## National Undergraduate Programme in Mathematical Sciences

B. Sc. (Honours) in Mathematics and Computer Science

Academic Transcript

Name: Sampad Kumar Kar Date of Birth: 2001-Apr-04 Roll No.: BMC201944 Date of Admission: 2019, August

Year         Course         Grade Credit           2019 Aug-Nov CU1101 Introduction to Programming         AB         4           HU1101 English         B         4           MU1102 Analysis I         C         4           MU1101 Classical Mechanics I         AB         4           2020 Jan-Apr CU1201 Advanced Programming         B         4           MU1201 Algebra II         AB         4           MU1202 Analysis II         AB         4           MU1203 Discrete Mathematics         B         4           MU1204 Probability Theory         A         4           2020 Aug-Nov CU2101 Design & Analysis of Algorithms         AB         4           CU2102 Theory of Computation         AB         4           MU2101 Algebra III         A         4           MU2102 Analysis III         A         4           MU2103 Calculus         B         4           2021 Jan-Apr AGE009 Introduction to Cryptography*         A         4           CU2201 Programming Language Concepts         A         4           MU2202 Differential Equations         AB         4           MU2203 Topology         AB         4           2021 Sep-Dec         AG1201 Stochastic Processes I* <td< th=""><th colspan="5">Date of Hamission. 2015, Augus</th></td<>	Date of Hamission. 2015, Augus				
HU1101 English	Year	Course	Grade	Credit	
MU1101 Algebra I       AB       4         MU1102 Analysis I       C       4         PU1101 Classical Mechanics I       AB       4         2020 Jan-Apr CU1201 Advanced Programming       B       4         MU1201 Algebra II       AB       4         MU1202 Analysis II       AB       4         MU1203 Discrete Mathematics       B       4         MU1204 Probability Theory       A       4         2020 Aug-Nov CU2101 Design & Analysis of Algorithms       AB       4         CU2102 Theory of Computation       AB       4         MU2101 Algebra III       A       4         MU2102 Analysis III       A       4         MU2103 Calculus       B       4         2021 Jan-Apr AGE009 Introduction to Cryptography*       A       4         CU2201 Programming Language Concepts       A       4         MU2202 Differential Equations       AB       4         MU2203 Topology       AB       4         2021 Sep-Dec       AG1201 Stochastic Processes I*       A       4         CGE159 Foundations of Machine Learning*       C       4         CGE162 Structural Graph Theory*       A       4         CGE162 Probability & Statistics with R*	2019 Aug-Nov	CU1101 Introduction to Programming	AB	4	
MU1102 Analysis I		HU1101 English	В	4	
PU1101 Classical Mechanics I AB 4 2020 Jan-Apr CU1201 Advanced Programming B MU1201 Algebra II AB 4 MU1202 Analysis II AB 4 MU1203 Discrete Mathematics B 4 MU1204 Probability Theory A 4 2020 Aug-Nov CU2101 Design & Analysis of Algorithms AB 4 CU2102 Theory of Computation AB 4 MU2101 Algebra III A 4 MU2102 Analysis III A 4 MU2103 Calculus B 4 2021 Jan-Apr AGE009 Introduction to Cryptography* A 4 CU2201 Programming Language Concepts A 4 MU2201 Complex Analysis B 4 MU2202 Differential Equations AB 4 MU2203 Topology AB 4 2021 Sep-Dec AG1201 Stochastic Processes I* A 4 CGE159 Foundations of Machine Learning* C 4 CGE162 Structural Graph Theory* A 4 DG1102 Probability & Statistics with R* C		MU1101 Algebra I	AB	4	
MU1201 Advanced Programming  MU1201 Algebra II  MU1202 Analysis II  AB  MU1203 Discrete Mathematics  B  MU1204 Probability Theory  A  4  2020 Aug-Nov CU2101 Design & Analysis of Algorithms  CU2102 Theory of Computation  AB  MU2101 Algebra III  A  MU2102 Analysis III  A  MU2103 Calculus  B  4  CU2201 Programming Language Concepts  A  MU2201 Complex Analysis  B  MU2201 Complex Analysis  B  MU2202 Differential Equations  AB  MU2203 Topology  AB  4  CGE159 Foundations of Machine Learning*  C GE162 Structural Graph Theory*  A DG1102 Probability & Statistics with R*  C  AB  AB  AB  AB  AB  AB  AB  AB  AB		MU1102 Analysis I	$\mathbf{C}$	4	
