UNIVERSITY OF CALCUTTA

CBCS SYLLABUS OF ZOOLOGY
2018

F

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R

THREE-YEAR HONOURS
DEGREE COURSE OF STUDIES

SUBJECT/PAPER CODE FORMAT

1. **Subject Code: ZOO**

2. **Honours Code: A**

3. **Course Code: a) Core Course: CC**

   b) Discipline Specific Elective: DSE-A/DSE-B

   c) Skill Enhancement Course: SEC-A/SEC-B

4. **Semester Code: 1/2/3/4/5/6**

5. **Paper No. Code: 1/2/3…../14**

6. **Paper Component Code: a) Theory: TH, b) Practical: P**

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CBCS ZOOLOGY (HONOURS), Papers & Their Codes

UNIVERSITY OF CALCUTTA

CBCS SYLLABUS FOR ZOOLOGY

F

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THREE-YEAR GENERAL
DEGREE COURSE OF STUDIES
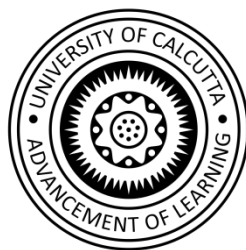
ZOOLOGY

2018

Outline Structure of CBCS Curriculum For Zoology (General), C.U.

Subject Code	Name of Paper	Theory	Practical	Internal assessment
PART I; SEM I				
CC1/GE1	**Animal Diversity**	**50**	**30**	**20**
PART I; SEM II				
CC2/GE2	**Comparative Anatomy & Developmental Biology**	**50**	**30**	**20**
PART II; SEM III				
CC 3/GE3	**Physiology and Biochemistry**	**50**	**30**	**20**
SEC-A (1)	**Apiculture**	**80**	**NA**	**20**
PART II; SEM IV				
CC 4/GE4	**Genetics and Evolutionary Biology**	**50**	**30**	**20**
SEC- B(1)	**Aquarium Fish Keeping**	**80**	**NA**	**20**
PART III; SEM V				
DSE A(1)	**Applied Zoology**	**50**	**30**	**20**
DSE B (1)	**Aquatic biology**	**50**	**30**	**20**
SEC-A (1)	**Sericulture**	**80**	**NA**	**20**
PART III; SEM VI				
DSE A (1)	**Biology of Insect**	**50**	**30**	**20**
DSE B (2)	**Ecology & Wild life Biology**	**50**	**30**	**20**
SEC-B (1)	**Medical diagnosis**	**80**	**NA**	**20**

Abbreviations:

CC: Core Course; DSE A/B: Discipline Specific Elective A/B; SEC A/B: Skill Enhancement Course.

SUBJECT/PAPER CODE FORMAT

4. **Subject Code: ZOO**
5. **Honours Code: G**
6. **Course Code: a) Core Course:CC**
   b) Discipline Specific Elective: DSE-A/DSE-B
   c) Skill Enhancement Course: SEC-A/SEC-B

4. **Semester Code: 1/2/3/4/5/6**

5. **Paper No. Code: 1/2/3…../14**

6. **Paper Component Code: a) Theory:TH, b) Practical: P**

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UNIVERSITY OF CALCUTTA

Notification No. CSR/ 12 /18

It is notified for information of all concerned that the Syndicate in its meeting held on 28.05.2018 (vide Item No.14) approved the Syllabi of different subjects in Undergraduate Honours / General / Major courses of studies (CBCS) under this University, as laid down in the accompanying pamphlet:

List of the subjects

Sl. No.	Subject	Sl. No.	Subject
1	Anthropology (Honours / General)	29	Mathematics (Honours / General)
2	Arabic (Honours / General)	30	Microbiology (Honours / General)
3	Persian (Honours / General)	31	Mol. Biology (General)
4	Bengali (Honours / General /LCC2 /AECC1)	32	Philosophy (Honours / General)
5	Bio-Chemistry (Honours / General)	33	Physical Education (General)
6	Botany (Honours / General)	34	Physics (Honours / General)
7	Chemistry (Honours / General)	35	Physiology (Honours / General)
8	Computer Science (Honours / General)	36	Political Science (Honours / General)
9	Defence Studies (General)	37	Psychology (Honours / General)
10	Economics (Honours / General)	38	Sanskrit (Honours / General)
11	Education (Honours / General)	39	Social Science (General)
12	Electronics (Honours / General)	40	Sociology (Honours / General)
13	English ((Honours / General/ LCC1/ LCC2/AECC1)	41	Statistics (Honours / General)
14	Environmental Science (Honours / General)	42	Urdu (Honours / General /LCC2 /AECC1)
15	Environmental Studies (AECC2)	43	Women Studies (General)
16	Film Studies (General)	44	Zoology (Honours / General)
17	Food Nutrition (Honours / General)	45	Industrial Fish and Fisheries – IFFV (Major)
18	French (General)	46	Sericulture – SRTV (Major)
19	Geography (Honours / General)	47	Computer Applications – CMAV (Major)
20	Geology (Honours / General)	48	Tourism and Travel Management – TTMV (Major)
21	Hindi (Honours / General /LCC2 /AECC1)	49	Advertising Sales Promotion and Sales Management –ASPV (Major)
22	History (Honours / General)	50	Communicative English –CMEV (Major)
23	Islamic History Culture (Honours / General)	51	Clinical Nutrition and Dietetics CNDV (Major)
24	Home Science Extension Education (General)	52	Bachelor of Business Administration (BBA) (Honours)
25	House Hold Art (General)	53	Bachelor of Fashion and Apparel Design – (B.F.A.D.) (Honours)
26	Human Development (Honours / General)	54	Bachelor of Fine Art (B.F.A.) (Honours)
27	Human Rights (General)	55	B. Music (Honours / General) and Music (General)
28	Journalism and Mass Communication (Honours / General)		

The above shall be effective from the academic session 2018-2019.

SENATE HOUSE
KOLKATA-700073
The 4th June, 2018

(Dr. Santanu Paul)
Deputy Registrar

Semester Wise Microbiology Courses for B. Sc. (Honours)

	Sem-1	Sem-2	Sem-3	Sem-4	Sem-5	Sem-6
Core Courses (CC)	**CC1 & 2** 2Th+2P (2X4+2X2=12 Credits) **CC1:** Introduction to microbiology and microbial diversity **CC2:** Bacteriology	**CC3 & 4** 2Th+2P (2X4+2X2=12 Credits) **CC3:** Biochemistry **CC4:** Cell Biology	**CC5,6 & 7** 3Th+3P (3X4+3X2=18 Credits) **CC5**: Virology **CC6:** Microbial physiology and metabolism **CC7:**Molecular Biology	**CC-8,9 &10** 3Th+3P (3X4+3X2=18 Credits) **CC8:**Microbial Genetics **CC9:**Environmental Microbiology **CC10:**Recombinant DNA Technology	**CC11 & 12** 2T+2P (2X4+2X2=12 Credits) **CC11:**Food and Dairy Microbiology **CC12:**Industrial Microbiology	**CC-13 & 14** 2T+2P (2X4+2X2=12 Credits) **CC13:**Immunology **CC14:**Medical Microbiology
Elective Courses:						
i) Generic Elective (GE)	1Th+1P **GE1** (1X4+1X2=6 Credits)	1Th+1P **GE2** (1X4+1X2=6 Credits)	1Th+1P **GE3** (1X4+1X2=6 Credits)	1Th+1P **GE4** (1X4+1X2=6 Credits)		
ii) Discipline Specific Elective Courses					**DSE-A*** 2Th+2P **Any two:** (2X4+2X2=12 Credits) A1. Microbial Biotechnology A2. Advances in Microbiology **DSE-B*** B1. Inheritance Biology B2.Microbes in Sustainable Agriculture and Development	**DSE-A*** 2Th+2P **Any two:** (2X4+2X2=12 Credits) A3.Plant Pathology nstrumentation and Biotechniques A4. Biomathematics and Biostatistics **DSE-B*** B3. Instrumentation and Biotechniques B4. Project Work

Ability Enhance-ment Compulsory Course (AECC)	1Th+0P **AECC-1: Communicative English** (2 Credits)	1Th+0P **AECC-2: Environmental Studies** (2 Credits)				
Skill Enhance-ment Courses (SEC)			1Th+0P **SEC-A** (1X2=2 Credits) **Any one** 1.Microbial Quality Control in Food and Pharmaceutical Industries 2. Biofertilizers and Biopesticides	1Th+0P **SEC-B** (1X2=2Credits) **Any one** 1. Food Fermentation Techniques 2. Microbiological Analysis of Air and Water		
Total No. of Courses and Marks	**4 X 100=400**	**4 X 100=400**	**5 X 100=500**	**5 X 100=500**	**4 X 100=400**	**4 X 100=400**
Total Credit 140	**20 Credits**	**20 Credits**	**26 Credits**	**26 Credits**	**24 Credits**	**24 Credits**

*DSE-A: Any one to be chosen in the 5th Semester and another one to be chosen in the 6th Semester.

*DSE-B: Any one to be chosen in the 5th Semester and another one to be chosen in the 6th Semester.

These choices must be made by the students before 5th Semester begins.

Semester wise Courses for B.Sc. Microbiology (General)

	Sem-1	Sem-2	Sem-3	Sem-4	Sem-5	Sem-6
Core Courses (CC)/GE	3Th+3P (3X4+3X2=18 Credits) **CC1:** Introduction and Scope of microbiology, Bacteriology	3Th+3P (3X4+3X2=18 Credits) **CC2:**Bacteriology and Virology,	3Th+3P (3X4+3X2=18 Credits) **CC3:**Biomolecules and Microbial metabolism	3Th+3P (3X4+3X2=18 Credits) **CC4:**Microbial Genetics and Molecular Biology		
Elective Courses						
I) Generic elective						
Discipline Specific Elective Courses (DSE)					3Th+3P (3X4+3X2=18 Credits) **DSE-A** Any **one** from 1. Genetic Engineering and Biotechnology 2. Microbes in Environment	3T+3P (3X4+3X2=18 Credits) **DSE-B** Any **one** from 1. Medical Microbiology and Immunology 2. Industrial Microbiology and Food Microbiology
Ability Enhancement Compulsory Course (AECC)	1 Th + 0 P **AECC-1** **Communicative English/MIL**	1 Th + 0 P **AECC-2** **Environmental Studies**				
Skill Enhance-ment Elective(SEC)			1Th+0P (1X2=2 Credits) **SEC-A**	1T+0P (1X2=2Credits) **SEC-B**	1T+0P (1X2=2 Credits) **SEC-A**	1T+0P (1X2=2 Credits) **SEC-B**

			(any one: either in Sem-3 or in Sem-5	(any one: either in Sem-4 or in Sem-6)	(any one: either in Sem-3 or in Sem-5)	(any one: either in Sem-4 or in Sem-6)
			1.Biofertilizers and Biopesticides 2.Microbial Quality Control in Food and Pharmaceutical Industries	1.Microbiological Analysis of Air and Water 2. Food Fermentation Techniques	1.Biofertilizers and Biopesticides 2. Microbial Quality Control in Food and Pharmaceutical Industries	1. Microbiological Analysis of Air and Water 2. Food Fermentation Techniques
Total No. of Courses and Marks	**4 X 100 =400**	**4 X 100 = 400**	**4 X 100 = 400**	**4 X 100 = 400**	**4 X 100 = 400**	**4 X 100 = 400**
Total Credit 120	**20 Credits**	**20 Credits**	**20 Credits**	**20 Credits**	**20 Credits**	**20 Credits**

U.G. Syllabus

for

Physics (Honours & General)

University of Calcutta

2018

Special Note:
Across all courses (for both, Honours and General) 10 marks will be reserved for Internal Assessment and 10 marks will be reserved for Attendance.

1.6 B.Sc. Honours - Course Details

Core Courses (Honours)

Sem	Course Type	Course Name	Teaching Mode	Credit	Marks
1	CC	Mathematical Physics - I	Theory	4	50
			Practical	2	30
	CC	Mechanics	Theory	4	50
			Practical	2	30
2	CC	Electricity and Magnetism	Theory	4	50
			Practical	2	30
	CC	Waves and Optics	Theory	4	50
			Practical	2	30
3	CC	Mathematical Physics - II	Theory	4	50
			Practical	2	30
	CC	Thermal Physics	Theory	4	50
			Practical	2	30
	CC	Digital Systems and Applications	Theory	4	50
			Practical	2	30
4	CC	Mathematical Physics - III	Theory	4	50
			Practical	2	30
	CC	Elements of Modern Physics	Theory	4	50
			Practical	2	30
	CC	Analog Systems and Applications	Theory	4	50
			Practical	2	30
5	CC	Quantum Mechanics and Applications	Theory	4	50
			Practical	2	30
	CC	Solid State Physics	Theory	4	50
			Practical	2	30
6	CC	Electro-magnetic Theory	Theory	4	50
			Practical	2	30
	CC	Statistical Mechanics	Theory	4	50
			Practical	2	30

Choices for DSE (Honours)

Sem	Course Type - Group	Course Name	Teaching Mode	Credit	Marks
5	DSE-A1 (Any one)	Advanced Mathematical Methods - I	Theory	5	65
			Tutorial	1	15
		Communication Electronics	Theory	4	50
			Practical	2	30
	DSE-B1 (Any one)	Advanced Mathematical Methods - II	Theory	5	65
			Tutorial	1	15
		Nuclear and Particle Physics	Theory	5	65
			Tutorial	1	15
6	DSE-A2 (Any one)	Astronomy and Astrophysics	Theory	5	65
			Tutorial	1	15
		Advanced Dynamics	Theory	4	50
			Practical	2	30
	DSE-B2 (Any one)	General Relativity	Theory	5	65
			Tutorial	1	15
		Nano Materials and Applications	Theory	5	65
			Tutorial	1	15

Choices for SEC (Honours)

Sem	Course Type - Group	Course Name	Teaching Mode	Credit	Marks
3	SEC-A (Any one)	Basics of Programming and Scientific Word Processing	Theory	2	80
		Electrical Circuits and Network Skills	Theory	2	80
4	SEC-B (Any one)	Computer Algebra System and Figure Drawing Skill	Theory	2	80
		Renewable Energy and Energy Harvesting	Theory	2	80

1.7 B.Sc. General - Semesterwise Courses

The number of different types of courses to be taken in the different semesters
have been specified in the table below.

	Sem-1	Sem-2	Sem-3	Sem-4	Sem-5	Sem-6	Total	Credits
CC	3	3	3	3			12	$12 \times 6 = 72$
DSE					3	3	6	$6 \times 6 = 36$
GE								
SEC			1	1	1	1	4	$2 \times 4 = \ 8$
AECC	1	1					2	$2 \times 2 = \ 4$
Total	4	4	4	4	4	4	24	120

Note:

1. **The CC must be chosen from three different disciplines.**

2. **The four SEC must be chosen from two different disciplines.**

1.8 B.Sc. General - Course Details

Core Courses (General)

Sem	Course Type	Course Name	Teaching Mode	Credits	Marks
1	CC	Mechanics	Theory	4	50
			Practical	2	30
2	CC	Electricity and Magnetism	Theory	4	50
			Practical	2	30
3	CC	Thermal Physics	Theory	4	50
			Practical	2	30
4	CC	Waves and Optics	Theory	4	50
			Practical	2	30

Choices for DSE (General)

Sem	Course Type - Group	Course Name	Teaching Mode	Credit	Marks
5	DSE-A (Any one)	Electronics and Instrumentation	Theory	4	50
			Practical	2	30
		Modern Physics	Theory	5	65
			Tutorial	1	15
6	DSE-B (Any one)	Solid State Physics	Theory	4	50
			Practical	2	30
		Nuclear and Particle Physics	Theory	5	65
			Tutorial	1	15

Choices for SEC (General)

Sem	Course Type - Group	Course Name	Teaching Mode	Credit	Marks
3/5	SEC-A (Any one)	Basics of Programming and Scientific Word Processing	Theory	2	80
		Electrical Circuits and Network Skills	Theory	2	80
4/6	SEC-B (Any one)	Computer Algebra System and Figure Drawing Skill	Theory	2	80
		Renewable Energy and Energy Harvesting	Theory	2	80

University of Calcutta

Syllabus for three-year B.Sc. in Mathematics

(Honours)

under

CBCS System

2018

1. Credit Distribution across Courses

Course Type	Total Papers	Credits		
		Theory + Tutorial	**Theory + Practical**	**Total**
Core Courses	14	$13 \times 5 = 65$ $13 \times 1 = 13$	$1 \times 4 = 4$ $1 \times 2 = 2$	84
Discipline Specific Electives	4	$4 \times 5 = 20$ $4 \times 1 = 4$	—	24
Generic Electives	4	$4 \times 6 = 24$	—	24
Ability Enhancement Language Courses	2	$2 \times 2 = 4$	—	4
Skill Enhancement Courses	2	$2 \times 2 = 4$	—	4
Totals	**26**	**134**	**6**	**140**

2. Course Structure : Semester-wise distribution of Courses

Semester	Course Name	Course Detail	Credits	Page No.
1	Ability Enhancement Compulsory Course-1	AECC(1)	2	
	Core Course-1	Calculus, Geometry & Vector Analysis	6	4
	Core Course-2	Algebra	6	6
	Generic Elective-1	GE(1)/CC(1) *	6	
		Total	**20**	
2	Ability Enhancement Compulsory Course-2	AECC(2)	2	
	Core Course-3	Real Analysis	6	8
	Core Course-4	Group Theory-I	6	10
	Generic Elective-2	GE(2)/CC(2) *	6	
		Total	**20**	
3	Core Course-5	Theory of Real Functions	6	11
	Core Course-6	Ring Theory & Linear Algebra-I	6	13
	Core Course-7	ODE & Multivariate Calculus-I	6	14
	Skill Enhancement Course-A	See SEC A	2	3
	Generic Elective-3	GE(3)/CC(3) *	6	
		Total	**26**	
4	Core Course-8	Riemann Integration & Series of Functions	6	16
	Core Course-9	PDE & Multivariate Calculus-II	6	18
	Core Course-10	Mechanics	6	20
	Skill Enhancement Course-B	See SEC B	2	3
	Generic Elective-4	GE(4)/CC(4) *	6	
		Total	**26**	
5	Core Course-11	Probability & Statistics	6	22
	Core Course-12	Group Theory-II & Linear Algebra-II	6	24
	Discipline Specific Elective- A	See DSE A(1)	6	3
	Discipline Specific Elective-B	See DSE B (1)	6	3
		Total	**24**	
6	Core Course-13	Metric Space & Complex Analysis	6	26
	Core Course-14	Numerical Methods	4	28
	Core Course-14 Practical	Numerical Methods Lab	2	30
	Discipline Specific Elective- A	See DSE A(2)	6	3
	Discipline Specific Elective-B	See DSE B(2)	6	3
		Total	**24**	
		Grand Total	**140**	

*These courses are to be taken by the students of **other discipline.** These are the 4 **Core Courses** of **General Courses** of other disciplines.

