## Minutes of BOS Meeting held on January 13, 2022 Department of Mathematics Guru Ghsidas Vishwavidyalaya, Bilaspur (CG)

The Following Members were Present:

- 1. Dr. P. P. Murthy (HOD) : (Chairman)
- Professor R. P. Dubey (Subject Expert) (VC Nominee) (V.C. C. V. Raman University, Kota) Discussed over phone - excused
- 3. Professor A. S. Ranadive : (Member)
- 4. Dr. Sandeep Singh: (Member)

Chairman of BOS, P. P. Murthy welcome all the honourable member of **Board of Studies(BOS)** and briefed about the need of LOCF and CBCS at UG and PG level respectively. He also informed the honourable members about the **Curriculum Framework Worksop** in which all the faculty members of the Department were present and few experts like Prof A. P. Singh (Retd. Prof., Rajasthan Central Univeisty, Kisanganj), Prof. G.V.R. Babu (Prof. Andhra University, Visakhapatnam) and Dr. S. Pardhi (Education Department, GGV) discussed with the faculty members on the frame work of the course papers. He has informed that Professor **R. P. Dubey** is unable to attend personally but available over phone and WhatsApp during the meeting due some urgent unavoidable work and asked the HOD to go ahead with the meeting over phone. In this meeting the following agenda approved unanimously.

Syllabus for UG(LOCF Based) and PG(CBCS) from this academic session 2021-20. After fruitful discussion on the syllabus presented by the Chairman in front of BOS, members have agreed on the following syllabus for UG and PG as well. The instructions passed by university authorities and academic section followed.

Chairman extended his warm regards and thanks to honourable members of the BOS for the smooth conduct of the meeting.

Credit/ **Course Name** Course Code Hours Course Type Semester 05 Calculus AMUATT1 05 Algebra and Geometry CORE AMUATT2 05 Finite Element Methods AMUATG1 GENERIC 05 AMUATG2 ELECTIVE 02 Set Theory and Logic AMUATA1 02 AEC (any one) **Basics of Statistics** AMUATA2 02 Introduction to Cryptography AMUATL1 SEC

Paper details are given below: B.Sc. Honours in Mathematics (LOCF)

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	1	AMUATL2		02
		AMUBTT1	Multivariable Calculus	05
	CORE	AMUBTT2	Ordinary Differential Equations	05
		AMUBTG1	Algebra and Matrix Theory	05
	GENERIC ELECTIVE (any one) AEC (any one)			05
11		AMUBTG2	Theory of Interpolation	02
and a		AMUBTA1		02
	Acciany oney	AMUBTA2		02
•		AMUBTL1	Graph Theory	02
	SEC (any one)	AMUBTL2		
		AMUCTT1	Real Analysis	05
		AMUCTT2	Group Theory	05
Ш	CORE	AMUCTT3	Probability and Statistics	05
	GENERIC	AMUCTG1	Differential Calculus	05
	ELECTIVE	AMUCTG2		05
-	(Any one)	AMUDTT1	Mechanics	05
	CORE	AMUDTT2	Linear Algebra	05
			Partial Differential Equations and	05
IV		AMUDTT3	Calculus of Variations Applications of Algebra	05
	GENERIC	AMUDTG1		05
	ELECTIVE (any one)	AMUDTG2		-
		AMUETT1	Set Theory and Metric Spaces	05
	CORE	AMUETT2	Advanced Algebra	0
		AMUETD1	Tensors and Differential Geometry	0
		AMUETD2	Mathematical Logic	0
V			Integral Transforms and Fourier	0
	DSE (any two)	AMUETD3	Analysis Linear Programming	C
1		AMUETD4	Information Theory and Coding	0
		AMUETD5		(
	A starting to	AMUETD6	Graph Theory	

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			Special Theory and Relativity	05
		AMUEIDI		05
		AMUFTT1	Complex Analysis	11. 数13
	CORE	AMUFTT2	Numerical Analysis	05
			Discrete Mathematics	05
		AMUFTD1 AMUFTD2	Wavelets and Applications	05
		AMUFTD3	Number Theory	05
VI.		AMUFTD4	Mathematical Finance	05
VI	DSE (any two)		C++Programming for Mathematics	05
	DSE (ally (WO)	AMUFTD5		05
		AMUFTD6	Cryptography	05
		AMUFTD7	Advanced Mechanics	05
		AMUFTD8	Dissertation on Any Topic of Mathematics	0

