

**Name:** Dr. SHASHI BAJAJ MUKHERJEE

**Department:** Basic Science and Humanities ( Mathematics)

**Contact Nos.:** 9433315145

**Qualifications:** Ph.D

**Designation:** Assistant Professor

**VIDWAN ID:** 180573

**Experience (Teaching / Research / Industry, in years):** 16 yrs

**Date of Joining at the Present Institution:** 26/02/2010

**Examinations Cleared:** NET-CSIR/GATE



**Qualifications Summary (Reverse chronological order):**

YEAR	UNIVERSITY /INSTITUTION	COURSE PROFILE	MARKS ACQUIRED
2014	JADAVPUR UNIVERSITY	Ph.D.	AWARDED
2007	CALCUTTA UNIVERSITY(HESTINGS HOUSE)	B.Ed.	64%(I st Class)
2005	JADAVPUR UNIVERSITY	Master of Science in Math	71.65%(I st Class)
2002	BARDWAN UNIVERSITY	Bachelor of Science in Math Hons.	67.5%(I st Class) <b>Univ. Rank-16</b>
1999	W.B.C.H.S.E	Higher Secondary	74%(I st Div.)
1997	W.B.B.S.E	Madhyamik Pariksha	76%(I st Div.)

**Experience Summary (In chronological order):**

Designation, Organization, Date From – Date To

Designation	Organization	Date From - Date To (DD/MM/YYYY)
Guest Lecturer	Sri Ramkrishna Institute of Engineering, Kolkata.	December'04 – June'08
Guest Lecturer	J.D.Birla College, Kolkata.	February'06 – June'06
Guest Lecturer	Seth Anandram Jaipuria College, kolkata	August'05 – September'08
Guest Lecturer	George College of Management and Science, Kolkata.	August'08 – January'09
Project Fellow	Jadavpur University, Kolkata	Six semesters, 2006 - 2009
Lecturer	George College the Department of Management Studies, Kolkata.	August'09 - February'10
Assistant Professor (Grade-I)	Dr. B. C. Roy Engineering College, Durgapur	26/02/2010 to 30/06/2017
Guest Lecturer	<b>Bankura University</b>	September'2014 –July 2016
Guest Lecturer	NIT, Durgapur	August'18 - December'18
Assistant Professor (Grade-II)	Dr. B. C. Roy Engineering College, Durgapur	01/07/2017 to Till Date

#### **Specialization/Research Interest:**

M.Sc: COMPUTER SCIENCE

Ph.D.: Bio-Statistics

Numerical Simulation, Soft Computing

#### **Awards & Recognitions**

**Best paper/ scholarship/Position in university exam / awards while at industry/ other organizations etc.**

**Position in university exam(B.Sc.): Rank- 16**

**Scholarship: State Govt. Scholarship for the above rank in Burdwan University.**

**Best paper : Young Scientist award**, Paper titled: 'Comparative study of some statistical techniques for gene identification applied to three species' at the International conference on Bioinformatics organized by SVNIT, Surat.

#### **Courses taught:**

**B.Tech: Specify the name of the subject/s (Theory first and then practical)**

##### **1. B.Tech (Theory):**

- a. Linear Algebra
- b. Abstract Algebra
- c. Differential Equations
- d. Graph Theory
- e. Integral Calculus
- f. Differential Calculus
- g. Operations Research
- h. Numerical Methods

- i. Probability and Statistics
- j. Vector Calculus and Vector Analysis

## 2. B.Tech (Laboratory):

- a. C Programming Language for Numerical Methods
- b. C Programming Language for Operations Research

**M.Tech: specify the name of the Subject/s**

## 1. M.Tech.(Theory):

- a. CSE- Engineering Mathematics

**ME- Engineering Mathematics**

**Online Mode of Teaching:**

**The Faculty member needs to specify the online teaching/ assessment method adopted. (Link to any faculty created resources for Lecture notes / PPT/ Video Lecture etc. in Google Drive / Weblink etc)**

- Supplied teaching materials online.
- Assessed students by setting questions in Google Forms.
- Assessed students by providing assignments online.
- Weblink

[https://www.youtube.com/channel/UC8lqQOs36sMT8RvV007sr9Q/videos?disable\\_polymer=1](https://www.youtube.com/channel/UC8lqQOs36sMT8RvV007sr9Q/videos?disable_polymer=1)

Easy Mathematics BY Dr. Shashi Bajaj

<https://www.youtube.com/channel/UC8lqQOs36sMT8RvV007sr9Q/videos> Sequence and Series Number

System [https://www.youtube.com/watch?v=sG7pMmF4gPM&list=PL5D04IFwcUlvMLQo2UZ0\\_Q\\_apuBdq2YLS&index=1&t=16s](https://www.youtube.com/watch?v=sG7pMmF4gPM&list=PL5D04IFwcUlvMLQo2UZ0_Q_apuBdq2YLS&index=1&t=16s) Taylor's & Maclaurin's Theorems