Course Structure   Credit Distribution   DSE   SEC   GE

3. Choices for Discipline Specific Electives (DSE)

DSE-A(1)	DSE-B(1)	DSE-A(2)	DSE-B(2)
For Semester -5	**For Semester-5**	**For Semester-6**	**For Semester-6**
Advanced Algebra [31]	Discrete Mathematics [35]	Differential Geometry [41]	Point Set Topology [46]
Bio Mathematics [32]	Linear Programming & Game Theory [37]	Mathematical Modelling [43]	Astronomy & Space Science [47]
Industrial Mathematics [34]	Boolean Algebra & Automata Theory [39]	Fluid Statics [44] & Elementary Fluid Dynamics	Advanced Mechanics [49]

The number within the bracket [ ] refers to page number. A student has to opt for <u>any one</u> of the subjects in DSE-A(1) and any one in DSE-B(1) in Semester 5. The student has to opt for <u>any one</u> of the subjects in DSE-A(2) and any one in DSE-B(2) in Semester 6.

Course Structure | Credit Distribution | SEC

4. Choices for Skill Enhancement Courses (SEC)

SEC-A (for Semester 3)	SEC-B (for Semester 4)
C Programming Language [51]	Mathematical Logic [53]
Object Oriented Programming in C++ [52]	Scientific computing with SageMath & R [54]

The number within the bracket [ ] refers to page number. A student has to opt for <u>any one</u> of the subjects available under each category.

Course Structure | Credit Distribution | DSE

University of Calcutta

Syllabus for three-year B.Sc. in Mathematics (General)

Under

CBCS System

2018

1. Credit Distribution across Courses

Course Type	Total Papers	Credits		
		Theory + Tutorial	Theory + Practical	Total
Core Courses	4 (Mathematics)	$4 \times 5 + 4 \times 1 = 24$	—	72
	8 (Other disciplines)	To be decided	To be decided	
Discipline Specific Electives	2 (Mathematics)	$2 \times 5 + 2 \times 1 = 12$	—	36
	4 (Other disciplines)	To be decided	To be decided	
Ability Enhancement Language Courses	2	$2 \times 2 = 4$	—	4
Skill Enhancement Courses	4 (at least one from each discipline)	$4 \times 2 = 8$	—	8
Totals	24			120

2. Course Structure : Semester-wise distribution of Courses

Semester	Course Name	Course Detail	Credits	Page No.
1	Ability Enhancement Compulsory Course-I	AECC(1)	2	
	Core Course-1A	Mathematics-CC1/GE1	6	4
	Core Course-2A	Other Discipline	6	
	Core Course-3A	Other Discipline	6	
		Total	**20**	
2	Ability Enhancement Compulsory Course-2	AECC(2)	2	
	Core Course-1B	Mathematics- CC2/GE2	6	7
	Core Course-2B	Other Discipline	6	
	Core Course-3B	Other Discipline	6	
		Total	**20**	
3	Core Course-1C	Mathematics- CC3/GE3	6	9
	Core Course-2C	Other Discipline	6	
	Core Course-3C	Other Discipline	6	
	Skill Enhancement Course-1	For Mathematics Course see SEC-A *	2	3
		Total	**20**	
4	Core Course-1D	Mathematics- CC4/GE4	6	11
	Core Course-2D	Other Discipline	6	
	Core Course-3D	Other Discipline	6	
	Skill Enhancement Course-2	For Mathematics Course see SEC-B *	2	3
		Total	**20**	
5	Skill Enhancement Course-3	For Mathematics Course see SEC-A *	2	3
	Discipline Specific Elective-1A	Mathematics-5 (See DSE-A)	6	3
	Discipline Specific Elective-2A	Other Discipline	6	
	Discipline Specific Elective-3A	Other Discipline	6	
		Total	**20**	
6	Skill Enhancement Course-4	For Mathematics Course see SEC-B *	2	3
	Discipline Specific Elective-1B	Mathematics-6 (See DSE-B)	6	**??**
	Discipline Specific Elective-2B	Other Discipline	6	
	Discipline Specific Elective-3B	Other Discipline	6	
		Total	**20**	
		Grand Total	**120**	

 * A student has to opt for 4 Skill Enhancement Courses in four Semesters (3rd to 6th) taking **at least one** Course from **each discipline.**

Course Structure | Credit Distribution | DSE | SEC

3. Choices for Skill Enhancement Courses in Mathematics (SEC)

	Course Detail
Skill Enhancement Course (Semester 3)-SEC A	C Programming Language [13]
Skill Enhancement Course (Semester 4)-SEC B	Mathematical Logic [14]
Skill Enhancement Course (Semester 5) -SEC A	Object Oriented Programming in C++ [15]
Skill Enhancement Course (Semester 6)-SEC B	Boolean Algebra [16]

The number within the bracket [ ] refers to page number.

4. Choices for Discipline Specific Electives
.   DSE-A & B (Mathematics)

DSE-A: (Semesters 5/6)	DSE-B: (Semesters 5/6)
Particle Dynamics [17]	Advanced Calculus [19]
Graph Theory [18]	Mathematical Finance [20]

The number within the bracket [ ] refers to page number. A student has to opt for <u>at least one</u> of the subjects available under each category.

UNIVERSITY OF CALCUTTA

SYLLABUS

FOR

THREE-YEAR B.Sc. HONOURS COURSE

UNDER CHOICE BASED CREDIT SYSTEM

BOTANY

FOR SESSION 2018-2019

Core courses (CC-Total 14 courses to be studied in semesters. All theoretical papers i.e., BOT-A…TH are of 4 credits each and the respective practical papers i.e., BOT-A….P of 2 credits each)

SEM I:

1. Phycology and Microbiology (BOT-A-CC-1-1-TH, BOT-A-CC-1-1-P)
2. Mycology and Phytopathology (BOT-A-CC-1-2-TH, BOT-A-CC-1-2-P)

SEM II

3. Plant anatomy (BOT-A-CC-2-3-TH, BOT-A-CC-2-3-P)
4. Archegoniate (BOT-A-CC-2-4-TH, BOT-A-CC-2-4-P)

SEM III

5. Palaeobotany and Palynology (BOT-A-CC-3-5-TH, BOT-A-CC-3-5-P)
6. Reproductive biology of Angiosperms (BOT-A-CC-3-6-TH, BOT-A-CC-3-6-P)
7. Plant systematic (BOT-A-CC-3-7-TH, BOT-A-CC-3-7-P)

SEM IV

8. Plant geography, Ecology and Evolution (BOT-A-CC-4-8-TH, BOT-A-CC-4-8-P)
9. Economic Botany (BOT-A-CC-4-9-TH, BOT-A-CC-4-9-P)
10. Genetics (BOT-A-CC-4-10-TH, BOT-A-CC-4-10-P)

SEM V

11. Cell and Molecular biology (BOT-A-CC-5-11-TH, BOT-A-CC-5-11-P)
12. Biochemistry (BOT-A-CC-5-12-TH, BOT-A-CC-5-12-P)

SEM VI

13. Plant Physiology (BOT-A-CC-6-13-TH, BOT-A-CC-6-13-P)
14. Plant Metabolism (BOT-A-CC-6-14-TH, BOT-A-CC-6-14-P)

Skill enhancement courses (SEC- 2, two papers to be selected from the list taking 1 from SEC A in 3rd SEM and 1 from SEC B in 4th SEM. Both the papers of 2 credits each and theoretical only)

SEC A (SEM III)

1. Applied Phycology, Mycology and Microbiology (BOT-A-SEC-A-3-1)
2. Biofertilizers (BOT-A-SEC-A-3-2)

SEC B (SEM IV)

   3. Plant Breeding (BOT-A-SEC-B-4-3)

   4. Mushroom Culture Technology (BOT-A-SEC-B-4-4)

Discipline specific elective courses (DSE, four courses to be selected from the 2 groups (A & B). A student shall choose any one paper from each of Group- A and Group- B in 5th AND 6th SEM. Each course comprises of theoretical component of 4 credits and practical ones of 2 credits)

DSE-A (Group- A)

  SEM V

   1. Biostatistics (BOT-A-DSE-A-5-1-TH, BOT-A-DSE-A-5-1-P)

   2. Industrial and Environmental Biology (BOT-A-DSE-A-5-2-TH, BOT-A-DSE-A-5-2-P)

  SEM VI

   3. Medicinal and Ethnobotany (BOT-A-DSE-A-6-3-TH, BOT-A-DSE-A-6-3-P)

   4. Stress Biology (BOT-A-DSE-A-6-4-TH, BOT-A-DSE-A-6-4-P)

DSE-B (Group-B)

  SEM V

   5. Plant Biotechnology (BOT-A-DSE-B-5-5-TH, BOT-A-DSE-B-5-5-P)

   6. Horticultural practices and Post Harvest Technology (BOT-A-DSE-B-5-6-TH, BOT-A-DSE-B-5-6-P)

  SEM VI

   7. Research Methodology (BOT-A-DSE-B6-7-TH, BOT-A-DSE-B-6-7-P)

   8. Natural resource management (BOT-A-DSE-B-6-8-TH, BOT-A-DSE-B-6-8-P)

DISSERTATION/PROJECT: A Dissertation / Project may be given in lieu of a DSE. This is considered as a special course and will be of 6 credits. (Vide page 4 of CUS/268(CIR/18, dated 07.05.2018)). However, the details of the topics, modalities of evaluation etc. to be notified latter on.

SEME STER	COURSE OPTED	COURSE NAME	CREDIT
I	Core Course 1- BOT-A-CC-1-1-TH	Phycology and microbiology	4
	Core Course 1- BOT-A-CC-1-1-P	Phycology and microbiology Practical	2
	Core Course 2- BOT-A-CC-1-2-TH	Mycology and phytopathology	4
	Core Course 2- BOT-A-CC-1-2-P	Mycology and phytopathology Practical	2
II	Core Course 3- BOT-A-CC-2-3-TH	Plant anatomy	4
	Core Course 3- BOT-A-CC-2-3-P	Plant anatomy Practical	2
	Core Course 4- BOT-A-CC-2-4-TH	Archegoniate	4
	Core Course 4- BOT-A-CC-2-4-P	Archegoniate Practical	2
III	Core Course 5- BOT-A-CC-3-5-TH	Palaeobotany and palynology	4
	Core Course 5- BOT-A-CC-3-5-P	Palaeobotany and palynology Practical	2
	Core Course 6- BOT-A-CC-3-6-TH	Reproductive biology of angiosperms	4
	Core Course 6- BOT-A-CC-3-6-P	Reproductive biology of angiosperms Practical	2
	Core Course 7- BOT-A-CC-3-7-TH	Plant systematics	4
	Core Course 7- BOT-A-CC-3-7-P	Plant systematics Practical	2
	SEC A – BOT-A-SEC-A-3-1/ BOT-A-SEC-A-3-2	Only **ONE** paper to be selected	2
IV	Core Course 8- BOT-A-CC-4-8-TH	Plant geography, ecology and evolution	4
	Core Course 8- BOT-A-CC-4-8-P	Plant geography, ecology and evolution Practical	2
	Core Course 9- BOT-A-CC-4-9-TH	Economic botany	4
	Core Course 9- BOT-A-CC-4-9-P	Economic botany Practical	2
	Core Course 10- BOT-A-CC-4-10-TH	Genetics	4
	Core Course 10- BOT-A-CC-4-10-P	Genetics Practical	2
	SEC B – BOT-A-SEC-B-4-3/ BOT-A-SEC-B-4-4	Only **ONE** paper to be selected	2
V	Core Course 11- BOT-A-CC-5-11-TH	Cell and molecular biology	4
	Core Course 11- BOT-A-CC-5-11-P	Cell and molecular biology Practical	2
	Core Course 12- BOT-A-CC-5-12-TH	Biochemistry	4
	Core Course 12- BOT-A-CC-5-12-P	Biochemistry Practical	2
	DSE A: BOT-A-DSE-A-5-1 & 2-TH & P	Only **ONE** paper to be selected from Group A	4 & 2
	DSE B: BOT-A-DSE-B-5-5 & 6-TH & P	Only **ONE** paper to be selected from Group B	4 & 2

VI	Core Course 13- BOT-A-CC-6-13-TH	Plant physiology	4
	Core Course 13- BOT-A-CC-6-13-P	Plant physiology practical	2
	Core Course 14- BOT-A-CC-6-14-TH	Plant metabolism	4
	Core Course 14- BOT-A-CC-6-14-P	Plant metabolism Practical	2
	DSE A: BOT-A-DSE-A-6-3&4-TH & P	Only **ONE** paper to be selected Group A	4 & 2
	DSE B: BOT-A-DSE-B-6-7&8 -TH & P	Only **ONE** paper to be selected Group B	4 & 2

UNIVERSITY OF CALCUTTA

SYLLABUS

FOR

THREE-YEAR B.Sc. PROGRAMME IN

BOTANY (GENERAL COURSE)

UNDER CHOICE BASED CREDIT SYSTEM

BOTANY

Syllabus for three-year B.Sc. Botany Programme

(With effect from 2018-2019)

CORE COURSES (4)

Each theoretical course of 4 credits and practical of 2 credits.

1. Plant diversity I (Phycology, Mycology, Phytopathology, Bryophytes and Anatomy) – a) Theoretical- BOT-G-CC-1-1-TH b) Practical- BOT-G-CC-1-1-P (… … GE-1-1-TH & P)

2. Plant diversity II (Pteridophytes, Gymnosperms, Palaeobotany, Morphology and Taxonomy) – a) Theoretical- BOT-G-CC-2-2-TH b) Practical- BOT-G-CC-2-2-P (… … GE-2-2-TH & P)

3. Cell biology, Genetics and Microbiology – a) Theoretical- BOT-G-CC-3-3-TH b) Practical- BOT-G-CC-3-3-P (… … GE-3-3-TH & P)

4. Plant physiology and metabolism – a) Theoretical- BOT-G-CC-4-4-TH b) Practical- BOT-G-CC-4-4-P (… … GE-4-4-TH & P)

N.B.: The above said four core courses (CC) may be considered as GE 1, 2, 3 & 4 respectively for the honours students of other allied disciplines opting Botany as one of the general courses.

Skill enhancement courses (SEC, four courses to be selected strictly on 2 subjects out of 3 subjects opted taking 2 courses from each subject. Each general subject shall have 2 groups (A & B) of SEC papers. One paper from Group A from each of the 2 subjects to be chosen in the 3rd and 5th Semester, one paper from Group B of each of the 2 subjects to be chosen in the 4th and 6th Semesters. Each paper of 2 credits and theoretical only)

SEC A
1. Plant breeding and biometry (BOT-G-SEC-A-3/5-1)
2. Biofertilizers (BOT-G-SEC-A-3/5-2)

SEC B
1. Plant biotechnology (BOT-G-SEC-B-4/6-3)
2. Mushroom culture technology (BOT-G-SEC-B-4/6-4)

Discipline specific elective courses (DSE, two courses to be selected from the list taking one each from Group A in 5th semester and one from Group B in 6th Semester. Each course comprises of theoretical component of 4 credits and practical ones of 2 credits)

DSE A
1. Phytochemistry and medicinal botany- a) Theoretical- BOT-G-DSE-A-5-1-TH, b) Practical- BOT-G-DSE-A-5-1-P
2. Natural resource management- a) Theoretical- BOT-G-DSE-A-5-2-TH, b) Practical- BOT-G-DSE-A-5-2-P

DSE B
3. Economic botany- a) Theoretical- BOT-G-DSE-B-6-3-TH, b) Practical- BOT-G-DSE-B-6-3-P
4. Horticultural practices and post harvest technology - a) Theoretical- BOT-G-DSE-B-6-4-TH, b) Practical- BOT-G-DSE-B-6-4-P

SEME STER	CORE COURSES (CC-1-4)	ABILITY ENHANCEMENT COMPULSORY COURSE (AEC-1&2)	SKILL ENHANCEMENT COURSE (SEC-1-4)	DISCIPLINE SPECIFIC ELECTIVE COURSE (DSE-1&2)
I	PLANT DIVERSITY I (PHYCOLOGY, MYCOLOGY, PHYTOPATHOLOGY, BRYOPHYTES AND ANATOMY) **BOT-G-CC-1-1-TH** PRACTICALS **BOT-G-CC-1-1-P** OTHER DESCIPLINES (2)	AECC-1 ENGLISH COMUUNICATION		
II	PLANT DIVERSITY II (PTERIDOPHYTES, GYMNOSPERMS, PALAEOBOTANY, MORPHOLOGY AND TAXONOMY) **BOT-G-CC-2-2-TH** PRACTICALS **BOT-G-CC-2-2-P** OTHER DESCIPLINES (2)	AECC-2 ENVIRONMENTAL SCIENCE		
III	CELL BIOLOGY, GENETICS AND MICROBIOLOGY **BOT-G-CC-3-3-TH** PRACTICALS **BOT-G-CC-3-3-P** OTHER DESCIPLINES (2)		SEC-A	
IV	PLANT PHYSIOLOGY AND METABOLISM **BOT-G-CC-4-4-TH** PRACTICALS **BOT-G-CC-4-4-P** OTHER DESCIPLINES (2)		SEC-B	
V			SEC-A	DSE-A (any one from GROUP A) THEORY & PRACTICAL OTHER DESCIPLINES (2)
VI			SEC-B	DSE-B (any one from GROUP B) THEORY & PRACTICAL OTHER DESCIPLINES (2)