# M.Sc. Mathematics (CBCS)

Semester	Course Name	Course code	Course	Credit Hours
	1000		Abstract Algebra	05
10 mm		AMPATT1	Topology	05
		AMPATT2	Discrete Mathematical Structures	05
	Core	AMPATT3	Discrete Mathematical Structures	05
		AMPATT4	Geometry of Manifolds	and the second s
	<b>Open Elective</b>	AMPAT01	Applications of Fuzzy Sets & Fuzzy Logic	05
Contraction of the	Core	AMPBTT1	Real Analysis	05
	core	AMPBTT2	Numerical Analysis	
		AMPBTD1	Coding Theory	05
		AMPBTD2	Finsler Geometry	05
			Fluid Mechanics	05
		AMPBTD3 AMPBTD4	Mathematical Methods of Applied Mathematics	05
II Enerter	DSE (Any Two)	AMPBTD5	Mathematical Statistics	05
		AMPBTD6	Riemannian Manifold and connectio	ns 05
		AMPBTD3	Fractional Calculus and Integral	05
1	Research	AMPBTT3	Research Methodology	02

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	(Cara)	AMPCTT1	Functional Analysis	05
	(Core)	AMPCTT2	Theory of ordinary differential equations	05
		AMPCTD1	Algebraic Topology	05
	F	AMPCTD2	Complex Manifold	05
	-	AMPCTD3	Difference Equations	05
		AMPCTD4	Fuzzy Sets and Fuzzy Logic	05
111	DSE (Any Two)		Information Theory and its Applications	05
		AMPCTD6	Integral Equation and Calculus of Variations	05
		AMPCTD7	Multipoint Iterative Methods	05
		AMPCTD8	Fundamentals of Elasticity	05
	The second se	AMPCPF1	Project Phase-I	05
	Project	AMPDTT1	Complex Analysis	05
	Core	AMPDTT2	Theory of partial differential equations	05
		AMPDTD1	Advanced Differential Equations	05
		AMPDTD2	Advanced Functional Analysis	05
		AMPDTD3	Applications of Fuzzy Logic	05
		AMPDTD4	E Madulos	05
		AMPDTDS		05
IV	DSE (Any Two		Financial Mathematics and its	05
		AMPDTD	- I Faslant	05
		AMPDTD	Decearch	05
	1 South Life	AMPDTD		05
	and the second second	AMPDTD	Fundamentals of theoretical	05
	Project	AMPDPF	n Lint Dhaco II	05

Dr. P. P. Murthy Prof. A. S. Ranadive

Prof. R. P. Dubey (External-Member)

Dr. Sandeep Singh (Member)

(Head & Chairman)

(Member)



#### GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR DEPARTMENT OF MATHEMATICS

COURSE STRUCTURE & SYLLABUS-B.Sc. (Hon.) in Mathematics

Sem	Course Type	Course	Course Name	Credit/Hours (L-T-P)	Marks CCA <sup>+</sup>	Marks ESE4	Total Mark
15-12	CORE 1	AMUATTI	Calculus	5(4-1-0)	30	70	100
	CORE 2	AMUATT2	Algebra and Geometry	5(4-1-0)	30	20	100
	GE-1		Opted from the pool Course and offered by Sister Departments	5	30	70	100
	AEC-1		Opted from the Pool Course offered by University	2	30	70	100
	SEC-1		Opted from the Pool Course offered by University	2	30	70	300
	Additional CreditCourse					Ĩ	
	1.0000000000000000000000000000000000000		Total Credit	19		-Li i i	
Ш	CORE 3	AMUBITI	Multivariable Calculus	5(4-1-0)	30	70	100
i.	CORE 4	AMUBTT2	Ordinary Differential Equations	5(4-1-0)	30	70	100
	GE-2		Opted from the pool Course and offered by Sister Departments	5	30	30	100
	AEC-2		Opted from the Pool Course offered by University	2	30	70	100
	SEC-2		Opted from the Pool Course offered by University	2	-30	30	100
	Additional CreditCourse			2 477	8	82—93 1	
1.1-1.5		honone enti	Total Credit	19	11	$\tilde{w}_{m} = \tilde{w}$	Sec. as
101	CORE 5	AMUCTTI	Real Analysis	5(4-1-0)	30	30	100
	CORE 6	AMUCTT2	Group Theory	5[4-1-0]	30	70	100
	CORE 7	AMUCTT3	Probability and Statistics	5(4-1-0)	30	70	100
	GE-3		Opted from the pool Course and offered by Sister Departments	5	30	70	100
	AEC-3		Opted from the Pool Course offered by University	2	30	70	100
4 	Additional CreditCourse			13 1956			
			Total Credit	22			

