Anil Singh	Microbial Fermentation Dr. Darshan Marjadi	Amino acid and Protein Biochemistry Dr. Praveen Gupta	Plant Physiology Dr. Sanjay Siddhapara	Carbohydrate Metabolism Dr. Sanket Charola	Recombinat DNA Technology Dr. Gopal Jee Gopal	Rheology of Fermentation Dr. Naresh Bhutani	Basics of Immunology Dr. Ritesh Tandel	Reproductive Biology Dr. Krupal Patel	Cell Division and Cell Cycle Regulation Dr. Ravi Ranjan	Chromosomal Variations and Disorders Dr. Mansi Mehta	Signal transduction Dr. Aparna Singh
1.00pm to 2.00 pm	LUNCH BREAK											
2.00 pm to 3.00 pm	Mutation Dr. Jay Bergi	Photosynthesis and Photorespiration Dr. Deepesh Bhatt	Bioinformatics - II Dr. Nutan Prakash	Thermodynamics Dr. Hemal Vankar	Carbohydrate Metabolism Dr. Sanket Charola	Recombinat DNA Technology Dr. Gopal Jee Gopal	Rheology of Fermentation Dr. Naresh Bhutani	Microbail Diseases Dr. Viraj Chaudhari	Reproductive Biology Dr. Krupal Patel	Photoperiodism Dr. Ravi Ranjan	Chromosomal Variations and Disorders Dr. Mansi Mehta	Transformation, Conjugation and Transduction Dr. Anil Singh
	Mutation Dr. Jay Bergi	Photosynthesis and Photorespiration Dr. Deepesh Bhatt	Bioinformatics - II Dr. Nutan Prakash	Thermodynamics Dr. Hemal Vankar	Regulation of Gene expression Dr. Anil Singh	Recombinat DNA Technology Dr. Gopal Jee Gopal	Trp operon Dr. Anil Singh	Microbail Diseases Dr. Viraj Chaudhari	Exploring the Atomic Relam Aakash Hingu	Photoperiodism Dr. Ravi Ranjan	Named Reactions Dr. Mehul Savaliya	Transformation, Conjugation and Transduction Dr. Anil Singh
3.00 pm to 4.00 pm	Mutation Dr. Jay Bergi	Photosynthesis and Photorespiration Dr. Deepesh Bhatt	Bioinformatics - II Dr. Nutan Prakash	Thermodynamics Dr. Hemal Vankar	Regulation of Gene expression Dr. Anil Singh	Recombinat DNA Technology Dr. Gopal Jee Gopal	Trp operon Dr. Anil Singh	Microbail Diseases Dr. Viraj Chaudhari	Exploring the Atomic Relam Aakash Hingu	Photoperiodism Dr. Ravi Ranjan	Named Reactions Dr. Mehul Savaliya	Transformation, Conjugation and Transduction Dr. Anil Singh
4.00 pm to 4.15 pm	TEA BREAK											
4.15 pm to 5.15 pm	Bioplastics Dr. Rama Trivedi	Analytical Instrumentation Dr. Pratik Patel	Cytoskeleton Dr. Praveen Gupta	Chromatography Dr. Anil Singh	Regulation of Gene expression Dr. Anil Singh	Spectroscopy and NMR Mr. Hardik Tadvi	Ara operon Dr. Anil Singh	Periodic Properties Dr. Kumar Ganmit	Exploring the Atomic Relam Dr. Aakash Hingu	Animal Tissue Culture Dr. Digvijaysinh Rana	Named Reactions Dr. Mehul Savaliya	Signal transduction Dr. Aparna Singh
	Bioplastics Dr. Rama Trivedi	Analytical Instrumentation Dr. Pratik Patel	Cytoskeleton Dr. Praveen Gupta	Chromatography Dr. Anil Singh	competitive exams Dr. Vanraj Kagda	Spectroscopy and NMR Mr. Hardik Tadvi	Question and Answer Session Dr. Anil Singh	Periodic Properties Dr. Kumar Ganmit	Bacterial Physiology Dr. Nirbhay	Animal Tissue Culture Dr. Digvijaysinh Rana	Plant Biotechnology Dr. Anish Sharma	Signal transduction Dr. Aparna Singh
6.15 pm to 7.15 pm	Electrophoresis (AGE) Dr. Anil Singh	Electrophoresis (PAGE and Others) Dr. Anil Singh	Electrophoresis (PFGE and 2D Gels) Dr. Anil Singh	Prokaryotic Transcription Dr. Anil Singh	competitive exams Dr. Vanraj Kagda	Current and Electricity Dr. Arti Chaudhari	Mode of Action of Antibiotics Dr. Anil Singh	Bacterial Physiology Dr. Nirbhay	Non Verbal Communication Dr. Mayuresh Mishra	Plant Biotechnology Dr. Anish Sharma	Communication in Personality Dr. Mayuresh Mishra	
	DINNER											