UNIVERSITY OF CALCUTTA

B.A./B.Sc. ECONOMICS
(HONOURS AND GENERAL)
SYLLABUS UNDER CHOICE BASED
CREDIT SYSTEM

To be effective from the academic session 2018-19

BA/BSc ECONOMICS (HONOURS) SYLLABUS,
UNIVERSITY OF CALCUTTA, UNDER
CHOICE BASED CREDIT SYSTEM
To be effective from the academic session 2018-19

Table 1: Marks and Paper distributions with credit

Course Type	Total Papers	Credits	
		Credit	Marks
Core Courses (CC)	14	14*6=84	14*100=1400
Discipline Specific Electives (DSE)	4	4*6 =24	4*100 = 400
Generic Electives (GE) [Covering Two Disciplines with two courses each. Any discipline in any semester]	4	4*6=24	4*100= 400
Ability Enhancement Compulsory Courses-AECC [Consisting of two Ability Enhancement Compulsory Courses – AECC-1 and AECC-2]	2 [AECC-1 is Communicating English/ Modern Indian Languages(MIL) and AECC-2 is Environmental Studies (ENVS)]	2*2=4	100*2= 200
Skill Enhancement Courses (SEC)	2	2*2=4	100*2=200
Totals	26	140	2600

- **Continuous Internal Assessment and Students" Attendance: For each paper 10% will be reserved for continuous internal assessment (CIA) and 10% will be reserved for attendance of the students.** *CIA may take the form of written examination/s, take-home assignments, viva-voce; presentation etc depending on the course instructor. As per definition CIA will be assessed fully internally by the course instructor.*

  Types of tutorials: Tutorial classes are introduced per course (except for AEC and SEC) to give the students an idea of detailed understanding of the course and also to build their confidence on the subject in terms of (i) solving problems, (ii) presenting a paper in terms of board work or power point,(iii) preparation of term paper etc. A tutorial class also helps a teacher to clarify any topic in detail to the students. A tutorial contact hour has been meant to promote teacher-student academic interaction. The norm of examination for this part of the course will be decided later. *Unlike all other Science subjects Economics should not be treated as a laboratory–based subject.* After all it is a subject under Social Science and so there is limited scope for introducing practical part for each course. **Only under Discipline Specific Elective-A,**

5th Semester/6th Semester, for the Courses "Applied Econometrics" and "Issues in Indian Economy" (under DSE A) there will be a *practical part* **of 30 marks (2 credits) instead of tutorial part of 15 marks (1 credit).** Practical classes in case of ─Applied Econometrics‖ will be conducted on the basis of laboratory-based specified softwares (STATA or R). Practical classes for the course ─Issues in Indian economy‖

<u>Method followed for coding the Courses</u>

Economics Honours Core Course 1, 1st semester (Theory): ECO-A-CC-1-1-TH

Economics Honours Core Course 1, 1st semester (Tutorial): ECO-A-CC-1-1TU

Table 2 :Course structure semester-wise: Economics (Honours)

Table 2A :Semester –I (July to December)

Type of Course	Name of the Course	Credit	Marks
Economics Core Course –I (ECO-A-CC-1-1-TH-TU)	Introductory Microeconomics[Theory plus Tutorial]	5+1=6	100
Economics Core Course –II (ECO-A-CC-1-2-TH-TU)	Mathematical Methods for Economics-I [Theory plus Tutorial]	5+1=6	100

Table 2B :Semester –II (January to June)

Type of Course		Name of the Course	Credit	Marks
Economics Core Course –III (ECO-A-CC-2-3-TH-TU)		Introductory Macroeconomics [Theory plus Tutorial]	5+1=6	100
Economics Core Course –IV (ECO-A-CC-2-4.TH-TU)		Mathematical Methods for Economics-II [Theory plus Tutorial]	5+1=6	100

Table 2C :Semester –III (July to December)

Type of Course	Name of the Course	Credit	Marks
Economics Core Course –V (ECO-A-CC-3-5-TH-TU)	Intermediate Microeconomics-I [Theory plus Tutorial]	5+1=6	100
Economics Core Course –VI (ECO-A-CC-3-6-TH-TU)	Intermediate Macroeconomics-I [Theory plus Tutorial]	5+1=6	100
Economics Core Course –VII (ECO-A-CC-3-7-TH-TU)	Statistics for Economics [Theory plus Tutorial]	5+1=6	100
Skill Enhancement Course-I (A Group) (ECO-A-SEC-3-1A-TH)	Data Analysis [Theory]/ Rural Development [Theory] [A-Group of SEC consists of two courses. Students will have to select *any one* of the two]	2	100

Table 2D : Semester-IV (January to June)

Type of Course	Name of the Course	Credit	Marks
Economics Core Course –VIII (ECO-A-CC-4-8-TH-TU)	Intermediate Microeconomics-II[Theory plus Tutorial]	5+1=6	100
Economics Core Course –IX (ECO-A-CC-4-9-TH-TU)	Intermediate Macroeconomics-II [Theory plus Tutorial]	5+1=6	100
Economics Core Course –X (ECO-A-CC-4-10-TH-TU)	Introductory Econometrics[Theory plus Tutorial]	5+1=6	100
Skill Enhancement Course-II (B Group) (ECO-A-SEC-4-2B-TH)	Research Methodology [Theory]/ Managerial Economics [Theory] [B-Group of SEC consists of two courses. Students will have to select *any one* of the two]	2	100

Table 2E: Semester –V (July to December)

Type of Course	Name of the Course	Credit	Marks
Economics Core Course –XI (ECO-A-CC-5-11-TH-TU)	International Economics [Theory plus Tutorial]	5+1=6	100
Economics Core Course –XII (ECO-A-CC-5-12-TH-TU)	Indian Economy [Theory plus Tutorial based Term Paper]	5+1=6	100
Two Discipline Specific Elective (DSE) Courses: DSE-A and DSE- B In Semester V these two courses are denoted as DSE-A(1) and DSE-B(1) One out of two courses from : DSE-A(1) One out of two courses from: DSE-B(1) (ECO-A-DSE-5-A(1)-TH-TU/P) and (ECO-A-DSE-5-B(1)-TH-TU)	DSE-A(1) consists of two courses out of which students will have to select *any one* and DSE-B(1) consists of two courses out of which students have to select *any one*. The two courses under DSE-A(1) are Applied Econometrics (AE) : 4(Th) +2 (P)= 6 Economic History of India (1857-1947) (EHI) : 5(Th) +1(Tu) = 6 [Students will have to select any one] The two courses under DSE-B(1) are Comparative Economic Development (1850-1950) (CED): 5(Th) +1(Tu) = 6 Financial Economics (FE) : 5 (Th) + 1 (Tu) =6 [Students will have to select any one]	(5+1)= 6 (5+1)= 6 [Or one (4+2)= 6 and one (5+1)= 6]	100+ 100

Table 2F: Semester –VI (January to June)

Type of Course	Name of the Course	Credit	Marks
Economics Core Course –XIII (ECO-A-CC-6-13-TH-TU)	Public Economics [Theory plus Tutorial]	5+1=6	100
Economics Core Course –XIV (ECO-A-CC-6-14-TH-TU)	Development Economics [Theory plus Tutorial]	5+1=6	100

Two Discipline Specific Elective (DSE) Courses: DSE-A and DSE- B
 	
In Semester VI these two courses are denoted as DSE-A(2) and DSE-B(2)
 	
One out of two courses from : DSE-A(2) One out of two courses from: DSE-B(2) (ECO-A-DSE-6-A(2)-TH-TU/P) and (ECO-A-DSE-6-B(2)-TH-TU)
	DSE-A(2) consists of two courses out of which students will have to select *any one* and DSE-B(2) consists of two courses out of which students have to select *any one*.
	
	<u>The two courses under DSE-A(2) are</u>
	Money and Financial Markets (MFM)
	           : 5(Th) + 1(Tu) =6
	Issues in Indian Economy (IIE)
	           : 4(Th) +2 (P)= 6
	[Students will have to select any one]
	
	<u>The two courses under DSE-B(2) are</u>
	Environmental Economics (EE)
	           : 5 (Th) +1 (Tu) =6
	Issues in Development Economics (IDE)
	           : 5 (Th) +1 (Tu) =6
	[Students will have to select any one]
		(5+1)= 6 (5+1)=6
		
		[Or one (4+2)=6 and one (5+1)= 6]
			100 + 100

Total		**24**	**400**

- **In framing this syllabus the centralized structure of Calcutta University is followed.**

- <u>**Special Note**</u>

(i) *The four Generic Elective papers (courses) for Economics (Honours) students **will be from any two subjects other than Economics with the condition that Mathematics is to be one of the Generic Elective Subjects for Economics(Honours) students.** Thus students having Economics Honours will select two other disciplines of 200 marks each under Generic Elective and one of the two disciplines should be Mathematics . **Students will have to select two courses on Mathematics <u>in any two of the four semesters 1,2, 3 and 4 (where we find Generic Elective Courses). Thus two courses on Mathematics is compulsory for Economics (Honours).</u>** The other Discipline can be any other subject. For example, an Economics (Honours) student may opt for Mathematics as Generic Elective in 1ˢᵗ and 3ʳᵈ semesters and Political Science (or Statistics) in 2ⁿᵈ and 4ᵗʰ Semesters.*

(ii) *Similarly Economics as Generic Elective will be offered to students having Honours in any subject other than Economics. <u>The Generic Elective papers in Economics for Honours students (for students having Honours in any subject other than Economics) will be treated as Core Papers in Economics for General students (for BA/BSc General students having Economics as a Core paper under the General stream).</u> [This has been explained clearly in the context of the syllabus for BA/BSc Economics (General)].<u>Students having Honours in any subject other than Economics will select any two Disciplines or Subjects for the four Generic Elective papers offered.</u>*

BA/BSc ECONOMICS (GENERAL) SYLLABUS,
UNIVERSITY OF CALCUTTA, UNDER CHOICE BASED CREDIT SYSTEM
[AS ON 24-05-2018]
To be effective from the academic session 2018-19

Preamble

- As the subject Economics falls under both BA and BSc two types of structures are proposed for BA/BSc Economics (General). One for BA Economics (General) and the other for BSc Economics (General).

- For any student with Honours in a subject other than Economics (say Sociology (Honours) or Political Science (Honours) or Statistics (Honours)) may opt for Economics as a Generic Elective subject. So provisions are to be kept for Economics Generic Elective for four courses (papers).

- For any BA (General) student with Core subjects other than Economics [say Political Science as Core paper (under General) and History as Core paper (under General)] may opt for Economics as a Generic Elective Course [two Generic Elective courses are to be chosen from any discipline other than the Core. Thus provision should be kept for two courses of any subject other than the Core, say Economics]. This should be treated as Generic Elective Course for BA (General) student.

- Regarding skill-enhancement course there are two groups. Group A for odd semesters like semester III and semester V and Group B for even semesters like semester IV and semester VI. As part of skill-enhancement Course under BA/BSc Economics (General) provision should be kept for two skill-enhancement courses under each of the two groups (so all total provision is to be kept for 4 courses).

- The conversion of credit to lecture hours is same as that of the Honours course. **For _five credits_ of lecture hours (theory) per course there will be _five hours of teaching per week_ so that for fifteen weeks all total there will be 75 lecture hours for theory classes per semester. For 1 credit tutorial classes (each of one hour) there will be all total 15 hours of tutorial classes for 15 weeks (one can refer to it a 15 tutorial contact hours). We can club „lecture hours" and „tutorial contact hours" and can refer to it as „teaching hours". Thus for a 5 credit (Theory)+1 credit(Tutorial)= 6 credit course for 15 weeks we have 75+15=90 teaching hours.** Similarly for a 2 credit course (only theory) the teaching hours or lecture hours all total is 30. Within each course the total marks of 100 has been subdivided in the following manner. For 90 hours of teaching (Theory plus tutorial) we have

80 marks. The remaining part (20 marks) has been divided into two equal parts: 10 marks is reserved for **_continuous internal assessment (CIA)_** and the remaining 10 marks for

attendance. Out of 80 for written examination 65 marks has been allotted and the remaining 15 marks has been allotted for tutorial examination.

- We first focus on BSc Economics (General). To illustrate the structure we start from a hypothetical example. Suppose the three general subjects opted by a student for BSc (General) are Economics, Mathematics and Statistics. Then the syllabus for Economics should be treated as the syllabus for BSc Economics (General) and it would be based on the following structure.

Table 3: Structure for BSc (General) Course covering three subjects

. Type of Course	Total Number of Courses	Number of Courses for Economics out of total number of Courses	Credit for each course	Total Credit	Total Marks
Core Course (CC)	12	4	5(Th) +1 (Tu)=6 for each course or 4(Th) +2(P) =6 for each course	Total credit for12 courses = 72	2. 12x100 =1200
Discipline Specific Elective (DSE)	6	2	5(Th) +1 (Tu)=6 for each course or 4(Th) +2(P) =6 for each course	Total credit for 6 courses =36	6x100 =600
Ability Enhancement Compulsory course (AECC)	2	Nil	2 (Th) for each course	Total credit for 2 courses =4	2x100 =200
Skill Enhancement Elective Course (SEC)	4	2	2 (Th) for each course	Total credit for 4 courses =8	4x100 =400
Total	**24**	**8**		**120**	**2400**

- In case of BSc (General) for each CC we have 100 marks, for each DSE we have 100 marks, for each AECC we have 100 marks, for each SEC we have 100 marks so that all total we have 2400 marks for BSc (General) stream (as shown in Table 3). For each semester we have 400 marks as shown in table 3.In the above table Th stands for Theory, Tu stands for tutorial and P stands for Practical.

- We next focus on BA Economics (General). To illustrate the structure we start from a hypothetical example. Suppose the two general subjects opted by a student for BA (General) are Political Science and Economics. Then the syllabus for Economics should be treated as the syllabus for BA Economics (General) and it would be based on the structure shown in table 4

- In Language Core Course (LCC) as per decision of the University there will 2 English Courses and 2 MIL Courses.

- Ability Enhancement Courses can be conducted along with the Honours students in 1st and 2nd semesters.

Table 4: Structure for BA (General) Course covering two subjects (with two different subjects under Generic Elective)

Type of Course	Total Number of Courses	Number of Courses for Economics out of total number of Courses	Credit for each course	Total Credit	Total Marks
Core Course (CC)	8	4	5(Th) +1 (Tu)=6 for each course	. Total credit for 8 courses = 48	8x100 =800
9. Language Core Course (LCC)	4	Nil	5(Th) +1 (Tu)=6 for each course	. Total credit for 4 courses = 24	4x100 =400
. Generic Elective (GE) [From any other subject other than Core]	2	. 2 GE Economics (provided none of the two Core general subjects is Economics)	5(Th) +1 (Tu)=6 for each course	. Total credit for 2 courses = 12	2x100 =200
Discipline Specific Elective (DSE)	4	. 2 can be offered from Economics from each of the two groups A and B. Candidate will have to select one from each of the two groups	5(Th) +1 (Tu)=6 for each course	. Total credit for 4 courses =24	4x100 =400
Ability Enhancement Compulsory course (AECC)	2	Nil	2 (Th) for each course	. Total credit for 2 courses =4	2x100 =200
Skill Enhancement Elective Course (SEC)	4	. 2 can be offered from Economics from each of the two groups A and B	2 (Th) for each course	. Total credit for 4 courses =8	4x100 =400
Total	**24**	**8 (without considering GE courses) + 2 GE Courses (if the general Core subjects are other than Economics)**		**120**	**2400**

- We now consider semester-wise break-up of BSc (General) and BA (General) Courses:

Table 5 : Semester-wise Break-up of BSc (General) Course covering three subjects

Semester	Types of Courses [Course codes are in bold within brackets]	Economics Course	Total Credit for all Courses for each semester	Total Marks
I	3 CC(**CC-1**), 1AECC(**AECC-1**)	1 CC	20	400
II	3CC(**CC-2**), 1AECC(**AECC-2**)	1CC	20	400
III	3CC(**CC-3**), 1 SEC(**SEC-A(1)**)	1CC plus 1 SEC (if any candidate considers SEC-A(1) as Economics)	20	400
IV	3CC(**CC-4**), 1 SEC(**SEC-B(1)**)	. 1CC plus 1 SEC (if any candidate considers SEC-B(1) as Economics)	20	400
V	3DSE[**DSE-A (1A+2A+3A)**] , 1SEC (**SEC-A(2)**)	1DSE plus 1SEC(if any candidate considers SEC-A(2) as Economics)	20	400
VI	3DSE[**DSE-B (1B+2B+3B)**], . 1 SEC (**SEC-B(2)**)	1DSE plus 1SEC (if any candidate considers SEC-B(2) as Economics)	20	400
Total	**24Courses**	**4 CC +2 DSE under DSE A (candidate will select one) + 2 DSE under DSE B (candidate will select one) + 2 SEC under SEC A (candidate will select one) + 2 SEC under SEC B (candidate will select one)**	**120**	**2400**

Table 6 : Semester-wise Break-up of BA (General) Course covering two subjects

Semester	Types of Courses . [Course codes are in bold within brackets]	Economics Course	Total Credit for all Courses for each semester	. Total Marks
I	2 CC (**CC-1**) , 1 GE (**GE-1**) and 1AECC (**AECC-1**)	1 CC plus 1GE(if the core is other than Economics)	20	400
II	. 2CC (**CC-2**) ,1 GE (**GE-2**), 1AECC (**AECC-2**)	1CC plus 1GE(if the core is other than Economics)	20	400
III	2CC (**CC-3**), 1 LCC (**L1(1)**) ,1 SEC (**SEC-A(1)**)	1CC plus 1 SEC (if any candidate considers SEC-A(1) as Economics)	20	400
IV	2CC (**CC-4**) , 1LCC (**L2(1)**), 1 SEC (**SEC-B(1)**)	1CC plus 1 SEC (if any candidate considers SEC-B(1) as Economics	20	400
V	1 LCC (**L1(2)**), 2DSE [**DSE-A (1A+2A)**], 1SEC (**SEC-A(2)**)	1DSE plus 1SEC (if any candidate considers SEC-A(2) as Economics)	20	400
VI	1 LCC(**L1(2)**) , 2DSE[**DSE-B (1B+2B)**] , 1 SEC (**SEC-B(2)**)	1DSE plus 1SEC (if any candidate considers SEC-B(2) as Economics)	20	400
Total	**24Courses**	**4 CC +2 DSE under DSE A (candidate will select one) + 2 DSE under DSE B (candidate will select one) + 2 SEC under SEC A (candidate will select one) + 2 SEC under SEC B (candidate will select one) + 2 GE (in case if the Core Course is other than Economics– the candidate will select one)**	**120**	**2400**

- AECC-1 refers to Communicative English/MIL. AECC-2 refers to Environmental Studies

- LCC: L1 –English Courses; L2- MIL courses. Two courses each

- SEC - Two courses from two subjects

- DSE- Two courses from two subjects in case of BA (General) .Two Courses from three subjects in case of BSc (General).[One course from each subject under each semester].