<https://www.youtube.com/watch?v=Q3WIHwDDj1Y> Cauchy's Mean Value Theorem

[https://www.youtube.com/watch?v=JkmP\\_gDUt4I](https://www.youtube.com/watch?v=JkmP_gDUt4I) Lagrange's Mean Value Theorem

<https://www.youtube.com/watch?v=TqCoRiSWt8o> Rolle's Theorem

<https://www.youtube.com/watch?v=4LWpbfGbNLg> Power Series,

<https://www.youtube.com/watch?v=ZNluwKCmUp8>

[https://www.youtube.com/watch?v=2ubBQbe2lLw&list=PL5D04IFwcUlvMLQo2UZ0\\_Q\\_apuBdq2YLS&index=2](https://www.youtube.com/watch?v=2ubBQbe2lLw&list=PL5D04IFwcUlvMLQo2UZ0_Q_apuBdq2YLS&index=2) Arithmetic Progression

[https://www.youtube.com/watch?v=7nt4GF5QxNw&list=PL5D04IFwcUlvMLQo2UZ0\\_Q\\_apuBdq2YLS&index=3](https://www.youtube.com/watch?v=7nt4GF5QxNw&list=PL5D04IFwcUlvMLQo2UZ0_Q_apuBdq2YLS&index=3) Geometric Progression

[https://www.youtube.com/watch?v=lcVUTjTuJD0&list=PL5D04IFwcUlvMLQo2UZ0\\_Q\\_apuBdq2YLS&index=4](https://www.youtube.com/watch?v=lcVUTjTuJD0&list=PL5D04IFwcUlvMLQo2UZ0_Q_apuBdq2YLS&index=4) Harmonic Progression

[https://www.youtube.com/watch?v=9sLgaRo1DAA&list=PL5D04IFwcUlvMLQo2UZ0\\_Q\\_apuBdq2YLS&index=5](https://www.youtube.com/watch?v=9sLgaRo1DAA&list=PL5D04IFwcUlvMLQo2UZ0_Q_apuBdq2YLS&index=5) Arithmetic Mean

[https://www.youtube.com/watch?v=iljrKk7NJDM&list=PL5D04IFwcUlvMLQo2UZ0\\_Q\\_apuBdq2YLS&index=6](https://www.youtube.com/watch?v=iljrKk7NJDM&list=PL5D04IFwcUlvMLQo2UZ0_Q_apuBdq2YLS&index=6) Harmonic Mean

[https://www.youtube.com/watch?v=UKr\\_ev\\_5HeQ&list=PL5D04IFwcUlvMLQo2UZ0\\_Q\\_apuBdq2YLS&index=8](https://www.youtube.com/watch?v=UKr_ev_5HeQ&list=PL5D04IFwcUlvMLQo2UZ0_Q_apuBdq2YLS&index=8) Geometrical approach of A.P., G.P. & H.P.

[https://www.youtube.com/watch?v=wMwrwwiH1P0&list=PL5D04IFwcUlvMLQo2UZ0\\_Q\\_apuBdq2YLS&index=10](https://www.youtube.com/watch?v=wMwrwwiH1P0&list=PL5D04IFwcUlvMLQo2UZ0_Q_apuBdq2YLS&index=10) Sum of terms for some Standard Series

[https://www.youtube.com/watch?v=fg56tUEKNXY&list=PL5D04IFwcUlvMLQo2UZ0\\_Q\\_apuBdq2YLS&index=12](https://www.youtube.com/watch?v=fg56tUEKNXY&list=PL5D04IFwcUlvMLQo2UZ0_Q_apuBdq2YLS&index=12) Arithmetic Geometric Sequence

[https://www.youtube.com/watch?v=iljrKk7NJDM&list=PL5D04IFwcUlvMLQo2UZ0\\_Q\\_apuBdq2YLS&index=6](https://www.youtube.com/watch?v=iljrKk7NJDM&list=PL5D04IFwcUlvMLQo2UZ0_Q_apuBdq2YLS&index=6) Harmonic Mean

[https://www.youtube.com/watch?v=UKr\\_ev\\_5HeQ&list=PL5D04IFwcUlvMLQo2UZ0\\_Q\\_apuBdq2YLS&index=8](https://www.youtube.com/watch?v=UKr_ev_5HeQ&list=PL5D04IFwcUlvMLQo2UZ0_Q_apuBdq2YLS&index=8) Geometrical approach of A.P., G.P. & H.P.