Table 2: Details of all the resource persons, their affiliation, contact details and topics delivered during the crash workshop

Sr. No	Name of resource person	Designation	Institute	Topic taken	Date	Time	Total Hours of Lecture
1.	Dr. Jay Bergi	Assistant Professor	Department of Biotechnology, Sarvajanik University, Surat	Mutation	08/01/2024	02:00 – 04:00 pm	2
2.	Dr. Ratna Trivedi	Assistant Professor & Head	Department of Environmental Science, Sarvajanik University, Surat	Biopolymers & Plastics	08/01/2024	04:15 – 06:15 pm	2
3.	Dr. Bhavin Bhatt	Assistant Professor	Department Of Environmental Science, Sarvajanik University, Surat	Genetics & Inheritance biology	09/01/2024	09:00 – 11:00 pm	2
4.	Dr. Darshan Marjadi	Assistant Professor	Department of Biotechnology, Sarvajanik University, Surat	Microbial Fermentation	09/01/2024	11:00 – 01:00 pm	2
5.	Dr. Deepesh Bhatt	Assistant Professor	Department of Biotechnology, Sarvajanik University, Surat	Photosynthesis & Photorespiration	09/01/2024	02:00 - 04:00 am	2
6.	Dr. Pratik Patel	Assistant Professor	Department Of Environmental Science, Sarvajanik University, Surat	Analytical Instrumentation	09/01/2024	04:00 – 06:00 pm	2
7.	Dr. Nutan Prakash Vishwakarma	Associate Professor	Department of Biotechnology, Atmiya University, Rajkot	Bioinformatics - 1	10/01/2024	08:00 – 10:00 am	2
				Bioinformatics - 2	10/01/2024	02:00 – 04:00 pm	2
8.	Dr. Praveen Gupta	Assistant Professor	Department of Biotechnology, Atmiya University, Rajkot	Protein Biotechnology	10/01/2024	10:00- 01:00pm	2
				Cytoskeleton	10/01/2024	04:00 – 06:00pm	3
9.	Dr. Sanjay Siddhpara	Assistant Professor	Department of Botany, Govt Science college, Songadh	Plant physiology	11/01/2024	10:00 - 11:00 am	3

				Plant physiology	11/01/2024	11:00 - 01:00 pm	
10.	Dr. Hemal Vankar	Assistant Professor	Department of Physics, GSC Vankal	Thermodynamics	11-01-2024	02:00- 4:00pm	2
11.	Dr. Mayur Morja	Assistant Professor	Department of Chemistry, GSC Vankal	Organic Reaction Mechanism	12-01-2024	09:00- 11:00pm	2
12.	Dr. Sanket Charola	Assistant Professor	Department of Botany, MSU Baroda	Carbohydrate Metabolism	12/01/2024	11:00 – 01:00 pm	3
				Carbohydrate Metabolism	12/01/2024	02:00 – 03:00 pm	
13.	Dr. Vanraj Kagada	Assistant Professor	Department of Mathematics, GSC Vankal	Mathematics in IIT JAM	12-01-2024	05:00- 07:00pm	2
14.	Kureshi Tabassum	Visiting faculty	Department Zoology, GSC Vankal	Endocrinology	13-01-2024	09:00- 11:00pm	2
15.	Dr. Gopal Jee Gopal	Assistant Professor	CGBIBT, UKA TARSADIA University, Bardoli	Recombinant DNA technology	13/01/2024	11:00 – 01:00 pm	4
				Recombinant DNA technology	13/01/2024	02:00 – 04:00 pm	
16.	Mr. Hardik Tadvi	Assistant Professor	Department of Chemistry, GSC Vankal	Spectroscopy and NMR	13/01/2024	04:00- 06:00pm	2
17.	Dr. Sanjay Parekh	Assistant Professor & Head	Department of Microbiology, Sarvajanik University, Surat	Bacterial Taxonomy	16/01/2024	10:00 - 12:00 am	2
18.	Dr. Naresh Butani	Assistant Professor	Department of Microbiology, Sarvajanik University, Surat	Rheology of Fermentation Media	16/01/2024	12:00 - 01:00 pm 02:00 - 03:00pm	2
19.	Aarti Chaudhari	Visiting faculty	Department of Physics, GSC Vankal	Current Electricity	16/01/2024	06:00- 07:00pm	1