- In case of BA (General) for each CC we have 100 marks, for each LCC we have 100 marks, for each GE we have 100 marks, for each DSE we have 100 marks, for each AECC we have 100 marks and for each SEC we have 100 marks (as shown in table 4) so that all total we

UNIVERSITY
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SYLLABUS
of
Bachelor of Science (B. Sc.)
(Honours)
in
Computer Science (CMSA)
Choice Based Credit System (CBCS)
2018

Syllabus for B.Sc. (Honours) in Computer Science (CMSA) with Choice Based Credit System (CBCS) for Semesters– I-VI from the Academic Session 2018-19

SEMESTER – I

Semester	Courses	Topics	Credit
I	**CMS-A-CC-1-1-TH** (Core Course-1) Theory	**Digital Logic**	4
	CMS-A-CC-1-1-P (Core Course-1) Practical	**Digital Circuits**	2
	CMS-A-CC-1-2-TH (Core Course-2) Theory	**Programming Fundamentals using C**	4
	CMS-A-CC-1-2-P (Core Course-2) Practical	**Programming in C**	2

SEMESTER – I

CMS-A-CC-1-1-TH: Digital Logic
Core Course-1: Theory: 04 Credits: 60 hours

Integrated Circuits: (5 hours)
Bipolar Logic Families: DTL, TTL NOT Gate, TTL NAND Gate, TTL NOR Gate, Open Collector, Fan-in, Fan-out; MOS Logic Families: NMOS, PMOS, CMOS, SSI, MSI, LSI and VLSI classification

Number Systems: (5 hours)
Weighted and Non-Weighted Codes, positional, Binary, Octal, Hexadecimal, Binary coded Decimal (BCD), Gray Codes, Alphanumeric codes, ASCII, EBCDIC, Conversion of bases, Parity bits, Single Error bit detection and correcting codes: Hamming Codes, Fixed and Floating Point Arithmetic: Addition, Subtraction, Multiplication and Division.

Boolean Algebra: (8 hours)
Fundamentals of Boolean Expression: Definition of Switching Algebra, Basic properties of Switching Algebra, Huntington's Postulates, Basic logic gates (AND, OR, NOT), De-Morgan's Theorem, Universal Logic gates (NAND, NOR), Minterm, Maxterm, Minimization of Boolean Functions using K-Map up-to four variables, Two level and multilevel implementation using logic gates, Simplification of logic expression.

Combinational Circuits: (20 hours)
Half adders, Full Adder (3-bit), Half Subtractor, Full Subtractor (3-bit) and construction using Basic Logic Gates (OR, AND, NOT) and Universal Logic Gates (NAND & NOR), Multibit Adder- Ripple Carry Adder, Carry Look Ahead adder, BCD Adder, 1'S & 2'S Complement Adder/Subtractor unit Construction using 4 bit Full adders units, 1 bit, 2 bit, 3 bit and 4 bit Comparators using basic logic gates.
Data Selector-Multiplexer: Expansion (Cascading), Reduction, Function Realization, Universal function realization, Multifunction Realization.

Computer Science (Honours) CMSA -CBCS Syllabus
SEMESTER – II

Semester	Courses	Topics	Credit
II	CMS-A-CC-2-3-TH (Core Course – 3) Theory	**Computer Organization and Architecture**	4
	CMS-A-CC-2-3-P (Core Course – 3) Practical	**Computer Organization Lab.**	2
	CMS-A-CC-2-4-TH (Core Course – 4) Theory	**Basic Electronic Devices and Circuits**	4
	CMS-A-CC-2-4-P (Core Course – 4) Practical	**Basic Electronic Devices and Circuits Lab**	2

SEMESTER – II

CMS-A-CC-2-3-TH: Computer Organization and Architecture
Core Course-3: Theory: 04 Credits: 60 hours

Basic Structure of Computers (Qualitative Discussion)   (05 hours)
Computer Types, Basic Functional Units, Basic Operational Concept, Bus Structure, Software, Performance, Multiprocessor and Multicomputer, IAS Computer, Historical perspectives.

Register Transfer and Micro-operation
Register Transfer Language, Register Transfer, Bus and Memory Transfers, Three State Bus Buffers, memory Transfer, Arithmetic and Logical micro-operations, Shift and Arithmetic shifts.   (05 hours)

Basic Computer Organization and Design   (05 hours)
Instruction Codes, Stored Program Organization, Indirect Address, Computer Registers, Common Bus System, Computer Instruction, Timing and Control, Instruction Cycle, fetch Decode, Register Reference Instructions, Memory Reference Instruction, Input-Output and Interrupt, Design of Basic Computer, Design of Accumulator Logic.

CPU Organization
Arithmetic and Logic Unit (ALU)- Combinational ALU, 2'S Complement Addition, Subtraction Unit, Booths Algorithm for Multiplication, Division Hardware using Restoration Division Algorithm.   (06 hours)
General register organization, Control Word, Accumulator Based, Register Based, Stack Type CPU organization.

Control Unit
Hardwired Control Unit, Micro-programmed Control Unit: Control memory, Address Sequencing, conditional branching, mapping of instructions, subroutine, Design of Control Unit.   (07 hours)

CPU Registers
Program Counter, Stack Pointer Register, Memory Address Register, Instruction Register,   (06

Computer Science (Honours) CMSA - CBCS Syllabus
SEMESTER – III

Semester	Courses	Topics	Credit
III	CMS-A-CC-3-5-TH (Core Course-5) Theory	**Data Structure**	4
	CMS-A-CC-3-5-P (Core Course – 5) Practical	**Data Structure using C**	2
	CMS-A-CC-3-6-TH (Core Course – 6) Theory	**Computational Mathematics**	4
	CMS-A-CC-3-6-P (Core Course – 6) Practical	**Computational Mathematics Lab**	2
	CMS-A-CC-3-7-TH (Core Course – 7) Theory	**Microprocessor and its Applications**	4
	CMS-A-CC-3-7-P (Core Course – 7) Practical	**Programming Microprocessor 8085**	2
	Skill Enhancement Course, SEC-A **(Candidate has to opt any one topic from the under mentioned courses)**		
	CMS-A-SEC-A-3-1-TH Skill Enhancement Course, SEC-A-1	**Computer Graphics**	2
	CMS-A-SEC-A-3-2-TH Skill Enhancement Course, SEC-A-2	**Sensor Network and IoT**	2

SEMESTER – III

CMS-A-CC-3-5-TH: Data Structure
Core Course- 5: Theory: 04 Credits: 60 hours

Introduction to Data Structure: (01 hour)
Abstract Data Type.

Arrays: (05 hours)
1D, 2D and Multi-dimensional Arrays, Sparse Matrices. Polynomial representation (Polynomial Representation as Application).

Linked Lists: (09 hours)
Singly, Doubly and Circular Lists; Normal and Circular representation of Self Organizing Lists; Skip Lists, Polynomial representation (Polynomial Representation as Application).

Stacks: (05 hours)
Implementing single / multiple stack/s in an Array; Prefix, Infix and Postfix expressions, Utility and conversion of these expressions from one to another; Applications of stack; Limitations of Array representation of stack

Queues: (05 hours)
Array and Linked representation of Queue, Circular Queue, De-queue, Priority Queues

Computer Science (Honours) CMSA - CBCS Syllabus
SEMESTER – IV

Semester	Courses	Topics	Credit
IV	CMS-A-CC-4-8-TH (Core Course – 8) Theory	Data Communication, Networking and Internet Technology	4
	CMS-A-CC-4-8-P (Core Course – 8) Practical	Computer Networking and Web Design	2
	CMS-A-CC-4-9-TH (Core Course – 9) Theory	Introduction to Algorithms & its Applications	4
	CMS-A-CC-4-9-P (Core Course – 9) Practical	Algorithms Lab.	2
	CMS-A-CC-4-10-TH (Core Course – 10) Theory	Operating Systems	4
	CMS-A-CC-4-10-TH (Core Course – 10) Practical	Operating Systems Lab. (Shell Programming)	2
	Skill Enhancement Course, SEC-B (Candidate has to opt any one topic from the under mentioned courses)		2
	CMS-A-SEC-B-4-1-TH Skill Enhancement Course, SECB1	Information Security	2
	CMS-A-SEC-B-4-2-TH Skill Enhancement Course, SECB2	E-Commerce	2

SEMESTER – IV

CMS-A-CC-4-8-TH: Data Communication, Networking and Internet Technology
Core Course- 8: Theory: 04 Credit: 60 hours

Data Communication Concepts   (10 hours)
Analog and Digital Signals, Periodic and Non-periodic signals, Time and Frequency Domain, Bandwidth and Data rate, Signal rate, Serial and Parallel Transmission

Various modes of transmission   (05 hours)
Simplex/ Half Duplex, Duplex; Features of guided and unguided transmission media; Circuit switching: time division & space division switch;

Physical structure of Network   (25 hours)
Types of connections (Topologies), Categories of Computer Network: LAN, MAN, WAN
Modulation and Encoding: AM, FM, PM; Multiplexing: FDM, TDM, WDM, PCM,
OSI Model Architecture

Internet Technology   (20 hours)
Internet Architecture, Client/ Server architecture of Internet network, OSI Reference Model, Need of Internet protocols – TCP/IP, Ports, Domain Name Server (DNS), Internet service providers, Dial up, ISDN, CRC, Routing, Cable, Modem, E-mail, IRC, Voice & Video

Computer Science (Honours) CMSA - CBCS Syllabus
SEMESTER – V & VI

Semester	Courses	Topics	Credit
V	CMS-A-CC-5-11-TH (Core Course – 11) Theory	**Data Base Management System (DBMS)**	**4**
	CMS-A-CC-5-11-P (Core Course – 11) Practical	**RDBMS Lab using My SQL & PHP**	**2**
	CMS-A-CC-5-12-TH (Core Course – 12) Theory	**Object Oriented Programming System (OOPs)**	**4**
	CMS-A-CC-5-12-P (Core Course – 12) Practical	**OOPs Lab using Java**	**2**
VI	CMS-A-CC-6-13-TH (Core Course – 13) Theory	**Software Engineering**	**4**
	CMS-A-CC-6-13-P (Core Course – 13) Practical	**Software Engineering Lab**	**2**
	CMS-A-CC-6-14-TH (Core Course – 14) Theory	**Theory of Computation**	**4**
	CMS-A-CC-6-14-P (Core Course – 14) Practical	**PROJECT**	**2**
DSE-A	**Discipline Specific Elective Courses- DSE-A** **Candidates have to opt any one topic either from DSE-A-1 or from DSE-A-2 in Semester-V & another topic either from DSE-A-3 or from DSE-A-4 in Semester-VI from the following courses**		
	CMS-A-DSE-A--1-TH Discipl.Sp.Elec.DSEA1,Theory	**Digital Image Processing**	**4**
	CMS-A-DSE-A--1-P Discipl.Sp.Elec.DSEA1, Practical.	**Image Processing Lab.**	**2**
	CMS-A-DSE-A--2-TH Discipl.Sp.Elec.DSEA2,Theory	**Data Mining & its Applications**	**4**
	CMS-A-DSE-A--2-P Discipl.Sp.Elec.DSEA2, Practical.	**Data Mining Lab.**	**2**
	CMS-A-DSE-A--3-TH Discipl.Sp.Elec.DSEA3,Theory	**Embedded Systems**	**4**
	CMS-A-DSE-A--3-P Discipl.Sp.Elec.DSEA3, Practical.	**Embedded Systems Lab.**	**2**
	CMS-A-DSE-A--4-TH Discipl.Sp.Elec.DSEA4,Theory	**Multimedia and its Applications**	**4**
	CMS-A-DSE-A--4-P Discipl.Sp.Elec.DSEA4, Practical.	**Multimedia and its Applications Lab.**	**2**
DSE-B	**Discipline Specific Elective Courses- DSE-B** **Candidates have to opt any one topic either from DSE-B-1 or from DSE-B-2 in Semester-V & another topic either from DSE-B-3 or from DSE-B-4 in Semester-VI from the following courses**		
	CMS-A-DSE-B--1-TH Discipl.Sp.Elec.DSE-B-1,Theory	**Operation Research (O.R.)**	**4**
	CMS-A-DSE-B--1-P Discipl.Sp.Elec.DSE-B-1, Practical.	**Operation Research (O.R.) Lab. using C/ Python**	**2**
	CMS-A-DSE-B--2-TH Discipl.Sp.Elec.DSE-B-2,Theory	**Programming using Python**	**4**
	CMS-A-DSE-B--2-P Discipl.Sp.Elec.DSE-B-2, Practical.	**Programming using Python**	**2**
	CMS-A-DSE-B--3-TH Discipl.Sp.Elec.DSE-B-3,Theory	**Introduction to Computational Intelligence**	**4**
	CMS-A-DSE-B--3-P Discipl.Sp.Elec.DSE-B-3, Practical	**Computational Intelligence Laboratory**	
	CMS-A-DSE-B--4-TH Discipl.Sp.Elec.DSE-B-4, Theory	**Advanced Java**	**4**
	CMS-A-DSE-B--4-P Discipl.Sp.Elec.DSE-B-4, Practical	**Advanced Java Laboratory**	**2**

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SYLLABUS
of
Bachelor of Science (General)
in
Computer Science (CMSG)
Choice Base Credit System (CBCS)
2018

Semester-wise courses for B.Sc. (General)

	Sem-1	Sem-2	Sem-3	Sem-4	Sem-5	Sem-6
Core Course (CC)	CC-1	CC-2	CC-3	CC-4		
AECC	AECC-1	AECC-2				
Skill Enhancement course (SEC)			SEC-A	SEC-B	SEC-A	SEC-B
Total No. of Courses & marks	4x100 =400	4x100 =400	4x100 =400	4x100 =400	4x100=400	4x100=400
Total Credits	20	20	20	20	20	20

Computer Science General (CMSG) Syllabus

Courses	Topics	Credit
CMS-G-CC-1-1-TH Sem-1-Core Course-1 Theory	Computer Fundamentals and Digital Logic Design	04
CMS-G-CC-1-1-P Sem-1-Core Course-1 Practical	Word Processing, Spreadsheet, Presentation and Web design by HTML/ PHP	02
CMS-G-CC-2-2-TH Sem-2- Core Course-2Theory	Algorithm and Data Structure	04
CMS-G-CC-2-2-P Sem-2-Core Course-2 Practical	Programming with C	02
CMS-G-CC-3-3-TH Sem-3- Core Course-3 Theory	Computer Organization	04
CMS-G-CC-3-3-P Sem-3-Core Course-3 Practical	Programming using PYTHON	02
CMS-G-CC-4-4-TH Sem-4- Core Course-4 Theory	Operating System	04
CMS-G-CC-4-4-P Sem-4-Core Course-4 Practical	Shell Programming (Unix/Linux)	02
Skill Enhancement Courses (SEC-A & B): Choices : Semesters-3 to 6		
CMS-G-SEC-A-X-1-TH	Communication, Computer Network andInternet	02
CMS-G-SEC-A-X-2-TH	Software Engineering	02
CMS-G-SEC-B-X-1-TH	Multimedia and its Applications	02
CMS-G-SEC-B-X-2-TH	Information Security	02
Discipline Specific Elective- A (DSE- A): Candidate has to opt any oneof the following topics		
CMS-G-DSE-A-5-1-TH	Data base Management System (DBMS)	04
CMS-G-DSE-A-5-1-P	Database Design and Applications	02
CMS-G-DSE-A-5-2-TH	Object Oriented Programming	04
CMS-G-DSE-A-5-2-P	Object Oriented Programming by C++/ Java	02
CMS-G-DSE-A-5-3-TH	Sensor Network and IoT	04
CMS-G-DSE-A-5-3-P	Sensor Network and IoT Lab.	02
Discipline Specific Elective- B (DSE- B): Candidate has to opt any one of the following topics		
CMS-G-DSE-B-6-1-TH	Embedded Systems	04
CMS-G-DSE-B-6-1-P	Embedded Systems Lab.	02
CMS-G-DSE-A-6-2-TH	Operation Research	04
CMS-G-DSE-A-6-2-P	Operation Research Lab.	02
CMS-G-DSE-A-6-3-TH	Computational Mathematics	04
CMS-G-DSE-A-6-3-P	Computational Mathematics Lab.	02

COURSE CURRICULUM UNDER CHOICE BASED CREDIT SYSTEM

SYLLABUS

FOR

BACHELOR IN CHEMISTRY (HONOURS)

UNIVERSITY OF CALCUTTA

CORE COURSES FOR B. SC. HONOURS (CHEMISTRY)

