

Serial No.:2315251



Enrollment No.:12019009001275

University of Engineering & Management, Kolkata

University Area, Plot No. 333 - B/5, New Town, Action Area - 333, Kolkata - 700160, West Bengal, India

Established by an Act of State Government & recognised u/s 22 of UGC Act, Ministry of HRD, Government of India

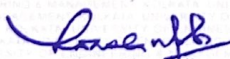
Upon the recommendation of the Board of Governors hereby confers the degree of

Bachelor of Technology
in
Computer Science & Engineering
on
Biswayan Sarkar

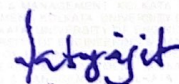


bearing University Registration Number 304201900900235 on successful completion of the course of studies as prescribed by the regulations and qualifying the final Examination held in April, 2023, with a Degree Grade Point Average of 9.25 on a 10 point scale.

He is placed in First Class with Distinction, under the seal of the University of Engineering & Management, Kolkata, India.


Vice-Chancellor




Chancellor

UNIVERSITY OF ENGINEERING & MANAGEMENT, KOLKATA

University Area, Plot No. III - B/5, New Town, Action Area - III, Kolkata - 700160



TRANSCRIPT

Sl.No.:2356282



Name: BISWAYAN SARKAR	
Enrollment No.: 12019009001275	Registration No.: 304201900900235
Duration: July, 2019 to June, 2023	
Degree: Bachelor of Technology	Stream: Computer Science & Engineering

Semester: I					Semester: II					Semester: III				
Subject Code	Credit	Grade Point	Credit Point	Letter Grade	Subject Code	Credit	Grade Point	Credit Point	Letter Grade	Subject Code	Credit	Grade Point	Credit Point	Letter Grade
BSC102	3.00	8	24	A	BSC202	3.00	9	27	E	BSC301	3.00	8	24	A
BSC103	4.00	7	28	B	BSC203	3.00	9	27	E	ESC301	3.00	8	24	A
ESC102	2.00	9	18	E	ESC202	2.00	9	18	E	ESC302	3.00	9	27	E
ESC105	2.00	8	16	A	ESC205	3.00	8	24	A	PCCCS301	3.00	8	24	A
GSC101	2.00	9	18	E	HSMC201	2.00	10	20	O	PCCCS302	3.00	10	30	O
HSMC101	2.00	10	20	O	BSEFE202	2.00	8	16	A	HSMC301	2.00	9	18	E
BSC192	1.00	9	9	E	GSC201	2.00	8	16	A	HSMC302	2.00	9	18	E
ESC192	1.00	9	9	E	BSC292	1.00	9	9	E	ESC391	1.50	8	12	A
ESC194	3.00	9	27	E	ESC292	1.00	9	9	E	ESC392	1.50	9	14	E
ESC195	1.00	8	8	A	ESC294	2.00	10	20	O	PCCCS391	1.50	10	15	O
GSC181	1.00	9	9	E	ESC295	1.00	10	10	O	PCCCS381	1.50	10	15	O
HSMC181	1.00	10	10	O	HSMC281	1.00	10	10	O	PROJCS381	1.00	9	9	E
MC101	0.50	10	5	O	GSC281	1.00	8	8	A	HSMC382	1.00	9	9	E
SGPA : 8.55					MC201	0.50	8	4	A	MC381	0.50	10	5	O
Semester: IV					SGPA : 8.90 YGPA : 8.73					SGPA : 8.97				
Subject Code	Credit	Grade Point	Credit Point	Letter Grade	Semester: V					Semester: VI				
BSC401	3.00	9	27	E	Subject Code	Credit	Grade Point	Credit Point	Letter Grade	Subject Code	Credit	Grade Point	Credit Point	Letter Grade
PCCCS401	3.00	9	27	E	ESC501	3.00	10	30	O	PCCCS601	3.00	9	27	E
PCCCS402	3.00	10	30	O	ESC502	3.00	9	27	E	PCCCS602	2.00	9	18	E
PCCCS403	3.00	9	27	E	PCCCS501	3.00	10	30	O	PECCS601	3.00	9	27	E
PCCCS404	3.00	9	27	E	PCCCS502	1.00	10	10	O	PECCS602	3.00	10	30	O
PCCCS405	3.00	9	27	E	PECCS501	3.00	10	30	O	OECCS601	3.00	10	30	O
HSMC401	2.00	10	20	O	MC501	0	10	0	O	HSMC601	3.00	10	30	O
PCCCS492	1.50	9	14	E	HSMC502	2.00	9	18	E	HSMC(CS)602	2.00	10	20	O
PCCCS493	1.50	10	15	O	ESC592	2.00	10	20	O	PCCCS691	2.00	9	18	E
PCCCS494	1.50	10	15	O	PCCCS591	2.00	10	20	O	PCCCS692	1.00	9	9	E
PCCCS495	1.50	9	14	E	PCCCS592	2.00	8	16	A	PROJCS681	3.00	10	30	O
PCCCS481	1.50	9	14	E	PROJCS581	1.00	9	9	E	HSMC682	1.00	10	10	O
HSMC481	1.00	10	10	O	HSMC582	1.00	6	6	C	MC681	0	10	0	O
PROJCS481	1.00	9	9	E	MC581	1.00	10	10	O	SGPA : 9.58 YGPA : 9.50				
MC481	0.50	10	5	O	SGPA : 9.42					Semester: VII				
SGPA : 9.32 YGPA : 9.14					Semester: VIII					Subject Code	Credit	Grade Point	Credit Point	Letter Grade
Subject Code	Credit	Grade Point	Credit Point	Letter Grade	Semester: VII					PECCS801A	3.00	10	30	O
PCCCS701	3.00	9	27	E	Subject Code	Credit	Grade Point	Credit Point	Letter Grade	OECCS801A	3.00	9	27	E
PCCCS702	2.00	9	18	E	PECCS801A	3.00	10	30	O	OECCS802A	3.00	10	30	O
PECCS701	3.00	10	30	O	BSC801	3.00	10	30	O	BSC801	3.00	10	30	O
PECCS702	3.00	10	30	O	HSMC802	2.00	9	18	E	HSMC802	2.00	9	18	E
OECCS701	3.00	9	27	E	HSMC882	1.00	10	10	O	HSMC882	1.00	10	10	O
HSMC701	2.00	10	20	O	PROJCS801	6.00	9	54	E	PROJCS801	6.00	9	54	E
HSMC(CS)702	2.00	10	20	O	PCCCS881	2.00	9	18	E	PCCCS881	2.00	9	18	E
PCCCS792	1.00	9	9	E	SGPA : 9.43 YGPA : 9.43					SGPA : 9.43 YGPA : 9.43				
HSMC782	1.00	9	9	E	Semester: VIII					Semester: VIII				
PROJCS781	3.00	9	27	E	Subject Code	Credit	Grade Point	Credit Point	Letter Grade	Subject Code	Credit	Grade Point	Credit Point	Letter Grade
SGPA : 9.43					PECCS801A	3.00	10	30	O	PECCS801A	3.00	10	30	O