20.	Dr. Ritesh Tandel	Assistant Professor	Department of Microbiology, TCAS, Aadipur(Kutch)	Basics of immunology	17/01/2024	10:00 –01.00 pm	2
21.	Viraj Chaudhari	Assistant Professor	Department of Microbiology, GSC Vankal	Microbial Diseases	17-01-2024	2:00- 4:00pm	2
22.	Kumar Gamit	Assistant Professor	Department of Chemistry, GSC Vankal	Periodic table of Elements	17-01-2024	4:00- 6:00pm	2
23.	Dr. Meghna Adhvaryu	Assistant Professor	Department of Botany, Govt Arts, Commerce and Science College, Limbayat	Plant Hormones	18/01/2024	10:00 – 12:00 am	2
24.	Dr. Krupal Patel	Assistant Professor	Department of Zoology, Govt. Arts & Science College, Limbayat	Reproduction Biology	18/01/2024	12:00 – 01:00 pm 02:00 – 03:00 pm	2
25.	Mr. Akash M. Hingu	Assistant Professor	Govt. Arts, commerce & Science College, Umarpada	Nuclear Physics	18/01/2024	03:00 – 05:00 pm	2
26.	Dr. Nirbhay Bhadani	Assistant Professor	Department of Microbiology UPL University, Ankleshwar	Bacterial Physiology	18/01/2024	05:00 – 07:00 pm	2
27.	Dr. Rajesh Senma	Assistant Professor	Department of Zoology M.N College Visnagar	Circulatory System & Endocrine System	19/01/2024	09:00 – 11:00 am	2
28.	Dr. Ravi Ranjan Ravi	Tutor	Aakash Institute Ahmedabad	Cell Division & Cell Cycle	19/01/2024	11:00 – 01:00 pm	2
				Photoperiodism	19/01/2024	02:00 – 04:00 pm	2
29.	Dr. Digvijaysinh Rana	Associate Professor	Department of Zoology BMTU Rajpipla	Animal Tissue Culture	19/01/2024	04:00 – 06:00 pm	3
30.	Mr. Mayuresh Mishra	Assistant Professor	Department of English, GSC Vankal	Non-verbal Communication	19/01/2024	6:00- 7:00pm	1
				Role of communication in personality development	21/01/2024	6:00- 7:00pm	1
31.	Dr. Aparna Singh	Assistant Professor	Department of Microbiology TCAS, Aadipur(Kutch)	Cancer Biology	20/01/2024	10:00 – 12:00 pm	2
				Signal Transduction	21/01/2024	11:00 – 01:00 pm	2

				Signal Transduction (Other Pathways)	21/01/2024	04:00 – 06:00 pm	2
				Apoptosis	22/01/2024	10:00 – 01:00 pm	3
32.	Dr. Mansi Mehta	Assistant Professor	Department of Biotechnology VNSGU, Surat	Chromosomal Variation & Disorder	20/01/2024	12:00 – 01:00 pm 02:00 – 03:00 pm	2
33.	Dr. Mehul L Savaliya	Assistant Professor	Department of Chemistry SRICT- Institute of Science & Research	Named Reactions in Chemistry	20/01/2024	03:00 – 05:00 pm	2
34.	Dr. Anish Sharma	Associate Professor & Principal	School of Sciences, P.P.Savani University	Plant Transduction	20/01/2024	05:00 – 07:00 pm	2
35.	Dr. Sanket Ray	Assistant Professor	Department of Microbiology Naranlala College, Navsari	HPLC & GC	21/01/2024	09:00 – 11:00 am	2
36.	Dr. Raktim Mukherjee	Associate Professor & Head	Department of Shree P.M.Patel Institute of PG Studies & Research in Science.	Basics of Immunology	22/01/2024	09:00 – 11:00 am	2
37.	Dr. Anil Kumar Singh	Assistant Professor	Department of Microbiology, GSC Vankal	Importance of Competitive exam	08-01-24	11:00-01:00pm	2
				Agarose gel Electrophoresis	08-01-24	6:30 -7:30 pm	1
				PAGE	09-01-2024	06:00- 07:00pm	1
				PFG & 2D Gel	10-01-2024	6:15- 7:15pm	1
				PAGE And its modification	11-01-2024	8:00- 10:00am	2
				Chromatography (Protein purification)	11-01-2024	4:00- 6:00pm	2