SEM	CODE*	PAPER	BRIEF DESCRIPTION
1	CEMA-CC-1-1-TH	INORGANIC CHEMISTRY-1 ORGANIC CHEMISTRY -1A	Acid-base and redox reactions Basics of Organic Chemistry
	CEMA-CC-1-1- P	PRACTICALS**	
	CEMA-CC-1-2-TH	PHYSICAL CHEMISTRY-1 ORGANIC CHEMISTRY -1B	Kinetic theory, Chemical kinetics Stereochemistry
	CEMA-CC-1-2-P	PRACTICALS	
2	CEMA-CC-2-3-TH	ORGANIC CHEMISTRY -2	Reaction Mechanism
	CEMA-CC-2-3-P	PRACTICALS	
	CEMA-CC-2-4-TH	INORGANIC CHEMISTRY-2	Chemical Bonding
	CEMA-CC-2-4-P	PRACTICALS	
3	CEMA-CC-3-5-TH	PHYSICAL CHEMISTRY-2	Chemical Thermodynamics
	CEMA-CC-3-5-P	PRACTICALS	
	CEMA-CC-3-6-TH	INORGANIC CHEMISTRY-3	s and p Block Elements
	CEMA-CC-3-6-P	PRACTICALS	
	CEMA-CC-3-7-TH	ORGANIC CHEMISTRY -3	Alkenes, Alkynes, Carbonyls
	CEMA-CC-3-7-P	PRACTICALS	
4	CEMA-CC-4-8-TH	ORGANIC CHEMISTRY - 4	Organic Synthesis, Spectroscopy
	CEMA-CC-4-8-P	PRACTICALS	
	CEMA-CC-4-9-TH	PHYSICAL CHEMISTRY- 3	Applications of Thermodynamics, Quantum Mechanics
	CEMA-CC-4-9-P	PRACTICALS	
	CEMA-CC-4-10-TH	INORGANIC CHEMISTRY-4	Coordination Chemistry, d & f elements
	CEMA-CC-4-10-P	PRACTICALS	
5	CEMA-CC-5-11-TH	PHYSICAL CHEMISTRY -4	Quantum Chemistry, Statistical Thermodynamics
	CEMA-CC-5-11-P	PRACTICALS	
	CEMA-CC-5-12-TH	ORGANIC CHEMISTRY -5	Cyclic Compounds, Biomolecules
	CEMA-CC-5-12-P	PRACTICALS	
6	CEMA-CC-6-13-TH	INORGANIC CHEMISTRY-5	Bioinorganic and Organometallic Chemistry
	CEMA-CC-6-13-P	PRACTICALS	
	CEMA-CC-6-14-TH	PHYSICAL CHEMISTRY -5	Molecular Spectroscopy, Photochemistry
	CEMA-CC-6-14-P	PRACTICALS	

* **The Course code indicates subject-type of course-semester number-paper number-theory /practical [e.g. CEMA-CC-1-1-TH/P stands for Chemistry HonoursCore Course- First Semester- Paper 1- Theoretical /Practical]**
** **Practicals are based on the corresponding theoretical papers.**

Discipline Specific Courses (DSE)
For Semester 5

Any One from the following
DSE-A1:MOLECULAR MODELLING & DRUG DESIGN

DSE-A2: APPLICATIONS OF COMPUTERS IN CHEMISTRY

Any One from the following

DSE-B1: INORGANIC MATERIALS OF INDUSTRIALIMPORTANCE

DSE-B2: NOVEL INORGANIC SOLIDS

For Semester 6

Any One from the following

DSE-A3: GREEN CHEMISTRY AND CHEMISTRY OF NATURAL PRODUCTS

DSE-A4: ANALYTICAL METHODS IN CHEMISTRY

Any One from the following

DSE-B3:POLYMER CHEMISTRY

DSE-B4: DISSERTATION

SKILL ENHANCEMENT COURSES (SEC)

SEC-A For Semester 3 [Any one]

SEC 1 – MATHEMATICS AND STATISTICS FOR CHEMISTS
SEC 2 – ANALYTICAL CLINICAL BIOCHEMISTRY

SEC-B For Semester 4 [Any one]

SEC 3 – PHARMACEUTICALS CHEMISTRY
SEC4 - PESTICIDE CHEMISTRY

GENERAL ELECTIVE COURSE IN CHEMISTRY

Course Structure (B.Sc. General)

Course Credits

Theory+ Practical

==

Core Course (CC)

Theory (12 Papers of 4 credits each) $12\times4=48$

Practical (12 Papers of 2 credits each) $12\times2=24$

Discipline Specific Elective Course[*](DSE)

Theory (6 Papers of 4 credits each) $6\times4=24$

Practical(6 Papers of 2 credits each) $6\times2=12$

**Ability Enhancement Compulsory
Course (AECC)**

(2 Papers of 2 credits) $2\times2=4$

  Environmental Science

  English/MIL Communication

Skill Enhancement Elective Course (SEC)

 (4 Papers of 2 credits) $4\times2=8$

Total credit   **120**

B.SC. (GENERAL) CHEMISTRY [CEM-G]

CORE /GENERIC COURSES

SEM	COURSE CODE [CEM-G]	PAPER
1	CC1/GE1	PAPER 1
2	CC2/GE2	PAPER 2
3	CC3/GE3	PAPER 3
4	CC4/GE4	PAPER 4

DISCIPLINE SPECIFIC ELECTIVE [DSE] COURSES

DSE- A

DSEA-1 : Novel Inorganic Solids
DSEA-2: Inorganic Materials of Industrial Importance

DSE-B

DSEB-1 : Green Chemistry and Chemistry of Natural Products
DSEB-2: Analytical Methods in Chemistry

SKILL ENHANCEMENT COURSES [SEC]

SEC(A): (Any one either in semester III or V)
SEC1 : Basic Analytical Chemistry
SEC2– Analytical Clinical Biochemistry

SEC(B) (Any one either in semester IV or VI)

SEC 3 – PHARMACEUTICALS CHEMISTRY
SEC 4 - PESTICIDE CHEMISTRY

UNIVERSITY OF CALCUTTA

Notification No. CSR/ 24 /18

It is notified for information of all concerned that the Syndicate in its meeting held on 13.07.2018 (vide Item No.18) approved the corrected version of the Bengali (Honours / General / LCC2 / AECC1) syllabus replacing the existing Bengali (Honours / General / LCC2 / AECC1) syllabus (as notified in Notification No.CSR/ 12/18 dated 04.06.2018), laid down in the accompanying pamphlet.

The above shall be effective from the academic session 2018-2019.

SENATE HOUSE

KOLKATA-700073

The 6th August, 2018

(Debabrata Manna)

Deputy Registrar (Acting)

কলিকাতা বিশ্ববিদ্যালয়
২০১৮

স্নাতক বাংলা পাঠক্রম
সাম্মানিক

ইউ.জি.সি নির্দেশিত সিবিসিএস অনুসারে

(উত্তর লেখার ক্ষেত্রে পরীক্ষার্থীদের পশ্চিমবঙ্গ বাংলা আকাদেমি-র বানানবিধি অনুসরণ করতে হবে)

স্নাতক সাম্মানিক বাংলা— 140 (114 + 26) Credits

A) Discipline Centric Core Course (CC)–6 Credit Each

BNG-A-CC-1-1-Th-Tu	বাংলা সাহিত্যের ইতিহাস (১৮০০ খ্রিঃ পর্যন্ত)
BNG-A-CC-1-2-Th-Tu	বর্ণনামূলক ভাষাবিজ্ঞান ও বাংলা ভাষা
BNG-A-CC-2-3-Th-Tu	বাংলা সাহিত্যের ইতিহাস (উনিশ শতক)
BNG-A-CC-2-4-Th-Tu	বাংলা সাহিত্য : প্রবেশক পাঠ
BNG-A-CC-3-5-Th-Tu	বাংলা সাহিত্যের ইতিহাস (বিশ শতক)
BNG-A-CC-3-6-Th-Tu	ঐতিহাসিক ভাষাবিজ্ঞান
BNG-A-CC-3-7-Th-Tu	কথাসাহিত্য
BNG-A-CC-4-8-Th-Tu	প্রাগাধুনিক সাহিত্য
BNG-A-CC-4-9-Th-Tu	ছন্দ, অলঙ্কার ও কাব্যতত্ত্ব
BNG-A-CC-4-10-Th-Tu	প্রবন্ধ ও বিবিধ রচনা
BNG-A-CC-5-11-Th-Tu	সাহিত্যের রূপ ও রীতি
BNG-A-CC-5-12-Th-Tu	নাটক ও নাট্যমঞ্চ
BNG-A-CC-6-13-Th-Tu	আধুনিক বাংলা কাব্য-কবিতা
BNG-A-CC-6-14-Th-Tu	সংস্কৃত, ইংরেজি ও প্রতিবেশী (হিন্দী) সাহিত্যের ইতিহাস

B) Discipline Specific Elective (DSE)– 6 Credits Each

BNG-A-DSE-A-5-1-Th-Tu	বাংলার সমাজ ও সংস্কৃতির ইতিহাস
BNG-A-DSE-A-5-2-Th-Tu	বাংলাদেশের সাহিত্য
BNG-A-DSE-A-6-3-Th-Tu	বাংলা গোয়েন্দা সাহিত্য, কল্পবিজ্ঞান আশ্রয়ী রচনা এবং অলৌকিক কাহিনি
BNG-A-DSE-A-6-4-Th-Tu	তুলনামূলক সাহিত্য
BNG-A-DSE-B-5-1-Th-Tu	বাংলা শিশু-কিশোর সাহিত্য
BNG-A-DSE-B-5-2-Th-Tu	দেশভাগ ও বাংলা সাহিত্য
BNG-A-DSE-B-6-3-Th-Tu	চরিত সাহিত্য, আত্মচরিত ও ভ্রমণ সাহিত্য
BNG-A-DSE-B-6-4-Th-Tu	লোকসংস্কৃতি ও লোকসাহিত্য

C) Skill Enhancement Couse (SEC)–2 Credit Each

BNG-A-SEC-A-3-1-Th	মুদ্রণ ও প্রকাশনা
BNG-A-SEC-A-3-2-Th	ব্যবহারিক বাংলা-১
BNG-A-SEC-B-4-1-Th	ব্যবহারিক বাংলা ও সাহিত্য গবেষণার পদ্ধতিবিজ্ঞান
BNG-A-SEC-B-4-2-Th	ব্যবহারিক বাংলা-২

D) Ability Enhancement Compulsory Course (AECC)–2 Credits

BNG-AECC-1-1Th

স্নাতক বাংলা (সাম্মানিক) পাঠক্রমের সেমেস্টার ভিত্তিক বিভাজন

	SEM-1	SEM-2	SEM-3	SEM-4	SEM-5	SEM-6
A) Core Course 6 Credits each (5TH + 1TU)	● BNG-A-CC-1-1-TH-TU ● BNG-A-CC-1-2-TH-TU	● BNG-A-CC-2-3-TH-TU ● BNG-A-CC-2-4-TH-TU	● BNG-A-CC-3-5-TH-TU ● BNG-A-CC-3-6-TH-TU ● BNG-A-CC-3-7-TH-TU	● BNG-A-CC-4-8-TH-TU ● BNG-A-CC-4-9-TH-TU ● BNG-A-CC-4-10-TH-TU	● BNG-A-CC-5-11-TH-TU ● BNG-A-CC-5-12-TH-TU	● BNG-A-CC-6-13-TH-TU ● BNG-A-CC-6-14-TH-TU
B) Elective Courses 6 Credits each (5TH + 1TU)						
i) Generic Elective (GE)	⊠	⊠	⊠	⊠		
ii) Discipline Specific Elective (DSE)					DSE-A- বর্গের প্রথম দুটি কোর্স (অর্থাৎ কোর্স 1 ও 2) থেকে **একটি** এবং DSE-B- বর্গের প্রথম দুটি কোর্স (অর্থাৎ কোর্স 1 ও 2) থেকে **একটি** নিয়ে মোট **দুটি** কোর্স নির্বাচন করতে হবে।	DSE-A- বর্গের শেষ দুটি কোর্স (অর্থাৎ কোর্স 3 ও 4) থেকে **একটি** এবং DSE-B- বর্গের শেষ দুটি কোর্স (অর্থাৎ কোর্স 3 ও 4) থেকে **একটি** নিয়ে মোট **দুটি** কোর্স নির্বাচন করতে হবে।
C) Skill Enhancement Course (SEC) 2 Credits Each (2TH)			যে-কোনো একটি ● BNG-A-SEC-A-3-1-TH ● BNG-A-SEC-A-3-2-TH	যে-কোনো একটি ● BNG-A-SEC-B-4-1-TH ● BNG-A-SEC-B-4-2-TH		
D) Ability Enhancement Compulsory Course (AECC) 2 Credits (2TH)	● BNG-AECC-1-1-TH	⊠				
Total Marks/ Credits	400/20	400/20	500/26	500/26	400/24	400/24

Note : বাংলা ছাড়া পাঠ্য অন্য কোর্স বোঝাতে ⊠ চিহ্নটি ব্যবহার করা হয়েছে।

কলিকাতা বিশ্ববিদ্যালয়
২০১৮

স্নাতক বাংলা পাঠক্রম
সাধারণ

ইউ.জি.সি নির্দেশিত সিবিসিএস অনুসারে

(উত্তর লেখার ক্ষেত্রে পরীক্ষার্থীদের পশ্চিমবঙ্গ বাংলা আকাদেমি-র বানানবিধি অনুসরণ করতে হবে)

স্নাতক সাধারণ বাংলা

A)i) Discipline Centric Core Course (CC)/Generic Elective (GE)*– 6 Credits Each

BNG-G-CC/GE-1-1-Th-Tu	বাংলা সাহিত্যের ইতিহাস (আধুনিক যুগ)
BNG-G-CC/GE-2-2-Th-Tu	ঐতিহাসিক ভাষাবিজ্ঞান, ছন্দ ও অলঙ্কার
BNG-G-CC/GE-3-3-Th-Tu	বাংলা কাব্যকবিতা ও নাটক
BNG-G-CC/GE-4-4-Th-Tu	বাংলা কথাসাহিত্য ও প্রবন্ধ

* এই চারটি কোর্স থেকেই দুটি কোর্স সাম্মানিক বাংলা ছাড়া অন্য বিষয়ের সাম্মানিক প্রোগ্রামের পড়ুয়ারা **Generic Elective (GE)**-পর্যায়ের পাঠ্য হিসেবে গ্রহণ করবে/করতে পারে।

*কলা বিভাগের সাধারণ **(General)** প্রোগ্রামের যে-সমস্ত শিক্ষার্থী **Discipline Centric Core Course (CC)** পর্যায়ের পাঠ্য হিসেবে বাংলা গ্রহণ করেনি এবং **LCC(2)** পর্যায়েও পাঠ্য হিসেবে বাংলা বিকল্পটি (**MIL** গুলির মধ্যে) গ্রহণ করেনি— শুধুমাত্র তারাই **Generic Elective (GE)**-পর্যায়ে এখান থেকে প্রথম দুটি কোর্স পাঠ্য হিসেবে নির্বাচন করতে পারে।

A)ii) Language Core Course [LCC(2)] – 6 Credits Each

BNG-G-LCC(2)-4-1-Th-Tu	বাংলা ভাষাবিজ্ঞান ও সাহিত্যের রূপভেদ ও কাব্য
BNG-G-LCC(2)6-2-Th-Tu	সাময়িকপত্র ও কথাসাহিত্য

B) Discipline Specific Elective (DSE) – 6 Credits Each

BNG-G-DSE-A-5-1-Th-Tu	বাংলার সমাজ ও সংস্কৃতির ইতিহাস
BNG-G-DSE-A-5-2-Th-Tu	বাংলা গোয়েন্দা সাহিত্য, কল্পবিজ্ঞান আশ্রয়ী রচনা এবং অলৌকিক কাহিনি
BNG-G-DSE-B-6-1-Th-Tu	দেশভাগ ও বাংলা সাহিত্য
BNG-G-DSE-B-6-2-Th-Tu	লোকসংস্কৃতি ও লোকসাহিত্য

C) Skill Enhancement Course (SEC) – 2 Credits Each

BNG-G-SEC-A-3/5-1-Th	মুদ্রণ ও প্রকাশন
BNG-G-SEC-A-3/5-2-Th	ব্যবহারিক বাংলা-১
BNG-G-SEC-B-4/6-1-Th	ব্যবহারিক বাংলা ও সাহিত্য গবেষণার পদ্ধতিবিজ্ঞান
BNG-G-SEC-B-4/6-2-Th	ব্যবহারিক বাংলা-২

D) Ability Enhancement Compulsory Course (AECC)– 2 Credits

BNG-AECC-1-1-Th	

University of Calcutta

BA (Honours)-CBCS Syllabus in Philosophy, 2018

A. Core Courses [Fourteen courses; Each course: 6 credits (5 theoretical segment+ 1 for tutorial-related segment). Total: 84 credits (Th 5×15weeks=75 ; Tutorial 1×15 weeks= 15)]

B. Discipline Specific Elective[Four courses; Each course: 6 credits (5 theoretical segment+ 1 for tutorial-related segment). Total: 24 credits(Th 5×15weeks=75 ; Tutorial 1×15 weeks= 15)]

C. Generic Elective [Four courses; Each course: 6 credits (5 theoretical segment+ 1 for tutorial-related segment). Total: 24 credits (Th 5×15weeks=75 ; Tutorial 1×15 weeks= 15)]

   Core courses of 'General Syllabus' will be treated as Generic Elective of 'Honours Syllabus'.

D. Skill Enhancement [Two courses; Each course: 2 credits (No Tutorial segment). Total: 04 credits (2×15weeks =30)

- Each course (CC & DSE)carries 80 marks and Minimum 80 classes.
- 65 marks for theoretical segment: 55 marks for descriptive questions + 10 marks for 1 mark questions.
- Skill Enhancement course carries 80 marks and minimum 50 classes: 80 marks for theoretical segment, there is no tutorial segment.
- Question Pattern for descriptive segment of 55 marks: 5 short questions out of 8 (5x5 = 25) + 2 questions out of 4(15 x 2 = 30).
- 15 marks for tutorial [The topics (within the syllabus) are to be decided by the concerned faculty of respective colleges.]

IMPORTANT NOTES:

- Cited advanced texts in Bengali are not necessarily substitutes, but supplementary to the English books.

- The format is subject to the common structural CBCS format of the University.

- The Skill enhancement course, based on the UGC Guidelines, have the common goal of developing specific skills of students of the discipline for better employment opportunities.