MU1201 Algebra II  MU1202 Analysis II  AB  MU1203 Discrete Mathematics  B  MU1204 Probability Theory  A  2020 Aug—Nov CU2101 Design & Analysis of Algorithms  CU2102 Theory of Computation  MU2101 Algebra III  A  MU2102 Analysis III  A  MU2103 Calculus  B  4  CU2201 Programming Language Concepts  A  MU2201 Complex Analysis  B  MU2202 Differential Equations  MU2203 Topology  AB  4  CGE159 Foundations of Machine Learning*  CGE162 Structural Graph Theory*  A  A  AB  AB  AB  AB  AB  AB  AB  AB		PU1101 Classical Mechanics I	AB	4	
MU1202 Analysis II  MU1203 Discrete Mathematics B MU1204 Probability Theory A 4 2020 Aug-Nov CU2101 Design & Analysis of Algorithms CU2102 Theory of Computation AB MU2101 Algebra III A MU2102 Analysis III A MU2103 Calculus B 4 2021 Jan-Apr AGE009 Introduction to Cryptography* CU2201 Programming Language Concepts A MU2202 Differential Equations MU2202 Differential Equations AB MU2203 Topology AB 4 CGE159 Foundations of Machine Learning* CGE162 Structural Graph Theory* A A A A B A B A B A CGE162 Structural Graph Theory* A A CGE1102 Probability & Statistics with R* CA A	2020 Jan–Apr	CU1201 Advanced Programming	В	4	
MU1203 Discrete Mathematics  MU1204 Probability Theory  A  4  2020 Aug-Nov CU2101 Design & Analysis of Algorithms  CU2102 Theory of Computation  AB  MU2101 Algebra III  A  MU2102 Analysis III  A  MU2103 Calculus  B  4  CU2201 Programming Language Concepts  A  MU2201 Complex Analysis  B  MU2202 Differential Equations  MU2203 Topology  AB  4  CGE159 Foundations of Machine Learning*  CGE162 Structural Graph Theory*  A  A  A  A  A  A  A  A  A  A  A  A  A		MU1201 Algebra II	AB	4	
MU1204 Probability Theory  A 4  2020 Aug—Nov CU2101 Design & Analysis of Algorithms AB (CU2102 Theory of Computation AB (AB (AB (AB (AB (AB (AB (AB (AB (AB		MU1202 Analysis II	AB	4	
2020 Aug-Nov CU2101 Design & Analysis of Algorithms CU2102 Theory of Computation AB MU2101 Algebra III A MU2102 Analysis III A MU2103 Calculus B 4 2021 Jan-Apr AGE009 Introduction to Cryptography* CU2201 Programming Language Concepts A MU2201 Complex Analysis B 4 MU2202 Differential Equations AB MU2203 Topology AB 4 CGE159 Foundations of Machine Learning* CGE162 Structural Graph Theory* A A A B CGE162 Structural Graph Theory* A A A CGE162 Probability & Statistics with R* C A		MU1203 Discrete Mathematics	В	4	
CU2102 Theory of Computation  MU2101 Algebra III  A  MU2102 Analysis III  A  MU2103 Calculus  B  4  CU2201 Jan-Apr AGE009 Introduction to Cryptography*  CU2201 Programming Language Concepts  A  MU2201 Complex Analysis  B  4  MU2202 Differential Equations  MU2203 Topology  AB  4  CGE159 Foundations of Machine Learning*  CGE162 Structural Graph Theory*  A  DG1102 Probability & Statistics with R*  CA  A  A  A  A  A  A  A  CU2102 Theory of Computation  A  A  A  CU2103 Calculus  B  A  A  CU2201 Programming Language Concepts  A  A  A  A  CU2201 Complex Analysis  B  A  A  A  A  A  CGE159 Foundations  AB  A  CGE159 Foundations of Machine Learning*  C  A  CGE162 Structural Graph Theory*  A  CGE1102 Probability & Statistics with R*  C  A		MU1204 Probability Theory	A	4	
CU2102 Theory of Computation  MU2101 Algebra III  A  MU2102 Analysis III  A  MU2103 Calculus  B  4  CU2201 Jan-Apr AGE009 Introduction to Cryptography*  CU2201 Programming Language Concepts  A  MU2201 Complex Analysis  B  4  MU2202 Differential Equations  MU2203 Topology  AB  4  CGE159 Foundations of Machine Learning*  CGE162 Structural Graph Theory*  A  DG1102 Probability & Statistics with R*  CA  A  A  A  A  A  A  A  CU2102 Theory of Computation  A  A  A  CU2103 Calculus  B  A  A  CU2201 Programming Language Concepts  A  A  A  A  CU2201 Complex Analysis  B  A  A  A  A  A  CGE159 Foundations  AB  A  CGE159 Foundations of Machine Learning*  C  A  CGE162 Structural Graph Theory*  A  CGE1102 Probability & Statistics with R*  C  A	2020 Aug-Nov	CU2101 Design & Analysis of Algorithms	AB	4	