				Prokaryotic Transcription	11-01-2024	6:00- 7:00pm	1
				Regulation of gene expression in Prokaryote	12-01-2024	3:00- 5:00pm	2
				Antibiotics	16-01-2024	9:00- 10:00pm	1
				Tryptophan operon	16-01-2024	3:00- 4:00pm	1
				Arabinose operon	16-01-2024	4:00- 6:00pm	2
				Mode of Action of antibiotics	17-01-2024	9:00- 10:00am	1
				Mode of Action of antibiotics	17-01-2024	6:00- 7:00pm	1
				AMR & its detection	18-01-2024	9:00- 10:00am	1
				Introduction to Bacterial genetics	20-01-2024	9:00- 10:00am	1
				Transformation & Conjugation & Transduction	21-01-2024	2:00- 4:00pm	2

GSBTM SPONSORED 15 DAY UG-CBC CRASH WORKSHOP

08th – 22nd January, 2024

Day 1: Date 08/01/2024

The workshop commenced with registration and kit distribution to the registered candidates. Registration was followed by breakfast and tea. The inaugural session started at 10.00 a.m with lightening of lamp and praying to the almighty. The Vice Chancellor of Birsa Munda Tribal University, Rajpipla, Dr. Madhukarbhay Padvi, served as the chief guest of the inaugural function. Dr. Padvi was accompanied by Dr. Parthiv Chaudhari, Principal, Government Science College, Vankal, Dr. Anil Kumar Singh and Dr. Hemal Vankar, Coordinator and Deputy Coordinator of the crash workshop on the dice. Dr. Parthiv Chaudhari formally welcomed all the student participants and Dr. Anil Kumar Singh, Coordinator of the workshop briefed the participants about sponsoring agency GSBTM, the purpose and modus operandi of the crash workshop. Each day was divided into four sessions. Session 1: 8.15 am to 10 a.m; Session 2: Session 2: 10.10 am to 1.10 pm; Session 3: 2.00 pm to 4.00 pm and Session 4: 4.10 pm to 7.10 pm. In between sessions there were two tea breaks (10.00 am to 10.10 am and 4.00 pm to 4.10 pm) and a lunch break (1.10 pm - 2.00 pm).





Registration and Inauguration Session (10.00 – 11.00 am)

Dr. Padvi then formally inaugurated the second crash workshop organized by the Government Science College, Vankal. Addressing the participants he appreciated the efforts of Gujarat State Biotechnology Mission for UG-CBC initiative and thanked them for approving UG-CBC center in the tribal and remote place like Vankal. During his speech he told participants to grab this excellent opportunity being provided to them to study and prepare for national level competitive exams. He said the only way to take tribal community and our country forward is by quality education. He emphasized on importance competitive exams for securing admissions in institutes of national repute. Dr. Hemal Vankar, coordinated the inauguration session that ended with vote of thanks by Dr. Anil Kumar Singh.

The inauguration session was followed by the first lecture on “Importance of competitive exams” by Dr. Anil Kumar Singh. The purpose of his lecture was to orient and inform students about the different competitive exams in which they can appear for postgraduate courses. During his lecture he emphasized on the need and importance of competitive exams and why one should try hard to crack such exams. With his lecture he laid a foundation for future lectures of the workshop. The formal lecture sessions started after this introductory lecture highlighting the importance of competitive exams and why and how students should approach it.

Technical Session

Day 1

Name of speaker:

Dr. Anil Kumar Singh

Assistant Professor, Department of Microbiology, Government Science College, Vankal

Title of Talk:

Importance of competitive exams (11.00 am – 1.00 pm)



Name of speaker:

Dr. Jay Bergy

Assistant Professor, Department of Biotechnology, Sarvajanik University, Surat

Title of Talk:

Mutations (02.00 pm – 4.00 pm)



Name of speaker:

Dr. Ratna Trivedi

Assistant Professor, Department of Biotechnology, Sarvajanik University, Surat

Title of Talk:

Biopolymers (04.10 pm – 6.10 pm)



Name of speaker:

Dr. Anil Kumar Singh

Assistant Professor, Department of Microbiology, Government Science College, Vankal

Title of Talk: Agarose Gel Electrophoresis (6.10 am – 7.10 pm)



Day 2: Date: 09/01/2024

The second day of the workshop started with breakfast and prayer. The day had total 09 lectures on diverse topics ranging from inheritance biology to fermentation technology to basic analytical techniques.