[https://www.youtube.com/watch?v=wMwrwwiH1P0&list=PL5D04IFwcUlvMLQo2UZ0\\_Q\\_apuBdq2YLS&index=10](https://www.youtube.com/watch?v=wMwrwwiH1P0&list=PL5D04IFwcUlvMLQo2UZ0_Q_apuBdq2YLS&index=10) Sum of terms for some Standard Series

[https://www.youtube.com/watch?v=fg56tUEKNXY&list=PL5D04IFwcUlvMLQo2UZ0\\_Q\\_apuBdq2YLS&index=12](https://www.youtube.com/watch?v=fg56tUEKNXY&list=PL5D04IFwcUlvMLQo2UZ0_Q_apuBdq2YLS&index=12) Arithmetic Geometric Sequence

[https://www.youtube.com/watch?v=08E9Ht8XLe0&list=PL5D04IFwcUlvMLQo2UZ0\\_Q\\_apuBdq2YLS&index=13](https://www.youtube.com/watch?v=08E9Ht8XLe0&list=PL5D04IFwcUlvMLQo2UZ0_Q_apuBdq2YLS&index=13) Limit, Convergence and Boundedness of a Sequence  
[https://www.youtube.com/watch?v=Ngs8VlrCOVo&list=PL5D04IFwcUlvMLQo2UZ0\\_Q\\_apuBdq2YLS&index=14](https://www.youtube.com/watch?v=Ngs8VlrCOVo&list=PL5D04IFwcUlvMLQo2UZ0_Q_apuBdq2YLS&index=14) D'Alembert's Ratio Test of Convergence for Positive Term Series  
[https://www.youtube.com/watch?v=j8OyYUEd43g&list=PL5D04IFwcUlvMLQo2UZ0\\_Q\\_apuBdq2YLS&index=22](https://www.youtube.com/watch?v=j8OyYUEd43g&list=PL5D04IFwcUlvMLQo2UZ0_Q_apuBdq2YLS&index=22) Cauchy's Root Test of Convergence for Positive Term Series  
[https://www.youtube.com/watch?v=OWxpsfijp9c&list=PL5D04IFwcUlvMLQo2UZ0\\_Q\\_apuBdq2YLS&index=24](https://www.youtube.com/watch?v=OWxpsfijp9c&list=PL5D04IFwcUlvMLQo2UZ0_Q_apuBdq2YLS&index=24)

## Publications:

### Journal:

1. Name of the authors as appeared in the paper (**Make bold font for own name**), "Title of the paper", "Name of the Journal", Year of Publication, Volume No, Issue No, Page No, ISBN/ISSN number

DOI: [10.1109/TAP.2009.2016727](https://doi.org/10.1109/TAP.2009.2016727)

Link : [http://mjl.clarivate.com/cgi-bin/jrnlst/jlresults.cgi?PC=MASTER&ISSN=\\*0018-926X](http://mjl.clarivate.com/cgi-bin/jrnlst/jlresults.cgi?PC=MASTER&ISSN=*0018-926X)

Link of the recognition in UGC enlistment of the Journal: (**UGC CARE LIST**)

1. Shashi Bajaj Mukherjee, Debabrata Datta, Soumyendu Raha, Debnath Pal(2017) **Numerical simulation of a glucose sensitive composite membrane closed-loop insulin delivery system**, Bioprocess Biosyst Eng DOI 10.1007/s00449-017-1803-1  
<http://eprints.iisc.ac.in/id/eprint/57785>
2. Shashi Bajaj Mukherjee, Pradip Kumar Sen(2010) '**Gene identification algorithms using exploratory statistical analysis of periodicity**' American Institute of physics, 1298.c2010. DOI: [10.1063/1.3516317](https://ui.adsabs.harvard.edu/abs/2010AIPC.1298..288M/abstract)  
<https://ui.adsabs.harvard.edu/abs/2010AIPC.1298..288M/abstract>
3. Shashi Bajaj Mukherjee, Pradip Kumar Sen(2010) '**Comparative study of some statistical techniques for gene identification applied to three species**' Bull.Cal.Math.Soc,102,(6)525-532(2010).

### Conference:

1. Name of the authors as appeared in the paper (**Make bold font for own name**), "Title of the paper", "Name of the conference", Duration, Year, National / International, Name of the Publisher, ISBN no. of the Proceeding (Print / Online)

DOI: [10.1109/TAP.2009.2016727](https://doi.org/10.1109/TAP.2009.2016727)

**Link to relevant Conference (if any):**

1. **Shashi Bajaj Mukherjee**, "Statistical Comparison of Genetic Sequences to Identify Coding part", " International Conference on Classical to Quantum Computing", 15 – 16 February, 2020, Egra S. S. B. College.
2. Shashi Bajaj Mukherjee, Pradip Kumar Sen(2009) '**Gene identification using distribution of codons- a new approach**' at the International conference on 'Fuzzy set, Rough set and soft computing' Serials Publication(565-564), ISBN 978-81-8387-417-5.