MU2102 Analysis III  MU2103 Calculus  B  4  CU2201 Jan-Apr AGE009 Introduction to Cryptography*  CU2201 Programming Language Concepts  A  MU2201 Complex Analysis  B  4  MU2202 Differential Equations  AB  MU2203 Topology  AB  4  CGE159 Foundations of Machine Learning*  CGE162 Structural Graph Theory*  DG1102 Probability & Statistics with R*  C  A  4  CA  CA  CA  CA  CA  CA  CA  C		· · · · · · · · · · · · · · · · · · ·	AB	4	
MU2103 Calculus  B 4 2021 Jan-Apr AGE009 Introduction to Cryptography* A CU2201 Programming Language Concepts A MU2201 Complex Analysis B 4 MU2202 Differential Equations AB MU2203 Topology AB 4 2021 Sep-Dec AG1201 Stochastic Processes I* A CGE159 Foundations of Machine Learning* C CGE162 Structural Graph Theory* A DG1102 Probability & Statistics with R* C		MU2101 Algebra III	A	4	
2021 Jan-Apr AGE009 Introduction to Cryptography* A CU2201 Programming Language Concepts A MU2201 Complex Analysis B MU2202 Differential Equations AB MU2203 Topology AB  2021 Sep-Dec AG1201 Stochastic Processes I* A CGE159 Foundations of Machine Learning* C CGE162 Structural Graph Theory* A DG1102 Probability & Statistics with R* C		MU2102 Analysis III	A	4	
CU2201 Programming Language Concepts A  MU2201 Complex Analysis B  MU2202 Differential Equations AB  MU2203 Topology AB  4  CGE159 Foundations of Machine Learning* C  CGE162 Structural Graph Theory* A  DG1102 Probability & Statistics with R* C		MU2103 Calculus	В	4	
CU2201 Programming Language Concepts A  MU2201 Complex Analysis B  MU2202 Differential Equations AB  MU2203 Topology AB  4  CGE159 Foundations of Machine Learning* C  CGE162 Structural Graph Theory* A  DG1102 Probability & Statistics with R* C	2021 Jan–Apr	AGE009 Introduction to Cryptography*	A	4	
MU2202 Differential Equations AB 4 MU2203 Topology AB 4  2021 Sep—Dec AG1201 Stochastic Processes I* A 4 CGE159 Foundations of Machine Learning* C 4 CGE162 Structural Graph Theory* A 4 DG1102 Probability & Statistics with R* C 4			A	4	
MU2203 Topology  AB 4 2021 Sep-Dec AG1201 Stochastic Processes I* CGE159 Foundations of Machine Learning* CGE162 Structural Graph Theory* A DG1102 Probability & Statistics with R* C 4		MU2201 Complex Analysis	В	4	
2021 Sep-Dec AG1201 Stochastic Processes I*  CGE159 Foundations of Machine Learning*  CGE162 Structural Graph Theory*  DG1102 Probability & Statistics with R*  C  4		MU2202 Differential Equations	AB	4	
CGE159 Foundations of Machine Learning* C 4 CGE162 Structural Graph Theory* A 4 DG1102 Probability & Statistics with R* C 4		MU2203 Topology	AB	4	
CGE159 Foundations of Machine Learning* C 4 CGE162 Structural Graph Theory* A 4 DG1102 Probability & Statistics with R* C 4	2021 Sep–Dec	AG1201 Stochastic Processes I*	A	4	
DG1102 Probability & Statistics with $R^*$ C 4			$^{\circ}$ C	4	
DG1102 Probability & Statistics with $R^*$ C 4		-		4	
		_ v	$\mathbf{C}$	4	
110 Loof values 1 model Literature 11 4		HUE004 Values Through Literature <sup>⋆</sup>	A	4	

 $<sup>\</sup>star$  Optional course

Cumulative Grade Point Average: 08.76

 ${\bf Unofficial\ transcript}$ 

- Marks are not awarded for the courses; only letter grades are awarded.
- The Cumulative Grade Point Average (CGPA) is the weighted average of the grade points obtained in all the courses, weighted by the corresponding credits, and rounded off to the second decimal place. If a student has failed in a core (i.e. non-elective) course his/her CGPA is not calculated till he/she passes it subsequently.

Letter Grades	Associated Grade Points
A	10.00
AB	09.00
В	08.00
$\operatorname{BC}$	07.00
$^{\mathrm{C}}$	06.00
CD	05.00
D	04.00
P	Pass (No points associated)
F	$00.00 \; (\mathbf{Fail})$
D P	04.00 <b>Pass</b> (No points associated)