Session 1

Speaker: Dr. Bhavin Bhatt

Topic: Inheritance Biology (9.00 am – 11.00 am)



Session 2

Speaker: Dr. Darshan Marjadi

Topic: Microbial Fermentation (11.10 am to 01.10 pm)



Session 3

Speaker: Dr. Deepesh Bhatt

Topic: Photosynthesis and Photorespiration (2.00 to 4.00 pm)



Session 4

Speaker: Pratik Patel
Topic: Analytical Instrumentation (4.10 to 6.10 pm)

Speaker: Dr. Anil Kumar Singh
Topic: Electrophoresis (PAGE) (6.10 to 7.10 pm)



Day 3: Date: 10/01/2024

The technical session on third day of the workshop started at 8.15 am. There was ten hours of teaching during the day. The topics covered during the day were a mixed blend from different disciplines including bioinformatics, biochemistry, animal physiology, cell biology and analytical techniques. The lecture was very informative and important from competitive point of view.

Session 1

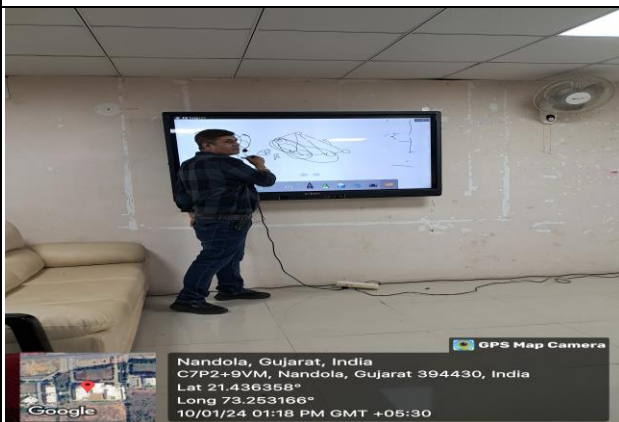
Speaker: Dr. Nutan Prakash
Topic: Bioinformatics - I (8.15 am – 10.00 am)



Session 2

Speaker: Dr. Praveen Gupta

Topic: Amino acids and Protein Biochemistry (10.10 am to 01.15 pm)



Session 3

Speaker: Dr. Nutan Prakash

Topic: Bioinformatics - II (2.00 pm – 4.00 pm)



Session 4

Speaker: Dr. Praveen Gupta

Topic: Cytoskeleton (4.10 - 6.10 pm)




Speaker: Dr. Anil Kumar Singh

Topic: PFGE and 2D Gels



Day 4: Date: 11/01/2024

Following breakfast and prayers, the fourth day started with a mock test. The test included questions from topics covered till third day. After the mock test the technical session started with a lecture on “PAGE and its modifications” by Dr. Anil Kumar Singh, Assistant Professor, Government Science College, Vankal. Because of some cancellation of lectures from invited faculties Dr. Singh also covered topics on Prokaryotic transcription and Chromatography later during the day

Session 1 & 2	
Mock Test (8.15 am to 9.00 am)	
Speaker: Dr. Anil Kumar Singh Topic: PAGE and Its Modifications (09.00 am to 10.00pm)	 A photograph of Dr. Anil Kumar Singh, a man with a beard wearing a pink shirt, standing in a classroom. He is gesturing with his hands while speaking. Behind him is a large banner for a 'CRASH WORKSHOP' sponsored by Gujarat State Biotechnology Mission (GSBTM). The banner includes the dates 08 th - 22 nd January 2024 and mentions preparation for national level competitive exams in biological sciences.
Speaker: Dr. Sanjay Siddhapura Topic: Plant Physiology (10.10 am to 1.10 pm)	 A photograph of Dr. Sanjay Siddhapura, a man in a white shirt, presenting in a classroom. A projector screen to his left displays the title 'Plant Physiology'. A banner for the 'CRASH WORKSHOP' is visible in the background, similar to the one in the previous image.
Session 3 & 4	
Speaker: Dr. Hemal Vankar Topic: Thermodynamics (02.00 am to 04.00 pm)	 A wide-angle photograph of a large audience of students seated in a lecture hall, facing a stage where a speaker is presenting. The room has multiple ceiling fans and a whiteboard is visible on the stage.