3. 30.10.2010: Certificate awarded for reading a paper titled 'Gene identification algorithms using exploratory statistical analysis of periodicity' at the International conference on Modeling, Optimization and Computing organized by NIT, Durgapur.
4. 28.3.2010 Awarded **Young Scientist award** for reading a paper titled 'Comparative study of some statistical techniques for gene identification applied to three species' at the International conference on Bioinformatics organized by SVNIT, Surat.
5. 7.11.2009: Certificate awarded for reading a paper titled 'Gene identification using distribution of codons- a new approach' at the International conference on 'Fuzzy set, Rough set and soft computing' organized by Tripura University.
6. 28.3.2008: Certificate awarded for reading a paper titled 'Coding Vs. Non-coding- A Statistical Analysis of DNA Sequence' at the National seminar on Integration of Mathematics with Interdisciplinary Subjects organized by Jadavpur University.

#### **Book Chapter:**

Name of the author /s (**Make bold font for own name**) "Title of the Chapter", "Page no. of the Chapter", "Title of the Book", "Name of the Publisher", Year of Publication. ISBN Number (Print / Online)

**Mukherjee, S. B.**, "Statistical Implication of Genetic Sequences Using Spft Computing", pp. 80-87 "Frontier Aspects of Natural Sciences" (The Banaras Mercantile Co., January 2020), Print ISBN 978-81-86359-83-4

**Supervision of Ph.D/M.Tech / B.Tech Projects: Enrolled as a Ph.D guide in MAKAUT but not yet get any student**

#### **For Ph.D**

1. **Name of the student, Name of the supervisor, " Title of the thesis", Year , Name of the university (completed)**
2. **Name of the student, Name of the supervisor, " Title of the thesis", Year, Name of the university (Registered)**

#### **Projects:**

1. **Name of the student/s (with university roll number), Name of the supervisor, " Title of the Project / thesis" , Year (only final year 8<sup>th</sup> Sem Project for B.Tech and Thesis for M.Tech )**

#### **Invited Lectures:**

Topic of the lecture, Name of the event, organized by, Date

Topic of the lecture, Name of the event, organized by, Date

**Topic:** Implementation of mathematical operations in our life.

**Venue:** Sahyadri College of Pharmacy, affiliated to Solapur University, Maharashtra.

**Date:** 01. 10. 2009

**Participation in seminar/conference/symposium/workshop/discussion meeting**

Name of the event, duration, Year, Organized by.

Technical Workshop on Recent Trends in Machine Intelligence, Data Mining, Soft Computing Techniques and its Impact on Research and Development,	23 <sup>rd</sup> -24 <sup>th</sup> November	2013	Dr. B. C. Roy Engineering College Durgapur
Workshop on Introduction to Cloud Computing	29 <sup>th</sup> March	2019	MAKAUT & BCREC
Workshop on Digital Evaluation	3 <sup>rd</sup> December	2019	MAKAUT & BCREC
Seminar on Enterprise Architecture and its security	21 <sup>st</sup> January	2020	Dr. B. C. Roy Engineering College Durgapur
Workshop on Beta-version of Computerized Web Based Management System.	6 <sup>th</sup> February	2020	MAKAUT

**Participation in faculty development programmes**

Name of the faculty development programmes, Online / Face-to-face/ From Date – To Date, Duration, Year, Organized by.

MOODLE LEARNING MANAGEMENT SYSTEM, ONLINE ON 24<sup>TH</sup> MARCH, 2020, THE SPOKEN TUTORIAL PROJECT, IIT BOMBAY, MHRD, GOVT OF INDIA.

“Inculcating Universal Human Values in Technical Education” 26 July, 2021 to 30 July, 2021 organized by AICTE.

**Organization of events (Dr. B. C. Roy Engineering College)**

Name of the event, Date, Year

Webinar on UNCERTAINTY BASED OPTIMIZATION AND APPLICATION On PANDEMIC ANALYTICS WITH COVID-19 DATA Organized by Basic science & humanities (mathematics) Dr. B. C. Roy Engineering College, Durgapur Date: 23/04/2021

**Participation in administrative committees (selected)**

Name of the post (Convener/Joint Convenor/Member secretary/Co-ordinator etc.), Name of the committee, year

MEMBER OF ACADEMIC COUNCIL (2019-TILL DATE)

SPORTS CORE COMMITTEE MEMBER (2017-2020)

**Project Ideas Submitted to Govt. Agencies/ On-going Projects / Research Ideas under preparation & execution**

NA

**Membership of professional bodies: IEEE, IETE, IEL, CSI, MGMI etc.**

**ORSI(OPERATION RESEARCH SOCIETY OF INDIA)**