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IV	CORE 8	AMUDTT1	Mechanics	5(4-1-0)	30	70	100
	CORE 9	AMUDTT2	Linear Algebra	5(4-1-0)	30	70	100
	CORE 10	AMUDTT3	Partial Differential Equations and Calculus of Variations	5(4-1-0)	30	70	100
	GE-4		Opted from the pool Course and offered by Sister Departments	5	30	70	100
	AEC-4		Opted from the Pool Course offered by University	2	30	70	100
	Internship*	AMUDEF1		06			100
	Additional Credit Course		0.0000	0.40			
QC .		22+6*	See.	Steve S	lands.		
V	CORE11	AMUETTI	Set Theory and Metric Spaces	5(4-1-0)	30	70	100
	CORE 12	AMUETT2	Advanced Algebra	5(4-1-0)	30	70	100
	DSE (any two)	AMUETDI	Tensors and Differential Geometry	5(4-1-0)	30	70	100
		AMUETD2	Mathematical Logic	5(4-1-0)	30	70	100
		AMUETD3	Integral Transforms and Fourier Analysis	5(4-1-0)	30	70	100
		AMUETD4	Linear Programming	5(4-1-0)	30	70	100
		AMUETD5	Information Theory and Coding	5(4-1-0)	30	70	100
		AMUETD6	Graph Theory	5(4-1-0)	30	70	100
		AMUETD7	Special Theory and Relativity	5(4-1-0)	30	70	100
	AEC-5		Opted from the Pool Course offered by University	2	30	70	100
	Additional		1976 - 1976 - 1976 - 1976 - 1976 - 1976 - 1976 - 1976 - 1976 - 1976 - 1976 - 1976 - 1976 - 1976 - 1976 - 1976 -		20	40 B	
_	Credit Course			1.20			
VI	CORE 13	2 	Total Credit Complex	22 5(4-1-0)	30	70	100
VI.		AMUFTTI	Analysis	100000000			
	CORE 14	AMUFTT2	Numerical Analysis	5(4-1-0)	30	70	100
	DSE (any one)	AMUFTD1	Discrete Mathematics	5(4-1-0)	30	70	100
		AMUFTD2	Wavelets and Applications	5(4-1-0)	30	70	100
		AMUFTD3	Number Theory	5(4-1-0)	30	70	100

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Dissertation/Pr	AMUEDTI		07		ř.	100
Seminar	AMUETD7	Advanced Mechanics	5(4-1-0) 02	- 30	70	100
		Cryptography	5(4-1-0)	30	70	100
	0067657883	C++Programming for Mathematics	5(4-1-0)	8	70	100
	AMUETD4	Mathematical Finance	5(4-1-0)	30	- 70	100

- The Code generated by the Department, "May be offered during the summer;

\* Continuous Comprehensive Assessment (CCA), # End-Semester Examination (ESE)

विभागाध्यक्ष Head गणित विभाग Department of Mathematics गुरू घासीदास विश्वविद्यालय, Guru Ghasidas Vishwavidyalaya, बिलासपुर (छ.ग.) 495009, भारत Bilaspur (C.G.), 495009, India







## गुरू घासीदास विश्वविद्यालय, बिलासपुर (छ.ग.)

(केन्द्रीय विश्वविद्यालय अधिनियम 2009, कमांक 25 के अंतर्गत स्थापित केन्द्रीय विश्वविद्यालय) GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.) (A Central University established by the Central Universities Act., 2009 No. 25 of 2009) Web Site – www ggu.ac.in, ph. No. 07752-260342, fax No. 07752-260148,154

कमॉक 1 80 / अका. / अका. कैलेण्डर / 2021

## बिलासपुर, दिनॉक 2 0 SEP 2021

## कार्यालयीय ज्ञाप

विद्यापरिषद की स्थायी समिति की बैठक दिनॉक 06–09–2021 पूरक विषय क0–10 अन्तर्गत अधिष्ठाताओं की बैठक दिनॉक 02–09–2021 के कार्यवृत्त एवं अधिष्ठातागणों द्वारा अनुशंसि अकादमिक कैलेण्डर सत्र 2021–22 के लिये अनुमोदन किया गया है।