Speaker: Dr. Anil Kumar Singh
Topic: Chromatography and Prokaryotic Transcription
(04.10 am to 07.10 pm)



Day 5: Date: 12/01/2024




The fifth day started with a revision lecture and mock test-II by Dr. Anil Singh, in which he discussed a few topics covered till yesterday and the questions which are asked from those topics. He discussed logic and concepts behind several analytical questions asked in past exams and encouraged students to understand concepts behind topics being covered and then apply the knowledge to solve analytical questions.

The second lecture in the morning session was by Dr. Mayur Morja from Chemistry department of GSC, Vankal. He discussed about the different organic reactions and their mechanism. At the end of the session, he also discussed previous year questions related to topics and made student aware about the question pattern from the topic.

Dr. Morja's lecture was followed by lecture by Dr. Sanket Charola from M.S University of Baroda. He talked on Carbohydrate Metabolism.

In the next session, Dr. Anil Kumar Singh, discussed Regulation of gene expression in prokaryotes. And the last session was on Mathematics for competitive exams by Dr. Vanraj Kagda

Session 1	
Mock Test (8.15 am to 9.00 am)	
<p>Speaker: Dr. Mayur Morja</p> <p>Topic: Organic reaction mechanisms</p> <p>Time: 9.00 – 11.00 am</p>	

Session 2 and 3	
<p>Speaker: Dr. Sanket Charola Topic: Carbohydrate metabolism (11.10 am - 01.10 am and 2.00 to 3.00 pm)</p>	<p>Speaker: Dr. Anil Kumar Singh Topic: Regulation of gene expression (03.00 pm - 05.00 pm)</p>
	
Session 4	
<p>Speaker: Dr. Vanraj Kagda Topic: Mathematics for Competitive Exams (5.10 - 7.10 pm)</p>	
	

Day 6: Date: 13/01/2024

The morning session was started with the breakfast and prayer. The first session was mock test discussion session coordinated by Dr. Anil Kumar Singh. In this session many important topics covered in the workshop till date were discussed. Doubts and clarification with regard to topics covered so far were done. Many questions asked in past year competitive exams were also discussed. After this discussion session the first lectures session was taken by Dr. Tabassum Kureshi on Endocrinology. Her lecture was followed by other lectures scheduled in the day. In total 08 hours of subject teaching.

Session 1

Speaker: Dr. Anil Kumar Singh
Topic: Mock Test Discussion Session (8.15 – 9.00 am)



Speaker: Dr. Tabassum Kureshi
Topic: Endocrine system (9.00 am - 11.00 am)



Session 2 and 3

Speaker: Dr. Gopal Jee Gopal
Topic: Cell signaling (11.10 am - 01.10 am and 2.00 – 4.00 pm)



Session 4

Speaker: Dr. Hardik Tadvi
Topic: NMR spectroscopy and Ginnard reactions (4.00 - 6.00 pm)



After duly informing the sponsoring agency GSBTM, 14 and 15 January 2024 was kept as holidays on occasion of Uttrayan

Day 7: Date: 16/01/2024



After the break of two days, the workshop restarted with new enthusiasm and zeal. The seventh day started with a mock test to refresh and review the topics covered till date. The session was handled by Dr. Anil Singh. Dr. Singh's session was followed by his talk on "Antibiotic: The Beta Lactams". His lecture was followed by 09 hrs of teaching on various topics. In total students were engaged for 10 hrs on day seven.