Core Course
Semester 1
PHI-A-CC-1 Indian philosophy - I
PHI-A-CC-2 History of western Philosophy - I
Semester 2
PHI-A-CC-3 Indian philosophy - II
PHI-A-CC-4 History of Western Philosophy- II
Semester 3
PHI-A-CC- 5 Philosophy of Mind
PHI-A-CC-6 Social and Political philosophy
PHI-A-CC-7 Philosophy of Religion
Semester 4
PHI-A-CC-8 Western Logic – I
PHI-A-CC-9 Western Logic – II
PHI-A-CC-10 Epistemology and Metaphysics (Western)
Semester 5
PHI-A-CC-11 Indian Logic and Epistemology – I
PHI-A-CC-12 Ethics (Indian)
Semester 6
PHI-A-CC-13 Indian Logic and Epistemology – II
PHI-A-CC-14 Ethics (Western Ethics)

Discipline Specific Elective :

Semester 5

PHI-A-DSE-A(1)(Any one from the following options)
  a) Western logic – I

  b) Normative and Meta Ethics

  c) Philosophy of language (Indian)

PHI-A-DSE-B(1)
(Any one text from the following texts)
  a) An Enquiry Concerning Human Understanding – D. Hume
  b) The Problems of Philosophy – B. Russell
  c) Vedāntasāra- Sadananda Yogindra Saraswati
  d) Śrimadbhagabadgīta

Semester 6

PHI-A-DSE-A(2)(Any one from the following options)
  a) Western Logic -II

  b) Applied Ethics

  c)   Philosophy of Language (Western)

PHI-A-DSE-B(2)

(Any one philosophical system from four philosophical systems of contemporary Indian thought)
  a) Swami Vivekananda
  b) Rabindranath Tagore
  c) Sri Aurobindo
  d) M.K. Gandhi

Skill Enhancement Elective Course :

Semester 3

PHI-A-SEC-A (Any one from the following options)
  a) Logical Reasoning and Application: Indian and Western

  b) Man and Environment

Semester 4

PHI-A-SEC-B(Any one from the following options)

  a) Emerging Trends of Thought

  b) Philosophy of Human Rights

SEMESTER-I

Core Course

PHI-A-CC-1
Indian Philosophy – I (6 Credits per week)

University of Calcutta

BA (General)-CBCS Syllabus in Philosophy, 2018

A. Core Courses [Four courses; Each course: 6 credits (5 theoretical segment+ 1 for tutorial-related segment). Total: 24 credits (Th 5×15weeks=75 ; Tutorial 1×15 weeks= 15)]

B. Discipline Specific Elective [Four courses; Each course: 6 credits (5 theoretical segment+ 1 for tutorial-related segment). Total: 24 credits (Th 5×15weeks=75 ; Tutorial 1×15 weeks= 15)]

C. Generic Elective [Two courses; Each course: 6 credits (5 theoretical segment+ 1 for tutorial-related segment). Total: 12 credits (Th 5×15weeks=75 ; Tutorial 1×15 weeks= 15)]

      Core couses of 'General syllabus' will be treated as Generic Elective (GE) of 'Honours Syllabus'.

D. Skill Enhancement [Two courses from each subject; Each course: 2 credits (No Tutorial segment). Total: 04 credits (2×15weeks =30)

- Each course (CC& DSE) carries 80 marks and Minimum 80 classes (SEC-60).
- 65 marks for theoretical segment: 55 marks for descriptive questions + 10 marks for 1 mark questions.
- Skill Enhancement course carries 80 marks and minimum 50 classes: 80 marks for theoretical segment, there is no tutorial segment.
- Question Pattern for descriptive segment of 55 marks: 5 short questions out of 8 (5x5 = 25) + 2 questions out of 4(15 x 2 = 30).
- 15 marks for tutorial [The topics (within the syllabus) are to be decided by the concerned faculty of respective colleges.]

IMPORTANT NOTES:

- Cited advanced texts in Bengali are not necessarily substitutes, but supplementary to the English books.

- The format is subject to the common structural CBCS format of the University.

- The Skill enhancement course, based on the UGC Guidelines, have the common goal of developing specific skills of students of the discipline for better employment opportunities.

Semester 1
PHI-G-CC-1   Indian Epistemology and Metaphysics
Semester 2
PHI-G-CC-2   Western Epistemology and Metaphysics
Semester 3
PHI-G-CC-3   Western Logic
Semester 4
PHI-G-CC-4   Philosophy of Mind

Discipline Specific Elective
Semester 5
PHI-G-DSE-A(Any one from the following options)
a)Ethics : Indian and Western
b)Social and Political Philosophy

Semester 6
PHI-G-DSE-B (Any one from the following optoions)
a)Applied Ethics and Philosophy of Religion.
b)Contemporary Indian Thought

Skill Enhancement Elective course:

PHI-G-SEC-A(Any one from the following options either in Semester 3 or in Semester 5)
a)Logical Reasoning and Application
b)Business Ethics

PHI-G-SEC-B (Any one from the following options either in Semester 4 or in Semester 6)
a)Man and Environment
b)Value Education

Semester 1

PHI-G-CC-1Indian Epistemology and Metaphysics (6 Credits per week)

   A. Cārvāka Epistemology: Perception as the only source of knowledge; Refutation of Inference and Testimony as source of knowledge.

   B. Nyāya Epistemology: The nature of perception; laukikasannikarṣa; Determinate (savikalpaka) and Indeterminate (nirvikalpaka): anumāna; sādhya, pakṣa, hetu,vyāpti, parāmarśa and vyāptigraha. Svārthānumitiand parārthānumiti, pañcāvayavīnyāya.

   C. Vaiśeṣika Metaphysics: Categories – dravya, guna, karma, sāmānya, viśeṣa, samavāya and abhāva.

   D. Advaita Metaphysics: Brahman, māyā, The relation between jīva and Brahman.

Suggested Readings:

English:

•A Critical Survey of Indian Philosophy: C.D. Sharma

•An Introduction to Indian Philosophy: D. M. Dutta & S.C. Chatterjee

Bengali:

•Bharatiya Darshan: Nirodbaran Chakraborty

•Lokayata Darshan: Debiprasad Chatoopadhyay

•Nyaya-Vaisesika Darshan: Karuna Bhattacharya

•Bharatiya Darshan: Samarendra Bhattacharya

Semester 2

PHI-G-CC-2 Western Epistemology and Metaphysics (6 Credits per week)

   A. Different senses of 'Know'. Conditions of Propositional Knowledge, Origin of Concepts. Concept Rationalism-Views of Descartes and Leibniz, Concept Empiricism –Views of Locke, Berkeley and Hume.

University of Calcutta

CBCS Syllabus

B.A.(Honours) Sanskrit

DETAILS OF COURSE STRUCTURE

Distribution of courses in different semesters for B.A. (Honours) Sanskrit

Distribution of course in different Semesters for B.A (Honours) in Sanskrit

CBCS Syllabus, Details of Courses structure, University of Calcutta

	Sem-1	Sem-2	Sem-3	Sem-4	Sem-5	Sem-6
Core Course(CC)	2Th+2P/TU CC-1& 2	2Th+2P/TU CC-3 & 4	3Th+3P/TU CC-5,6 &7	3Th+3P/TU CC-8,9 &10	2Th+2P/TU CC-11 & 12	2Th+2P/TU CC-13 & 14
Elective Course:						
1.Generic Elective(GE)	1Th+1P/TU GE-1	1Th+1P/TU GE-2	1Th+1P/TU GE-3	1Th+1P/TU GE-4		
2.Discipline Specific Elective(DSE)					2Th+2P/TU DSE-1,2	2Th+2P/TU DSE-3,4
Ability Enhancement Compulsory Course (AECC)	1Th+0P/TU (AECC-1)	1Th+0P/TU (AECC-2)				
Skill Enhancement Course (SEC)			1Th+0P/TU SEC-A-1	1Th+0P/TU SEC-B-2		
Total Number of Courses and Marks	4x100=400	4x100=400	5x100=500	5x100=500	4x100=400	4x100=400
Total Credits	20	20	26	26	24	24

TH=Theory, P=Practical, TU=Tutorial

CC for Honours (Sanskrit) Coding

Semester-1	SAN-A-CC-1-TH/TU
	SAN-A-CC-2-TH/TU
Semester-2	SAN-A-CC-3-TH/TU
	SAN-A-CC--4TH/TU
Semester-3	SAN-A-CC-5-TH/TU
	SAN-A-CC-6-TH/TU
	SAN-A-CC-7-TH/TU
Semester-4	SAN-A-CC-8-TH/TU
	SAN-A-CC-9-TH/TU
	SAN-A-CC-10-TH/TU
Semester-5	SAN-A-CC-11-TH/TU
	SAN-A-CC-12-TH/TU
Semester-6	SAN-A-CC-13-TH/TU
	SAN-A-CC-14-TH/TU

DSE for Honours (Sanskrit) Coding

Semester-5	SAN-A-DSE-1-TH/TU
	SAN-A-DSE-2-TH/TU
Semester-6	SAN-A-DSE-3-TH/TU
	SAN-A-DSE-4-TH/TU

SEC for Honours (Sanskrit) Coding

Semester-3	SAN-A-SEC-A-1-TH/TU
Semester-4	SAN-A-SEC-B-2-TH/TU

University of Calcutta

CBCS Syllabus

DETAILS OF COURSE STRUCTURE

Distribution of courses in different semesters for General Course in Sanskrit

	Sem-1	Sem-2	Sem-3	Sem-4	Sem-5	Sem-6
Core Course(CC)	2Th+2P/TU CC-1	2Th+2P/TU CC-2	2Th+2P/TU CC-3	2Th+2P/TU CC-4		
Language(LCC)			1Th+1TU LCC 1(1)	1Th+1TU LCC 2(1)	1Th+1TU LCC 1(2)	1Th+1TU LCC 2(2)
Elective Course						
1.Generic Elective(GE)	1Th+1P/TU GE-1	1Th+1P/TU GE-2				
2.Discipline Specific Elective					2Th+2P/T DSE- 1, 2	2Th+2P/TU DSE-3, 4
Ability Enhancement Compulsory Course (AECC)	1Th+0P/TU (AECC-1)	1Th+0P/TU (AECC-2)				
Skill Enhancement Course (SEC)			1Th+0P/TU SEC-A-1	1Th+0P/TU SEC-B-1	1Th+0P/TU SEC-A-2	1Th+0P/TU SEC-B-2
Total Number of Courses and Marks	4x100=400	4x100=400	4x100=400	4x100=400	4x100=400	4x100=400
Total Credits	20	20	20	20	20	20

TH=Theory, P=Practical, TU=Tutorial

CC for General (Sanskrit) Coding

Semester-1	SAN-G-CC-A1-TH/TU G-CC-B1-TH/TU
Semester-2	SAN-G-CC-A2-TH/TU G-CC-B2-TH/TU
Semester-3	SAN-G-CC-A3-TH/TU G-CC-B3-TH/TU
Semester-4	SAN-G-CC-A4-TH/TU G-CC-B4-TH/TU

DSE for general (Sanskrit) Coding

Semester-5	SAN-G-DSE-1-TH/TU SAN-G-DSE-2-TH/TU
Semester-6	SAN-G-DSE-3-TH/TU SAN-G-DSE-4-TH/TU

SEC for general (Sanskrit) Coding

Semester-3	SAN-G-SEC-A-1-TH/TU
Semester-4	SAN-G-SEC-B-1-TH/TU
Semester-5	SAN-G-SEC-A-2-TH/TU
Semester-6	SAN-G-SEC-B-2-TH/TU

UNIVERSITY OF CALCUTTA

Notification No. CSR/ 12 /18

It is notified for information of all concerned that the Syndicate in its meeting held on 28.05.2018 (vide Item No.14) approved the Syllabi of different subjects in Undergraduate Honours / General / Major courses of studies (CBCS) under this University, as laid down in the accompanying pamphlet:

List of the subjects

Sl. No.	Subject	Sl. No.	Subject
1	Anthropology (Honours / General)	29	Mathematics (Honours / General)
2	Arabic (Honours / General)	30	Microbiology (Honours / General)
3	Persian (Honours / General)	31	Mol. Biology (General)
4	Bengali (Honours / General /LCC2 /AECC1)	32	Philosophy (Honours / General)
5	Bio-Chemistry (Honours / General)	33	Physical Education (General)
6	Botany (Honours / General)	34	Physics (Honours / General)
7	Chemistry (Honours / General)	35	Physiology (Honours / General)
8	Computer Science (Honours / General)	36	Political Science (Honours / General)
9	Defence Studies (General)	37	Psychology (Honours / General)
10	Economics (Honours / General)	38	Sanskrit (Honours / General)
11	Education (Honours / General)	39	Social Science (General)
12	Electronics (Honours / General)	40	Sociology (Honours / General)
13	English ((Honours / General/ LCC1/ LCC2/AECC1)	41	Statistics (Honours / General)
14	Environmental Science (Honours / General)	42	Urdu (Honours / General /LCC2 /AECC1)
15	Environmental Studies (AECC2)	43	Women Studies (General)
16	Film Studies (General)	44	Zoology (Honours / General)
17	Food Nutrition (Honours / General)	45	Industrial Fish and Fisheries – IFFV (Major)
18	French (General)	46	Sericulture – SRTV (Major)
19	Geography (Honours / General)	47	Computer Applications – CMAV (Major)
20	Geology (Honours / General)	48	Tourism and Travel Management – TTMV (Major)
21	Hindi (Honours / General /LCC2 /AECC1)	49	Advertising Sales Promotion and Sales Management –ASPV (Major)
22	History (Honours / General)	50	Communicative English –CMEV (Major)
23	Islamic History Culture (Honours / General)	51	Clinical Nutrition and Dietetics CNDV (Major)
24	Home Science Extension Education (General)	52	Bachelor of Business Administration (BBA) (Honours)
25	House Hold Art (General)	53	Bachelor of Fashion and Apparel Design – (B.F.A.D.) (Honours)
26	Human Development (Honours / General)	54	Bachelor of Fine Art (B.F.A.) (Honours)
27	Human Rights (General)	55	B. Music (Honours / General) and Music (General)
28	Journalism and Mass Communication (Honours / General)		

The above shall be effective from the academic session 2018-2019.

SENATE HOUSE
KOLKATA-700073
The 4th June, 2018

(Dr. Santanu Paul)
Deputy Registrar

UNIVERSITY OF CALCUTTA
CBCS SYLLABUS FOR UG ENGLISH (HONS)

CORE COURSES (CC) – 14 COURSES, 6 CREDITS PER COURSE
DISCIPLINE SPECIFIC ELECTIVE (DSE) –4 COURSES (out of 8), 6 CREDITS PER COURSE
ABILITY ENHANCEMENT COMPULSORY COURSE (AECC) – 2 COURSES, 2 CREDITS PER COURSE
SKILL ENHANCEMENT COURSE (SEC) – 2 COURSES (out of 4), 2 CREDITS PER COURSE

COURSE NAMES:

CC1 – HISTORY OF LITERATURE AND PHILOLOGY
CC2 –EUROPEAN CLASSICAL LITERATURE
CC3 –INDIAN WRITING IN ENGLISH
CC4 –BRITISH POETRY AND DRAMA (14TH – 17TH CENTURY)
CC5 –AMERICAN LITERATURE
CC6 –POPULAR LITERATURE
CC7 –BRITISH POETRY AND DRAMA (17TH – 18TH CENTURY)
CC8 –BRITISH LITERATURE (18TH CENTURY)
CC9 –BRITISH ROMANTIC LITERATURE
CC10 –19TH CENTURY BRITISH LITERATURE
CC11 – WOMEN'S WRITING
CC12 – EARLY 20TH CENTURY BRITISH LITERATURE
CC13 –MODERN EUROPEAN DRAMA
CC14 –POSTCOLONIAL LITERATURE

DSE (ANY TWO FROM DSE-A AND ANY TWO FROM DSE-B)
DSE-A1 –MODERN INDIAN WRITING IN ENGLISH TRANSLATION
DSE-A2 –LITERARY THEORY AND LITERARY CRITICISM
DSE-A3–PARTITION LITERATURE
DSE-A4 –MEDIA AND COMMUNICATION STUDIES
DSE-B1– LITERARY TYPES, RHETORIC AND PROSODY
DSE-B2–CONTEMPORARY INDIA: WOMEN AND EMPOWERMENT
DSE-B3–AUTOBIOGRAPHY
DSE-B4 – TEXT AND PERFORMANCES

AECC1 – COMMUNICATIVE ENGLISH OR MIL
AECC2 – ENVIRONMENT STUDY

SEC (ANY ONE FROM SEC-A AND ANY ONE FROM SEC-B)
SEC-A1 – TRANSLATION STUDIES
SEC-A2 –BUSINESS COMMUNICATION
SEC-B1 – CREATIVE WRITING
SEC-B2 - ACADEMIC WRITING AND COMPOSITION

University of Calcutta

CBCS Syllabus for BA General Programme in English

COURSE STRUCTURE

SEMESTER	COURSE TYPE
SEMESTER I	CC1/GE1 AECC1
SEMESTER II	CC2/GE2
SEMESTER III	CC3/GE3 L1-1 SECA
SEMESTER IV	CC4/GE4 SECB L2-1
SEMESTER V	L1-2 DSEA SECA
SEMESTER VI	DSEB SECB L2-2

CORECOURSE(CC)

CC1/GE1:Poetry&ShortStory
CC2/GE2:Essay,Drama&Novel
CC3/GE3:Women's Writing
CC4/GE4:AcademicWritingandComposition

LCC COURSE

LCC-1 (L1-1): Language, Variety and Stylistics
LCC-1 (L1-2): Language, Imagination & Creativity
LCC-2 (Alternative English) (L2-1): Language, Society and Personality
LCC-2 (Alternative English) (L2-2): Language, Creativity and Analysis

DISCIPLINE SPECIFIC ELECTIVE(DSE)
ONE TO BE CHOSEN FROM DSEA AND ONE TO BE CHOSEN FROM DSEB

DSEA1:British Literature
DSEA2:Modern Indian Writing in English Translation
DSEB1: Partition Literature
DSEB2: Translation Studies

ABILITY ENANCEMENT COMPULSORY COURSE (AECC)

AECC-1**:** Communicative English/MIL
AECC-2: Environmental Studies

SKILL ENHANCEMENT COURSE (SEC]
ONE TO BE CHOSEN FROM SECA AND ONE TO BE CHOSEN FROM SECB

SECA1: English Language Teaching
SECA2: Business Communication
SECB1: Spoken English
SECB2: Creative Writing

COURSE DETAILS

FOR ALL CC/GECOURSES, THE MARKS DIVISION IS AS FOLLOWS:

End Semester – 65
Tutorial – 15
Internal – 10
Attendance – 10

CC1/GE1 (SEMESTER 1, CODE –ENG-G-CC-1-1-TH/TU) – 6 CREDITS
(5 CREDITS THEORY AND 1 CREDIT TUTORIAL)

POETRY AND SHORT STORY

Poetry
    William Shakespeare: Sonnet 18
    William Wordsworth: 'Strange fits of passion'
    P.B. Shelley: 'To a Skylark'
    John Keats: 'To Autumn'

Short Story
    James Joyce: 'Araby'
    Katherine Mansfield: 'The Fly'
    Joseph Conrad: 'The Lagoon'

    End Semester Question Pattern:

University of Calcutta

Final Draft BA (Honours)-CBCS Syllabus in Political Science, 2018 (Section I)

Core Courses

[Fourteen courses; Each course: 6 credits (5 theoretical segment+ 1 for tutorial-related segment). Total: 84 credits (1400 marks).