Issuing Date : 22-01-2024



Debika Bhattacharyya

University of Engineering & Management, Kolkata

Controller of Examinations
University of Engineering & Management, Kolkata

Semester : I		
Subject Code	Subject Name	Credit Point
BSC102	Chemistry	3
BSC103	Mathematics - I	4
ESC102	Basic Electronic Engineering	2
ESC105	Programming for Problem Solving - I	2
GSC101	Essential Studies for Professionals - I	2
HSMC101	English Communication and Public Speaking Skills - I	2
BSC192	Chemistry Laboratory	1
ESC192	Basic Electronic Engineering Laboratory	1
ESC194	Workshop & Manufacturing Practices	3
ESC195	Programming for Problem Solving Laboratory - I	1
GSC181	Skill Development for Professionals - I	1
HSMC181	English Communication and Public Speaking Skills Laboratory - I	1
MC101	Mandatory Additional Requirement	0.5

Semester : III		
Subject Code	Subject Name	Credit Point
BSC301	Mathematics & Statistics - III	3
ESC301	Digital System Design	3
ESC302	Computer Organization & Architecture	3
PCCCS301	Data Structure & Algorithm	3
PCCCS302	Discrete Mathematics	3
HSMC301	Humanities - I (Constitution of India, Essence of India and Knowledge Trading)	2
HSMC302	Essential Studies for Professionals - III	2
ESC391	Digital System Design Laboratory	1.5
ESC392	Computer Organization & Architecture Laboratory	1.5
PCCCS391	Data Structure & Algorithm Laboratory (using C & Python)	1.5
PCCCS381	Artificial Intelligence & Machine Learning Fundamentals	1.5
PROJCS381	Project - I	1
HSMC382	Skill Development for Professionals - III	1
MC381	Mandatory Additional Requirement (Co-Curricular/Extra Curricular Activity)	0.5
MOOC3	Massive Open Online Courses (Mandatory for B.Tech(Honours))	3

Semester : V		
Subject Code	Subject Name	Credit Point
ESC501	Signals & Systems	3
ESC502	Analog Electronic Circuits	3
PCCCS501	Operating Systems	3
PCCCS502	IT Workshop	1
PECCS501	Professional Elective - I : Deep Learning	3
MC501	Environmental Sciences	0
HSMC502	Essential Studies for Professionals - V	2
ESC592	Analog Electronic Circuits Laboratory	2
PCCCS591	Operating Systems Laboratory	2
PCCCS592	IT Workshop Practical	2
PROJCS581	Innovative Project - III	1
HSMC582	Skill Development for Professionals - V	1
MC581	Mandatory Additional Requirement (Co-Curricular/Extra Curricular Activity)	1