Session 1	
<p>Speaker: Dr. Anil Kumar Singh Topic: Mock test and Antibiotics: The Beta Lactams (8.00 – 10.00 am)</p>	
	
Session 2 & 3	
<p>Speaker: Dr. Sanjay Parekh Topic: Bacterial Taxonomy (10.10 am - 12.15 am)</p>	<p>Speaker: Dr. Naresh Bhutani Topic: Rheology of Fermentation (12.15 - 1.10 pm) and 2.00 to 3.00 pm)</p>
	
Session 3 & 4	
<p>Speaker: Dr. Anil Kumar Singh Topic: Trp and Ara Operons and discussion on previous year questions (3.00 - 6.10 pm)</p>	<p>Speaker: Dr. Arti Chaudhari Topic: Current and Electricity (6.10 - 7.10 pm)</p>



Day 8: Date: 17/01/2024

Eighth day of the workshop started at sharp 8.15 am with mock test discussion session by Dr. Anil Singh, discussing important lessons learnt yesterday and clearing any doubts related to topics covered till date. The discussion was followed by Dr. Singh’s talk on “antibiotic and their mode of action”. His lecture was completed in two phases one in morning and the other in the evening. Other lectures of the day included talks on Basics of Immunology by Dr. Ritesh Tandel, Microbial diseases by Dr. Viraj Chaudhari and Periodic Properties by Dr. Kumar Gamit.

Session 1 and 2	
<p>Speaker: Dr. Anil Kumar Singh Topic: Discussion on mock test and Antibiotics and their mode of action (8.15 – 10.00 am and 6.10 – 7.10 pm)</p>	<p>Speaker: Dr. Ritesh Tandel Topic: Basics of Immunology (10.10 am - 01.10 pm)</p>
	
Session 3 and 4	
<p>Speaker: Dr. Viraj Chaudhari Topic: Microbial Diseases (02.00 pm - 04.00 pm)</p>	<p>Speaker: Dr. Kumar Gamit Topic: Periodic Properties (04.00 pm - 06.00 pm)</p>



Day 9: Date: 18/01/2024

The ninth day of the workshop covered lectures from diverse fields including microbiology, plant physiology, animal physiology, and physics. The details of the speakers and topics covered during the day are presented in pictorial form.

Day 9 Session 1 and 2	
<p>Speaker: Dr. Anil Singh Topic: AMR and its detection (9.00 – 10.00 am)</p>	<p>Speaker: Dr. Meghna Adhvaryu Topic: Plant Hormones (10.00 am - 12.00 am)</p>
<p>Speaker: Dr. Krupal Patel Topic: Reproductive Biology (12.00 pm - 01.15 pm and 2.00 – 3.00 pm)</p>	



Session 3 and 4

Speaker: Dr. Aakash Hingu
Topic: Exploring the atomic relam (3.00 pm - 04.00 pm and 4.10 – 5.10 pm)

Speaker: Dr. Nirbhay Bhadani
Topic: Bacterial Physiology (05.10 pm - 07.10)



Day 10: Date: 19/01/2024

The tenth day of the workshop started with mock test IV. It had lectures encompassing animal physiology, cell biology, biotechnology and plant physiology. The day also included a lecture on “Non verbal communication” by Dr. Mayuresh Mishra, Head of English Department of host college.

Session 1

Speaker: Dr. Anil Kumar Singh
Topic: Mock test (8.15 – 9.00 am)

Speaker: Dr. Rajesh Senma
Topic: Circulatory and Endocrine system and animal classification (9.00 am - 11.00 am)



Session 2 and 3

Speaker: Dr. Ravi Ranjan Ravi
Topic: Cell Division and Cell Cycle Regulation (11.10 am - 01.10 pm)
 Photoperiodism in plants (2.00 – 4.00 pm)



Session 4

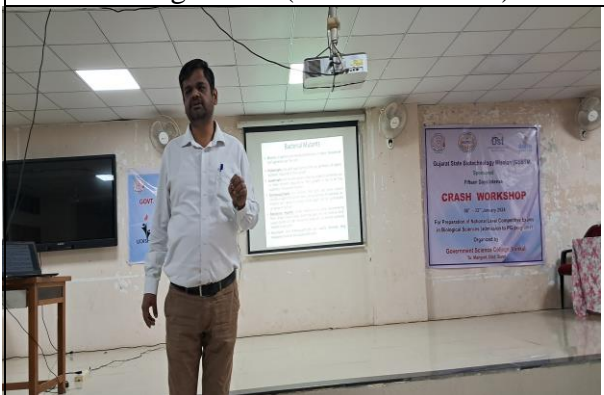



Speaker: Dr. Digvijay Sinh Rana
Topic: Animal Tissue Culture (4.10 – 6.10 pm)

Speaker: Dr. Mayuresh Mishra
Topic: Non verbal communication (6.10 - 7.10 pm)