अनुमोदनोपरांत सर्व—सूचनार्थ एवं आवश्यक कार्यवाही हेतु विश्वविद्यालय शिक्षण विभान् में संचालित पाद्**यकमों** के विषम सेमेस्टर (1<sup>st</sup> & 3<sup>rd</sup> Sem) के अकादमिक कैलेण्डर 2021—22 संलग्न व एतद् द्वारा जारी किया जाता है।

आदेशान्सार, कार्यवाहक)

सहायक कुलसचिव (अका0)

#### प्रतिलिपिः–

- 1. कुलपति / कुलसचिव जी के सचिव / निज सहायक को मान.कुलपति / कुलसचिव जी के सूचनार्थ
- अधिष्ठाता, समस्त विद्यापीठ, गुरू घासीदास विश्वविद्यालय, बिलासपुर की ओर सूचनार्थ ।
- विभागाध्यक्ष, समस्त शिक्षण विभाग, गु0घा०वि०वि०, बिलासपुर की ओर आवश्यक कार्यवाही हेतु प्रेषित।
- 4. परीक्षा नियंत्रक, गुरू घासीदास विश्वविद्यालय, बिलासपुर की ओर सूचनार्थ
- उप-कुलसचिव,परीक्षा एवं प्रभारी गोपनीय विभागों की ओर सूचनार्थ प्रेषित ।
- अधिष्ठाता, छात्र कल्याण विभाग, गुरू धासीदास विश्वविद्यालय, बिलासपुर की ओर सूचनार्थ।
- समस्त कक्ष अधिकारी, प्रशासनिक भवन के समस्त विभागों की ओर सूचनार्थ प्रेषित।
- समन्वयक, आई.टी.सेल की ओर इस आशय के साथ प्रेषित है कि सत्र 2021–22 का अकादमिक कैलेण्डर विश्वविद्यालय वेबसाईट में अपलोड करने हेतु।
- 9. प्रभारी मीडिया सेल, गुरू धासीदास विश्वविद्यालय, बिलासपुर की ओर सूचनार्थ प्रेषित।
- 10 कार्यालय प्रति।



#### GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR [C.G.]

Academic Calendar for Session 2021-22 for the University Teaching Departments

Odd Semester (UG/PG)

Academic Session 2021-22

S.N	Event		hird Semesters	
1.	Commencement of classes (New Admission)	20.10.2021 (1 <sup>st</sup> Sem)	11.10.2021 (3 <sup>rd</sup> Sem)	
2.	1 <sup>st</sup> Unit Test (Internal Assessment)	RATES IN THE	l to 10.12.2021	
3.	Last date for showing the answer script/marks of test to the students		12.2021	
4.	Winter Vacation	27.12.202	1 to 03.01.2022	
5.	Last date for submission of End Semester Examination form	10.	01.2022	
6.	2 <sup>nd</sup> Unit Test (Internal Assessment)	24.01.202	24.01.2022 to 31.01.2022	
7.	Last date for showing the answer script/marks of test to the students	e students 21.02.2022 ation 21.02.2022 to 25.02.2022		
8.	Last day of classes			
9.	Practical/Project Examination			
10.	End Semester Examination			
11.	script/marks of test to the students		.03.2022	
12.		25	.03.2022 1	

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आंतरिक गुणवत्ता आश्वासन प्रकोष्ठ गुरू घासीदास विश्वविद्यालय बिलासपूर (छ0ग0) (केन्द्रीय विश्वविद्यालय अधिनियम 2009 क. 25 के अंतर्गत स्थापित केन्द्रीय विश्वविद्यालय) Phone: 07752-296248 Fax: 07752-260154 E-Mail: director-iqac@ggu.ac.in, directoriqacggv@gmail.com



### Internal Quality Assurance Cell (IQAC) Guru Ghasidas Vishwavidyalaya Bilaspur (C.G.)

(A Central University established by the Central University Act 2009 No. 25 of 2009) Website: www.ggu.ac.in

No. 415/IQAC/GGV/2023

Bilaspur, Dated-.05/007/2023.

#### **CERTIFICATE**

It is hereby declared that following students of various programmes, who have opted for Dissertation / Field Projects / Research Projects / Internships etc., have not yet completed their program due to delayed session under pandemic condition. Therefore, their completion certificate will be produced after their completion of Dissertation/Field Projects/Research Projects/Internships in the appropriate session.

internal Quality Assurance Cell Guru Ghasidas Vishwavidyalaya Koni, Bilaspur (C.G.) 495009

**Director, IQAC** 



This is to certify that following students are enrolled in B.Sc. Mathematics for the session of 2021-22.