♦ Each course carries 80 marks^ ^^ (plus 10 marks each for Attendance and Internal Assessment).

♦ <u>Minimum</u> 30 classes for Theory and 15 contact hours for Tutorial <u>per module</u>.

^End Semester Assessment for each course--- 65 marks for theoretical segment: 50 marks for subjective/descriptive questions + 15 marks for category of 1 mark-questions.   <u>Question Pattern</u> for subjective/descriptive segment of 50 marks: 2 questions (within 100 words; one from each module) out of 4 (10 x2 = 20) + 2 questions (within 500 words; one from each module) out of 4 (15 x 2 = 30).

^^15 marks for tutorial-related segments as suggested below (any one item from each mode):

i) <u>Written mode</u>: upto 1000 words for one Term Paper/upto 500 words for each of the two Term Papers/ equivalent Book Review/equivalent Comprehension/equivalent Quotation or Excerpt Elaboration.

ii) <u>Presentation Mode</u>: Report Presentation/Poster Presentation/Field work--- based on syllabus-related and/or current topics (May be done in groups)[The modes and themes and/or topics are be decided by the concerned faculty members of respective colleges.]

♦ Core courses: First 2 each in Semesters 1 and 2;Next 3 each in Semesters 3 and 4; 2 each in Semesters 5 and 6. [Sequentially arranged]

IMPORTANT NOTES:
♦ The Readings provided below include many of those of the UGC Model CBCS Syllabus in Political Science. For further details of Course Objectives and additional references it is advised that the UGC model CBCS syllabus* concerning relevant courses and topics be provided due importance and primarily consulted.
*Website: BA Political Science (Honours): https://www.ugc.ac.in/pdfnews/2085906_B.A-Hons.-Pol-Science.pdf
♦ Cited advanced texts in Bengali are not necessarily substitutes, but supplementary to the English books.
♦ Paper Code Format: Subject-Course-Semester-Paper Number-Paper Component.
♦ The format isstrictly subject to the parameters of the common structural CBCS format of the University.

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List of Core Courses

1 – Understanding Political Theory: Concepts

2 - Understanding Political Theory: Approaches and Debates

3 - Constitutional Government in India

4 – Politics in India: Structures and Processes

5 – Indian Political Thought – I

6 - Comparative Government and Politics

7 – Perspectives on International Relations

8 - Indian Political Thought – II

9 – Global Politics since 1945

10 – Western Political Thought & Theory I

11 – Western Political Thought & Theory II

12 - Political Sociology

13 – Public Administration: Concepts and Perspectives

14 – Administration and Public Policy in India

[Semester-level break-up provided below]

Core Courses

Introduction to Political TheoryCode: PLS-G-CC-1-1-TH+TU

Module I
1. Political Science: nature and scope; Different approaches--- Normative, Behavioural, Post-Behavioural, Marxist, Feminist.
2. State: Contract theory; Idealist theory; Liberal theory; Marxist theory; Gandhian theory. Sovereignty of the State: Monistic and Pluralist theories. Doctrine of Popular Sovereignty.
3. Foundational concepts: Law; Right; Liberty; Equality--- meanings, sources, interrelationships.
4. Key concepts: Nationalism and Internationalism—meanings and features; Democracy--- meaning and nature.

Module II
5. Marxism: Dialectical and Historical Materialism; Class and Class Struggle; Theory of Revolution; Lenin's Theory of Imperialism.
6. Fascism: meaning, features, significance.
7. Political parties and interest groups: functions and role; Methods of representation: territorial, functional, proportional.

Readings:

R. Bhargava and A. Acharya eds., Political Theory: An Introduction.
Mohit Bhattacharya and Amal Roy: Political Theory: Ideas and Institutions.
S. Ramasway: Political Theory: Ideas and Concepts.
O. P Gauba: An Introduction to Political Theory.
J. C. Johari: Political Theory
S.P. Verma: Modern Political Theory.
Maurice Cornforth: Dialectical Materialism.
Robin Goodfellow: Marxism in a Nutshell.
Tom Bottomore ed.: A Dictionary of Marxist Thought.
V. I. Lenin: Imperialism--- The Highest Stage of Capitalism.
Margaret Walters: Feminism: A Very Short Introduction.

মোহিত ভট্টাচার্য, বিশ্বনাথ ঘোষঃ আধুনিক রাষ্ট্রবিজ্ঞান
অনাদি কুমার মহাপাত্রঃ রাষ্ট্রবিজ্ঞান
হিমাচল চক্রবর্তীঃ রাষ্ট্রবিজ্ঞান
সত্যসাধন চক্রবর্তী, নির্মলকান্তি ঘোষঃ রাষ্ট্রবিজ্ঞান
দেবাশীষ চক্রবর্তীঃ রাষ্ট্রতত্ত্ব ও প্রতিষ্ঠান
এমিল বার্নসঃ মার্কসবাদ(What is Marxism–এরঅনুবাদ)
ভোলানাথ বন্দ্যোপাধ্যায়ঃ দ্বন্দ্বমূলক বস্তুবাদ(মরিস কর্নফোর্থের Dialectical Materialism–এর অনুবাদ)
রাজশ্রী বসু ও বাসবী চক্রবর্তী (সম্পা): প্রসঙ্গ মানবীবিদ্যা

CBCS SYLLABUS

IN

HISTORY (HONOURS)

CALCUTTA UNIVERSITY

2018

Structure of B.A (Hons.) History Course under CBCS
HIS-A-CC-1-14- TH &TU

Paper 1 **SEM -1**: History of India (From the Earliest times to C 300 BCE)

Paper 2 **SEM-1**: Social Formations and Cultural Patterns of the Ancient World other than India

Paper 3 **SEM-2**: History of India (c 300 BCE to c.750 CE)

Paper 4 **SEM-2**: Social Formations and Cultural Patterns of the Medieval World other than India

Paper 5 **SEM-3**: History of India (c.750 – 1206)

Paper 6 **SEM-3**: Rise of the Modern West –I

Paper 7 **SEM-3**: History of India (c.1206 – 1526)

Paper 8 **SEM-4**: Rise of the Modern West – 11

Paper 9 **SEM-4**: History of India (c.1526-1605)

Paper 10 **SEM-4** History of India (c.1605 – 1750s)

Paper 11 **SEM-5:** History of Modern Europe (c.1780-1939)

Paper 12 **SEM-5**: History of India (c.1750s– 1857)

Paper 13 **SEM-6**: History of India (c. 1857 – 1964)

Paper 14 **SEM-6** : History of World Politics: (1945-1994)

HIS-A- DSE TH &TU
Discipline Specific Elective DSE (Any Four) Choosing any one paper in Semester -5 and another in Semester 6 taking one from Group –A and the other from Group –B
Paper 1 **DSE-A-1 SEM -5**: History of Bengal (c.1757-1905)

Paper 2 **DSE-A-3 SEM -6**: History of Bengal (c.1905-1947)

Paper 3 **DSE-B-2 SEM -5**: History of Southeast Asia – The 19th Century

Paper 4 **DSE-B-4 SEM -6**:   History of Southeast Asia – The 20th Century

Paper 5 **DSE-B-1 SEM -5**:   History of Modern East Asia – I China (c.1840 – 1949)

Paper 6 **DSE-B-3 SEM -6**:   History of Modern East Asia – II Japan (c.1868 – 1945)

Paper 7 **DSE-A-2** SEM **-5**:   History of United States of America – I (c.1776 – 1945)

Paper 8 **DSE-A-4 SEM -6**: History of United States of America – II (c.1776-1945)

Skill Enhancement Courses SEC –A & B (Any Two) Choosing one from group-A and one from group-B) in Semester 3 and 4
SEC -A 1: **SEM-3**   Archives and museums
SEC -B 1: **SEM-4**   Understanding Popular Culture
SEC-A 2: **SEM-3**   Understanding Heritage
SEC-B 2: **SEM-4**   Art Appreciation: an Introduction to Indian Art

*Generic Elective Courses (GE) - Same as Core courses (CC) offered in the BA General Syllabus.

CBCS SYLLABUS

IN

HISTORY (GENERAL)

CALCUTTA UNIVERSITY

2018

IMPORTANT NOTES:

➢ The Readings provided below (except Bengali books) include those of the UGC Model CBCS Syllabus in History. For Course Objectives and references it is advised that the UGC model CBCS syllabus concerning relevant courses and topics should be given due importance and primarily consulted.

➢ Bengali are not necessarily substitutes, but supplementary to the English books.

➢ The format is subject to the CBCS Common Structural Format of the University.

LIST OF COURSES FOR GENERAL PROGRAMME	
COURSE CODE	**(6 Credits per Core Course)**
Subject-Hon-Core-Semester-Paper-Th &TU	CORE COURSES FOR GENERAL & GENERIC ELECTIVE FOR HONOURS
HIS-G-CC/GE-1-1-TH&TU	
HIS-G-CC/GE-2-2-TH&TU	
HIS-G-CC/GE-3-3-TH&TU	
HIS-G-CC/GE-4-4-TH&TU	
Skill Enhancement Course (2 Credits per Course)	
GROUP-A	**HIS-G-SEC- 3/5-A(1) or A (2)-TH**
SEC-A-(1) SEC-A-(2)	
GROUP-B	**HIS-G-SEC- 4/6-B(1) or B(2)-TH**
SEC-B-(1) SEC-B-(2)	
DISCIPLINE SPECIFIC ELECTIVE **(6 Credits per Course)**	
GROUP-A	**HIS-G-DSE- 5-A(1) or A(2)-TH&TU**
DSE-A-(1) DSE-A-(2)	
GROUP-B	**HIS-G-DSE-6-B(1) or B (2)-TH&TU**
DSE-B-(1) DSE-B-(2)	

Structure of B.A General (Programme)

HIS-G - CC -1- 4 /GE -1-4 TH&TU

1History of India from the Earliest Times upto 300 CE

2.History of India from C.300 to 1206.

3.History of India from C. 1206to1707

4.History of India from 1707to1950

Discipline Specific Elective (DSE -A &DSE- B) TH&TU Any One from DSE-A in Semester 5 & Any One from DSE-B in Semester 6

1. National liberation Movements in 20th Century World.

2. Some Aspects of European History: C.1780-1945.

3. Patterns of Capitalism in Europe: C.16TH Century to early 20th Century

4. Some Aspects of Society &Economy of Modern Europe: 15 – 18 Century

Skill Enhancement Courses SEC –A & B: Any One from SEC-A1/ SEC-A2 in Semester 3/5. Any One from SEC-B1/ SEC-B2 in Semester 4/6

SEC -A 1: Historical Tourism: Theory &Practice

SEC -B 1: Museums &Archives in India

SEC –A 2: Indian History &Culture

SEC-B 2: Orality and Oral Culture in India

Semester wise Courses for HIS-G

	SEM-1	SEM-2	SEM-3	SEM-4	SEM-5	SEM-6
CC	CC-1 2TH +2TU	CC -2 2TH +2TU	CC-3 2TH +2TU	CC-4 2TH +2TU		
GE	GE-1 TH +TU	GE-2 TH +TU				
AECC	AECC-1 TH	AECC-2 TH				
DSE			DSE-A TH +TU	DSE-B TH +TU	DSE-A TH +TU	DSE-B TH +TU
SEC			SEC-A -1 TH	SEC-B -1 TH	SEC-A 2 TH	SEC-B 2 TH

CC: 4 courses each from 2 disciplines. (One course from each subject under each semester) Each course is of 6 credits.
GE: Two courses from one subject different from the core subject. Each course is of 6 credits.

University of Calcutta

B.Com. Syllabus (Honours)
under Semesterised CBCS

2017

University of Calcutta
Proposed <u>B.Com. Honours</u> Course Structure under CBCS
Year I: Semester I

		Marks	Credit Hours	
AECC 1.1Chg	**Language:** Communicative English - 50 Indian Language - 50	**100**	**2**	
GE 1.1 Chg	Microeconomics I & Statistics (50+50)	**100**	**6**	
CC 1.1 Chg	Business Laws	**100**	**6**	
CC 1.2 Chg	Principles of Management	**100**	**6**	
CC 1.1 Ch	Financial Accounting - I	**100**	**6**	

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Year 1: Semester II

		Marks	Credit Hours	
GE 2.1 Chg	E-Commerce & Business Communication (50+50)	**100**	**6**	
CC2.1 Chg	Company Law	**100**	**6**	
CC 2.2 Chg	Marketing Management and Human Resource Management	**100**	**6**	
CC 2.1Ch	Cost and Management Accounting - I	**100**	**6**	

24

Year 2: Semester III

		Marks	Credit Hours	
SEC 3.1 Chg	Information Technology & Its Application in Business (Theory -50 + Practical- 50)	**100**	**4**	
GE 3.1 Chg	Business Mathematics & Statistics	**100**	**6**	
CC3.1 Ch	Financial Accounting II	**100**	**6**	
CC3.2 Ch	Indian Financial System	**100**	**6**	

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Year 2: Semester IV

		Marks	Credit Hours	
GE 4.1 Chg	Microeconomics II & Indian Economy (50+50)	**100**	**6**	
CC 4.1 Chg	Entrepreneurship Development and Business Ethics	**100**	**6**	
CC 4.1 Ch	Taxation I	**100**	**6**	
CC 4.2 Ch	Cost and Management Accounting -II	**100**	**6**	

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Year 3: Semester V

		Marks	Credit Hours	
CC 5.1Ch	Auditing & Assurance	**100**	**6**	
CC 5.2 Ch	Taxation II	**100**	**6**	
DSE 5.1 A*	Economics II and Advanced Business Mathematics	**100**	**6**	
DSE 5.2 A*	Corporate Accounting	**100**	**6**	

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Options:

*Or DSE 5.1 M (Consumer Behaviour and Sales Management -50+50)
& DSE 5.2 M (Product & Pricing Management and Marketing Communication (50+50)

*Or DSE 5.1T (Public Finance and Taxation)
 & DSE 5.2 T (Direct Tax: Laws and Practice)

*Or DSE 5.1 **e-**B (Fundamentals of Computer)
& DSE 5.2 e-B DBMS and System Analysis &Design   (50+50)

Year 3: Semester VI

		Marks	Credit Hours	
AECC 6.1Chg	Environmental Studies	**100**	**2**	
SEC 6.1Chg	Computerised Accounting and e-Filing of Tax Returns	**100**	**4**	
CC 6.1 Ch	Project Work	**100**	**6**	
DSE 6.1 A**	Financial Reporting and Financial Statement Analysis	**100**	**6**	
DSE 6.2 A**	Financial Management	**100**	**6**	
			24	

Chg: Common for Honours and General; **Ch:** Core Course for Honours

Options:

****Or DSE 6.1 M (Retail Management and Marketing of Services (50+50)
& DSE 6.2 M (Rural Marketing and International Marketing (50+50)

****Or DSE 6.1 T (Indirect Tax: Laws and Practices)
 & DSE 6.2 T (Tax Procedures and Planning)

****Or DSE 6.1 e-B (Internet & WWW and Functional e-Business System (50+50)
& DSE 6.2 e-B(Computer Applications and e-Business Applications – Practical (50+50)

Summary for B.Com. Hons.

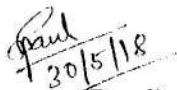|		Marks	Credit Hours	
Ability Enhancement Compulsory Course (AECC)	Two Papers	**200**	**2 x 2 = 4**	
Skill Enhancement Elective Course (SEC)	Two Papers	**200**	**2x4 = 8**	
Generic Elective (GE)	Four Papers	**400**	**4 x 6 = 24**	
CORE COURSE (CC)	Fourteen Papers	**1400**	**14x 6 = 84**	
Discipline Specific Elective (DSE)	Four Papers	**400**	**4 x 6 = 24**	
		2600	**Total 144**	

UNIVERSITY OF CALCUTTA

Notification No. CSR/ 07 /18

It is notified for information of all concerned that the Syndicate in its meeting held on 28.05.2018 (vide Item No.09) approved the Admission and Examination Regulations for semester wise three year B.B.A. (Honours) course of study under CBCS under this University, as laid down in the accompanying pamphlet.

The above shall be effective from the academic session 2018-2019.

SENATE HOUSE
KOLKATA-700073
The 30th May, 2018

(Dr. Santanu Paul)

Deputy Registrar

Particulars	Number of papers	Marks	Credit Hours
Ability Enhancement Compulsory Course (AE)	Two Papers	200	2x2=4
Skill Enhancement Elective Course (SE)	Two Papers	200	2x4=8
Generic Elective (GE)	Four Papers	400	4 x 6=24
Core Course(C)	Fourteen Papers	1400	14x 6 = 84
Discipline Specific Elective (DSE)	Four Papers	400	4 x 6 = 24
Total		2600	144

Code used to refer the type of Paper.