Day 11: Date: 20/01/2024

As per routine, the technical session of eleventh day of the workshop started at 8.15 am with discussion on mock test taken on previous day. Total four speakers from other institutes delivered lectures on varied topics during the day. The topics covered during the day included cancer biology, chromosomal variation and its abnormalities, named reactions in chemistry and plant biotechnology. The details are provided below

Session 1 and 2	
Speaker: Dr. Anil Kumar Singh Topic: Mock test discussion and Introduction to bacterial genetics (8.15 – 10.00 am)	Speaker: Dr. Aparna Singh Topic: Cancer Biology (10.10 am - 12.10 pm)
	
Session 3	
Speaker: Dr. Mansi Mehta Topic: Chromosomal variations and disorders (12.10 pm - 1.10 pm and 2.00 to 3.00 pm)	Speaker: Dr. Mehul Savaliya Topic: Named Reactions in Chemistry (3.10 - 5.10 pm)
	
Session 4	
Speaker: Dr. Anish Sharma Topic: Plant Biotechnology (5.10 – 7.10 pm)	



Day 12: Date: 21/01/2024

Twelfth and the last day of the workshop had total nine lectures on topics ranging from bacterial genetics to signal transduction. The day started with lecture by Dr. Sanket Ray on HPLC and GC techniques. He was followed by Dr. Aparna Singh who delivered a talk on Signal Transduction, covering all the different pathways and types of signal transduction. Later in the day Dr. Anil Singh discussed about bacterial genetic covering different mechanisms of genetic exchange in bacteria. The last lecture of the day was on “Role of English in Personality Development” delivered by Dr. Mayuresh Mishra.

Day 12	
Session 1	
<p>Speaker: Sanket Ray</p> <p>Topic: HPLC and GC (9.00 – 11.00 am)</p>	
Session 2	

Speaker: Dr. Aparna Singh

Topic: Signal Transduction (11.10 – 01.10 pm)



Session 3

Speaker: Dr. Anil Kumar Singh

Topic: Conjugation, Transformation and Trasduction (2.00 – 4.00 pm)



Session 4

Speaker: Dr. Aparna Singh

Topic: Signal Transduction (4.10 am - 06.10 pm)

Speaker: Dr. Mayuresh Mishra

Topic: Role of English in Personality Development (6.10 am - 07.10 pm)



Day 13: 22/01/2024

The final day of the workshop started with a mock test, the fifth mock test of the workshop. There were four lectures planned for the day and the valedictory function in the session 3.

The technical session of the day began with a lecture on Immunodiagnostic Techniques by Dr. Raktim Mukherjee. Dr. Raktim's talk was followed by a talk on Apoptosis by Dr. Aparna Singh. Dr. Aparna's was the last talk of the workshop. Her talk was followed by lunch break.

The final session of the thirteenth day was the valedictory session. The session was anchored by Dr. Anil Kumar Singh, Coordinator of UG-CBC, GSC Vankal. Dr. Aparna Singh, Assistant Professor (Microbiology), TCAS, Adipur, Dr. Mayuresh Mishra and Dr. Vanraj Kagda were present as dignitaries for the valedictory function. Dr. Hemal Vankar (deputy coordinator, UG-CBC-GSC Vankal), HoD of all departments of GSC Vankal and faculties of GSC Vankal graced the valedictory function by their presence.



Dr. Anil Singh, briefed the dignitaries about the main highlights of the workshop and appreciated and thanked all the resource persons for their service and valuable inputs in the workshop. He also thanked all the student participants for their time, patient listening, support and cooperation during the workshop and congratulated them for successfully completing it.

Student participants from different institutes shared their feedback and suggestions about the workshop. Everyone praised and thanked the sponsoring agency, Gujarat State Biotechnology Mission (GSBTM), for sponsoring the event and providing all necessary support and guidance.

Feedback session by student participants



The valedictory function ended with vote of thanks proposed by Dr. Hemal Vankar. The function was followed distribution of study material and certificates to student participants. Finally everyone assembled for the last one time for a group photograph, to capture the memories of the event and cherish it for long itme. With the vote of thanks to GSBTM and all the contributors, coordinator announced the closure of program with national anthem.

Distribution of study material and certificates to student participants





GROUP PHOTOGRAPH WITH ALL STUDENTS PARTICIPANTS AND DIGNETRIES PRESENT AT THE VALDICTROY FUNCTION OF THE SECOND GSBTM SPONSORED UG-CBC-CRASH WORKSHOP AT GSC VANKAL

THANKS TO GSBTM