S.No.	Student Name	Enrollment No.
1	Abhay Ingley	GGV/21/05501
2	Abhay Kumar Gupta	GGV/21/05502
3	Abhishek Kashyap	GGV/21/05503
4	Akhil Singh	GGV/21/05504
5	Aman Gupta	GGV/21/05505
6	Amit Choudhary	GGV/21/05506
7	Anamika Banjare	GGV/21/05507
8	Ananya Sharma	GGV/21/05508
9	Anjali Parakh	GGV/21/05509
10	Anjali Patel	GGV/21/05510
11	Ankesh Suman	GGV/21/05511
12	Anurag Sahu	GGV/21/05512
13	Aparna Gupta	GGV/21/05513
14	Arpit Kumar Sahu	GGV/21/05514
15	Ashish Lader	GGV/21/05515
16	Ashutosh Kotwal	GGV/21/05516
17	Ashutosh Patker	GGV/21/05517
18	Ayush Laxme	GGV/21/05518
19	Ayush Rathore	GGV/21/05519
20	Ayushi Sahu	GGV/21/05520
21	Bhavesh Jolhey	GGV/21/05521
22	Bhawana Choudhary	GGV/21/05522
23	Chandrakant Son	GGV/21/05523
24	Deepak Kumar Mahar	GGV/21/05524
25	Geetanjali Sahu	GGV/21/05525
26	Hitansh Tiwari	GGV/21/05526
27	Jagriti Molchetla	GGV/21/05527
28	Kanchan Lata Rajak	GGV/21/05528
29	Kanishk Ware	GGV/21/05529
30	Kavita Sahu	GGV/21/05530



31	Khushboo Banjare	GGV/21/05532
32	Khushi Patel	GGV/21/05533
33	Kiran Patel	GGV/21/05534
34	Kritika Mishra	GGV/21/05535
35	Kumar Dev	GGV/21/05536
36	Kumari Yamini	GGV/21/05537
37	Kumkum Jain	GGV/21/05538
38	Manisha Yadav	GGV/21/05539
39	Md Kaif Siddiqui	GGV/21/05540
40	Megha Verma	GGV/21/05541
41	Mithilesh Kumar Kaushik	GGV/21/05542
42	Mohan Kumar Dewangan	GGV/21/05543
43	Muskan Tripathi	GGV/21/05544
44	Nikhil Jadhav	GGV/21/05545
45	Nikita Verma	GGV/21/05546
46	Om Chandra	GGV/21/05547
47	Peeyush Patel	GGV/21/05548
48	Pemendra Sahu	GGV/21/05549
49	Pooja Sahu	GGV/21/05550
50	Prachi Vaishnav	GGV/21/05551
51	Prakash Singh Thakur	GGV/21/05552
52	Pratyush Prasad Thakur	GGV/21/05553
53	Raj Bhagat	GGV/21/05554
54	Ram Chandra	GGV/21/05555
55	Rupendra Jagat	GGV/21/05556
56	Savita Rathia	GGV/21/05557
57	Shweta Tamrakar	GGV/21/05558
58	Shyam Sundar Bidoya	GGV/21/05559
59	Siddhant Chandra	GGV/21/05560
60	Simran Lahare	GGV/21/05561
61	Sneha Jaiswal	GGV/21/05562
62	Sonal Sonwani	GGV/21/05563
63	Sparsh Thawait	GGV/21/05564
64	Sumit Sahu	GGV/21/05566

गुरू घासीदास विश्वविद्यालय (केन्रीय विश्वविद्यालय अधिनियम 2009 क्र. 25 के अंतर्गत स्वापित केन्न्रीय किवविद्यालय) कोनी, बिलासपुर - 495009 (छ.ग.)



Guru Ghasidas Vishwavidyalaya (A Central University Established by the Central Universities Act 2009 No. 25 of 2009) Koni, Bilaspur – 495009 (C.G.)

65	Surya Prakash Khutey	GGV/21/05567
66	Vikalp Bhardwaj	GGV/21/05568
67	Vishvendra Pratap Singh	GGV/21/05569
68	Vivek Gope	GGV/21/05570
69	Vivek Netam	GGV/21/05571

विभागाध्यक्ष मिead गणित विभाग Department of Mathematics गुरू घासीदास विश्वविद्यालय, Guru Ghasidas Vishwavidyalaya, बिलासपुर (छ.ग.) 495009, भारत Bilaspur (C.G.), 495009, India