Semester : VII		
Subject Code	Subject Name	Credit Point
PCCCS701	Network Security & Cryptography	3
PCCCS702	Cloud Computing & IOT	2
PECCS701	Professional Elective-IV : (Natural Language Processing)	3
PECCS702	Professional Elective - V : (Human Computer Interaction)	3
OECCS701	Open Elective - II(Blockchain Technology)	3
HSMC701	Humanities - II (Principles of Management)	2
HSMC(CS)702	Essential Studies for Professionals - VII	2
PCCCS792	Cloud Computing & IOT Laboratory	1
HSMC782	Skill Development for Professionals - VII	1
PROJCS781	Project	3

Method of Calculation of Semester Grade Point Average (SGPA):	Method of calculation of Year Grade Point Average (YGPA):	Method of calculation of Degree Grade Point Average (DGPA):	Conversion of Grade Point Average (GPA) to % of marks
$SGPA = \frac{\sum (Credit Points)}{\sum (Credits)}$	$YGPA = \frac{\sum (Credit Points of Odd Semester) + \sum (Credit Points of Even Semester)}{\sum (Credits of Odd Semester) + \sum (Credits of Even Semester)}$	$DGPA = (YGPA1 + YGPA2 + 1.5 \times YGPA3 + 1.5 \times YGPA4) / 5$	Percentage of marks = (GPA - 0.75) X 10

Grade Point for Theoretical Subject			
Range of Marks	Description	Letter Grade	Grade Point
90 to 100	Outstanding	O	10
80 to 89	Excellent	E	9
70 to 79	Very Good	A	8
60 to 69	Good	B	7
50 to 59	Fair	C	6
40 to 49	Below Average	D	5
Less than 40	Fail	F	2

Semester : II		
Subject Code	Subject Name	Credit Point
BSC202	Physics	3
BSC203	Mathematics & Statistics - II	3
ESC202	Basic Electrical Engineering	2
ESC205	Programming for Problem Solving - II	3
HSMC201	English Communication and Public Speaking Skills - II	2
BSEFE202	Economy, Finance and Entrepreneurship	2
GSC201	Essential Studies for Professional - II	2
BSC292	Physics Laboratory	1
ESC292	Basic Electrical Engineering Laboratory	1
ESC294	Engineering Graphics and Design	2
ESC295	Programming for Problem Solving Laboratory - II	1
HSMC281	English Communication & Public Speaking Skill Laboratory - II	1
GSC281	Skill Development for Professionals - II	1
MC201	Mandatory Additional Requirement	0.5

Semester : IV		
Subject Code	Subject Name	Credit Point
BSC401	Mathematics & Statistics - IV	3
PCCCS401	Formal Language & Automata Theory	3
PCCCS402	Design & Analysis of Algorithms	3
PCCCS403	Database Management Systems	3
PCCCS404	Computer Networks	3
PCCCS405	Artificial Intelligence & Machine Learning Advanced	3
HSMC401	Essential Studies for Professionals - IV	2
PCCCS492	Design & Analysis of Algorithms Laboratory	1.5
PCCCS493	Database Management Systems Laboratory	1.5
PCCCS494	Computer Networks Laboratory	1.5
PCCCS495	Artificial Intelligence & Machine Learning Advanced Laboratory	1.5
PCCCS481	Object Oriented Programming using Java	1.5
HSMC481	Skill Development for Professionals - IV	1
PROJCS481	Project - II	1
MC481	Mandatory Additional Requirement (Co-Curricular/Extra Curricular Activity)	0.5

Semester : VI		
Subject Code	Subject Name	Credit Point
PCCCS601	Compiler Design	3
PCCCS602	Software Engineering	2
PECCS601	Soft Computing	3
PECCS602	Data Analytics	3
OECCS601	Human Resource Development and Organizational Behavior	3
HSMC601	Finance & Accounting	3
HSMC(CS)602	Essential Studies for Professionals(CS) - VI	2
PCCCS691	Compiler Design Laboratory	2
PCCCS692	Software Engineering Laboratory	1
PROJCS681	Project - I	3
HSMC682	Skill Development for Professionals - VI	1
MC681	Mandatory Additional Requirement (Co-Curricular/Extra Curricular Activity)	0

Semester : VIII		
Subject Code	Subject Name	Credit Point
PECCS801A	Professional Elective - VI : Quantum Computing	3
OECCS801A	Open Elective - III : Digital Forensics	3
OECCS802A	Open Elective - IV : Cybersecurity	3
BSC801	Biology	3
HSMC802	Essential Studies for Professionals - VIII	2
HSMC882	Skill Development for Professionals - VIII	1
PROJCS801	Project - III	6
PCCCS881	Grand Viva Voce	2

Grade Point for Practical/Sessional Subject			
Range of Marks	Description	Letter Grade	Grade Point
90 to 100	Outstanding	O	10
80 to 89	Excellent	E	9
70 to 79	Very Good	A	8
60 to 69	Good	B	7
50 to 59	Fair	C	6
Less than 50	Fail	F	2