Name of the type of Paper	Code
Ability Enhancement Compulsory Course Paper	AE
Skill Enhancement Elective Course Paper	SE
Generic Elective Paper	GE
Core Course Paper	C
Discipline Specific Elective Paper	DSE

7. Course Structure (Choices Stated there in)

Curriculum of Bachelors in Business Administration (Honours) under CBCS semester system

Sl. No.	Subject	FM	Type of Course	Credits	Paper Code
	Semester I				
	Environmental Studies	100	Ability Enhancement	2	BBAA101AE1
	Principles of Management & Organisational Behaviour	100	Core	6	BBAA102C1
	Business Accounting	100	Core	6	BBAA103C2
	Entrepreneurship Development	100	Generic Elective	6	BBAA104GE1
		400		**20**	
	Semester II				
	Business Communication	100	Ability Enhancement	2	BBAA201AE2
	Statistics for Business Decisions	100	Core	6	BBAA202C3
	Managerial Economics	100	Core	6	BBAA203C4
	Business Ethics	100	Generic Elective	6	BBAA204GE2
		400		**20**	
	Semester III				
	Human Resource Management	100	Core	6	BBAA301C5
	Marketing Management	100	Core	6	BBAA302C6
	Management Accounting	100	Core	6	BBAA303C7
	Production and Operations Management	100	Generic Elective	6	BBAA304GE3
	Information Technology for Business	100	Skill enhancement	4	BBAA305SE1
		500		**28**	
	Semester IV				

	Business Research	100	Core	6	BBAA401C8
	Macroeconomics	100	Core	6	BBAA402C9
	Financial Management	100	Core	6	BBAA403C10
	Tax Planning/ India's Diversity and Business	100	Generic Elective	6	BBAA404GE4
	E Commerce or Statistical Software / Summer Internship	100	Skill enhancement	4	BBAA405SE2
		500		**28**	
Semester V					
	Quantitative Techniques for Management	100	Core	6	BBAA501C11
	Legal Aspects of Business	100	Core	6	BBAA502C12
	Elective – I Discipline Specific Elective-paper **a** of 1/2/3/4	100	Disc. Specific Elective	6	BBAA503DSE 1/2/3/4(A)
	Elective – II Discipline Specific Elective-paper **b** of 1/2/3/4	100	Disc. Specific Elective	6	BBAA504DSE 1/2/3/4(B)
		400		**24**	
Semester VI					
	Business Policy & Strategy	100	Core	6	BBAA601C13
	Financial Institutions and Markets	100	Core	6	BBAA602C14
	Elective – III Discipline Specific Elective-paper **c** of 1/2/3/4	100	Disc. Specific Elective	6	BBAA603DSE 1/2/3/4(C)
	Research Project	100	Disc. Specific Elective (Applicable to all)	6	BBAA604DSE 1/2/3/4
		400		**24**	
TOTAL		**2600**		**144**	

DISCIPLINE SPECIFIC ELECTIVE COURSE:

DSE - I (Finance)	DSE – 2 (Marketing)	DSE-3 (Human Resource)	DSE-4(Management of Global Business)
Strategic Corporate Finance (503A)	Consumer Behaviour (503A)	HRD: Systems & Strategies (503A)	International Trade Policy & Strategy (503A)
b. Investment Analysis and Portfolio Management. (503B)	Advertising and Brand Management (503B)	b. Management of Industrial Relations (503B)	Global Business Environment (503B)
Investment Banking and Financial Services (603C)	c . Marketing of Services (603C)	c. Performance & Compensation Management (603C)	International Joint Ventures, Mergers &Acquisitions. (603C)

7.1 Summer Internship(s) and Research Project (s) will have two components of markings/evaluations i)viva-voce of 50 marks and ii) report writing of 50 marks, to be jointly evaluated by internal examiner(s) and external examiner (s) as the case be.

7.2 Semester Workload/ Credit Defined in terms of hour(s) /week(s)

Semester Work-load Each Semester : 15-18 weeks of academic work
Theory / Tutorial : 1 Credit = 1 hr/week
Project/Practical : 1 Credit = 2 hrs./week

Uniform Curriculum Structure
for
Two-Year B.Ed. Programme in West Bengal

following
NCTE Regulations, 2014

Examined and Recommended
@ Dedar.
28/7/2015
(Prof. S. K. Yadav)
Former Head, Deptt of Teacher Education
NCERT, New Delhi
& Presently Academic Consult
on NCTE Seen &
New Delhi. Recommend
28/7/15
(C S Chandra)
Academic Consult
NCTE.

Prepared by
The Curriculum Committee

Constituted by the

HIGHER EDUCATION DEPARTMENT
Government of West Bengal
Bikash Bhavan, Salt Lake, Kolkata - 700091

CURRICULUM STRUCTURE FOR TWO-YEAR TEACHER EDUCATION PROGRAMMES
(B.ED., M.ED., B.P.ED. &M.P.ED.)
IN WEST BENGAL

FOLLOWING
NCTE REGULATIONS, 2014

Prepared by the Curriculum Committee

Constituted by the

Higher Education Department

Government of West Bengal

BikashBhavan, Salt Lake, Kolkata – 700091.

CURRICULUM STRUCTURE FOR TWO-YEAR B.Ed. PROGRAMME

IN WEST BENGAL

FOLLOWING

NCTE REGULATIONS, 2014

**Prepared by the Curriculum Committee
Constituted by the**

**Higher Education Department
Government of West Bengal**
BikashBhavan, Salt Lake, Kolkata – 700091

REGULATIONS FOR 2 YEAR B.Ed. PROGRAMME IN WEST BENGAL
FOLLOWING NCTE REGULATIONS, 2014

In exercise of the powers conferred by the Government of West Bengal (Memo No.329-Edn(CS)/EE/10M-16/15 dated 6th April, 2015), the Curriculum Committee hereby makes the following Regulations:

These regulations shall be called the Regulations (for the B.Ed. Programme), with effect from 2015. They shall apply to every candidate applying for admission, registration, conduct and conferment of the B.Ed. degree within the jurisdiction of this State i.e. West Bengal.

Admissions, registrations, and conferment of B.Ed. Degree shall be guided by these regulations.

1. Course Structure:

The duration of this program is two academic years consisting of four semesters. The academic year shall commence from July 1st of every year. Each semester is roughly of 6 months duration including regular classes, assignments, practice teaching, and examinations. The program structure is as follows:

B.ED ACADEMIC CALENDAR

Semester	Duration (Tentative)	Activities
I	**1st July to 31st December (1st Year)**	
	❖ 1st July to 30th November	Theory Class, Engagement with Field and EPC 1
	❖ 1st December to 15th December	**Examination:** Theory, Engagement with Field and EPC 1 Practical
	❖ 16th December to 31st December	**Evaluation and Publication of Result (Semester Break for the Students)**
II	**1st January to 30th June (1st Year)**	
	❖ 1st January to 15th April	Theory Class, Engagement with Field and EPC 2
	❖ 16th April to 15th May	Teaching Internship (No External Evaluation)
	❖ 16th May to 31st May	Sharing the Experience with the Teacher Educators and engage with other Co-curricular activities
	❖ 1st June to 15th June	**Examination:** Theory, Engagement with Field and EPC 2 Practical
	❖ 16th June to 30th June	**Evaluation and Publication of Result (Semester Break for the Students)**
III	**1st July to 31st December (2nd Year)**	
	❖ 1st July to 30th July	Theory Class, Orientation in College for Pedagogy files of School subjects and Internship Teaching Skills.
	❖ 1st August to 30th November	Four months school Internship
	❖ 1st December to 15th December	Evaluation of School Internship
	❖ 16th December to 31st December	**Evaluation and Publication of Result (Semester Break for the Students)**
IV	**1st January to 30th June (2nd Year)**	
	❖ 1st January to 31st May	Theory Class including Optional course, EPC 3 and EPC 4, Engagement with Field
	❖ 1st June to 15th June	**Examination:** Theory, Engagement with Field and EPC 3 & 4 Practical
	❖ 16th June to 30th June	**Evaluation and Publication of Result (Semester Break for the Students)**

2. Admission criteria for B.Ed. Programme:

Any candidate who has obtained **50% marks** in Bachelor Degree /Master's Degree in Science/Social Science /Humanities or Bachelor's in Engineering or Technology with specialization in Science and Mathematics with **55% marks** are eligible **for admission in B.Ed Programme**. For admission, the Institution follows the prevalent rules as prescribed by The NCTE Regulations, 2014(published in The Gazette of India: Extraordinary, Part –III, Sec-4, dated 01.12.2014). Mode of

admission is based on the total score obtained from his/her Secondary, H.S, Graduation and Post-Graduation.

Relaxation of the percentage of marks for reserved category candidate will be as per State Govt. rules. Intake capacity is as per NCTE, State Govt. & other statutory bodies.

3. Registration:

As per University guidelines.

UNIFORM CURRICULUM STRUCTURE AND EXAMINATION PATTERN FOR 2 YEAR B.Ed. PROGRAMME IN WEST BENGAL FOLLOWING NCTE REGULATIONS, 2014

COURSE & CODE	COURSE NAME	MARKS		Marks(Credit)	Class Teaching Hour
		Theory	Engagements with the Field		
SEMESTER-I					
Course-I (1.1.1)	Childhood and Growing Up (1st &2nd half)	50+50	25	100+25 (4+1)	64+32
Course-II (1.1.2)	Contemporary India and Education (1st &2nd half)	50+50	25	100+25 (4+1)	64+32
Course-IV (1.1.4)	Language across the Curriculum	50	50	50+50 (2+2)	32+64
Course-V (1.1.5)	Understanding Discipline and Subjects	50	50	50+50 (2+2)	32+64
CourseEPC-1 (1.1EPC1)	Reading and Reflecting on Texts	25	25	25+25 (1+1)	16+32
	TOTAL	325	175	500(13+7)	208+224
				Full Marks: 500 (Credit : 20)	
SEMESTER-II					
Course-III (1.2.3)	Learning and Teaching (1st & 2nd half)	50+50	25	100+25 (4+1)	64+32
Course-VII-(A) (1.2.7A)	Pedagogy of a School Subject Part-I	50	50	50+50 (2+2)	32+64
Course-VIII-(A) (1.2.8A)	Knowledge and Curriculum- Part-I	50	25	50+25 (2+1)	32+32
Course-IX (1.2.9)	Assessment for Learning (1st & 2nd half)	50+50	50	100+50 (4+2)	64+64
CourseEPC-2 (1.2EPC2)	Drama and Arts in Education	25	25	25+25 (1+1)	16+32
	TOTAL	325	175	500(13+7)	208+224
				Full Marks: 500 (Credit : 20)	
SEMESTER-III					
Course-VII-(B) (1.3.7B)	Pedagogy of a School Subject- Part-II	50	100	50+100 (2+4)	32+128
	School Internship		350	350 (14)	448
	TOTAL	50	450	500(2+18)	32+576
				Full Marks: 500 (Credit : 20)	
SEMESTER-IV					
Course-VI (1.4.6)	Gender, School and Society	50	25	50+25 (2+1)	32+32
Course-VIII(B)(1.4.8B)	Knowledge and Curriculum- Part-II	50	25	50+25 (2+1)	32+32
Course-X (1.4.10)	Creating an Inclusive School	50	25	50+25 (2+1)	32+32
Course-XI (1.4.11) Optional	Vocational/Work Education	50	25	50+25 (2+1)	32+32
Course-XI (1.4.11) Optional	Health and Physical Education	50	25	50+25 (2+1)	32+32
Course-XI (1.4.11) Optional	Peace Education	50	25	50+25 (2+1)	32+32
Course-XI (1.4.11) Optional	Guidance and Counselling	50	25	50+25 (2+1)	32+32
Course-XI (1.4.11) Optional	Environmental and Population Education	50	25	50+25 (2+1)	32+32
Course-XI (1.4.11) Optional	Yoga Education	50	25	50+25 (2+1)	32+32
CourseEPC-3 (1.4EPC3)	Critical Understanding of ICT	50	50	50+50 (2+2)	32+64
CourseEPC-4(1.4EPC4)	Understanding the Self	50	50	50+50 (2+2)	32+64
	TOTAL	300	200	500(12+8)	192+256
				Full Marks: 500 (Credit : 20)	
	Total Marks: 2000 (Credit : 80)				

Note:

a) *Optional Courses can be from among the following- Vocational/Work Education, Health and Physical Education, Peace Education, Guidance and Counselling, and Environmental and Population Education, Yoga Education.

UNIVERSITY OF CALCUTTA

Notification No. CSR/ 12 /18

It is notified for information of all concerned that the Syndicate in its meeting held on 28.05.2018 (vide Item No.14) approved the Syllabi of different subjects in Undergraduate Honours / General / Major courses of studies (CBCS) under this University, as laid down in the accompanying pamphlet:

List of the subjects

Sl. No.	Subject	Sl. No.	Subject
1	Anthropology (Honours / General)	29	Mathematics (Honours / General)
2	Arabic (Honours / General)	30	Microbiology (Honours / General)
3	Persian (Honours / General)	31	Mol. Biology (General)
4	Bengali (Honours / General /LCC2 /AECC1)	32	Philosophy (Honours / General)
5	Bio-Chemistry (Honours / General)	33	Physical Education (General)
6	Botany (Honours / General)	34	Physics (Honours / General)
7	Chemistry (Honours / General)	35	Physiology (Honours / General)
8	Computer Science (Honours / General)	36	Political Science (Honours / General)
9	Defence Studies (General)	37	Psychology (Honours / General)
10	Economics (Honours / General)	38	Sanskrit (Honours / General)
11	Education (Honours / General)	39	Social Science (General)
12	Electronics (Honours / General)	40	Sociology (Honours / General)
13	English ((Honours / General/ LCC1/ LCC2/AECC1)	41	Statistics (Honours / General)
14	Environmental Science (Honours / General)	42	Urdu (Honours / General /LCC2 /AECC1)
15	Environmental Studies (AECC2)	43	Women Studies (General)
16	Film Studies (General)	44	Zoology (Honours / General)
17	Food Nutrition (Honours / General)	45	Industrial Fish and Fisheries – IFFV (Major)
18	French (General)	46	Sericulture – SRTV (Major)
19	Geography (Honours / General)	47	Computer Applications – CMAV (Major)
20	Geology (Honours / General)	48	Tourism and Travel Management – TTMV (Major)
21	Hindi (Honours / General /LCC2 /AECC1)	49	Advertising Sales Promotion and Sales Management –ASPV (Major)
22	History (Honours / General)	50	Communicative English –CMEV (Major)
23	Islamic History Culture (Honours / General)	51	Clinical Nutrition and Dietetics CNDV (Major)
24	Home Science Extension Education (General)	52	Bachelor of Business Administration (BBA) (Honours)
25	House Hold Art (General)	53	Bachelor of Fashion and Apparel Design – (B.F.A.D.) (Honours)
26	Human Development (Honours / General)	54	Bachelor of Fine Art (B.F.A.) (Honours)
27	Human Rights (General)	55	B. Music (Honours / General) and Music (General)
28	Journalism and Mass Communication (Honours / General)		

The above shall be effective from the academic session 2018-2019.

SENATE HOUSE
KOLKATA-700073
The 4th June, 2018

(Dr. Santanu Paul)
Deputy Registrar

SEMESTER WISE COURSES FOR B.SC (GENERAL)

	SEMESTER 1	SEMESTER 2	SEMESTER 3	SEMESTER 4	SEMESTER 5	SEMESTER 6
CORE COURSE (CC)	CC-1: Foundations of Psychology Theory + Practical (Practical on Memory and Intelligence) Pages 1-2*	CC-2: Introduction To Social Psychology Theory + Practical (Practical on Group Cohesiveness by Sociometric Method and Influence of Group on Individual Behaviour) Pages 3-4*	CC-3: Psychological Disorders Theory + Practical (Practical on Anxiety and Stress) Pages 4-5*	CC-4: Statistical Methods and Psychological Research Theory+ Practical (Practical on Personality and Computation of Central Tendency, Variability Measures, Rank Difference Correlation) Pages 5-7*		
ELECTIVE COURSES DISCIPLINE SPECIFIC ELECTIVE (DSE)					DSE-1A Life Span Development (Practical on Attachment Style) Page 8-9*	DSE-1B Industrial /Organizational Psychology (Practical on Intrinsic Extrinsic Motivation)

SEMESTER WISE COURSES FOR B.SC (GENERAL)

					Page 10* OR DSE- 1A Health and Well Being (Practical on Well- Being) Page 9*	OR DSE-1B Counselling Psychology (Practical on Empathy) Page 11*
SKILL ENHANCEMENT ELECTIVE (SEC)			SEC- 1A Managing Stress OR SEC- 1A Applications of Social Psychology Page 12-13*	SEC-1B Managing Human Resources OR SEC- 1B Developing Emotional Competence Page 14-15*	SEC- 1A Managing Stress OR SEC- 1A Applications of Social Psychology Page 12-13*	SEC-1B Managing Human Resources OR SEC- 1B Developing Emotional Competence Page 14-15*
TOTAL CREDITS	20	20	20	20	20	20

SEMESTER WISE COURSES FOR B.SC (GENERAL)

- ❖ CC/ DSE: Each Theory and Practical Course have 4 and 2 Credits respectively/ Each Theory and Tutorial Course have 5 and 1 Credit(s) respectively
- ❖ CC: 4 courses each from 3 subjects (one course from each subject under each semester)
- ❖ DSE: 2 courses each from 3 subjects (one course from each subject under each semester)
- ❖ AECC/SEC: Each Course has 2 credits
- ❖ AECC-1: Communicative English/MIL; AECC-2: Environmental Studies
- ❖ SEC: 4 courses; two courses each from two subjects
- ❖ DSE/SEC: Group (A&B) for specified semesters

 *Page Numbers in the syllabus
 TH=Theory;   P=Practical; TU=Tutorial

University of Calcutta

B.Sc.STATISTICS(General)

2018

Credit Distribution across Courses

Course Type	Total Papers	Credits	
		Theory + Practical	Theory*
Core Courses	12	12*4 =48 12*2 =24	12*5 =60 12*1=12
Discipline Specific Electives	6	6*4=24 6*2=12	6*5=30 6*1=6
Ability Enhancement Language Courses	2	2*2=4	2*2=4
Skill Enhancement Courses	4	4*2=8	4*2=8
Totals	24	120	120

*Tutorials of 1 Credit will be conducted in case there is no practical component

Core Course: 4 courses each from **three** subjects, total 12 (1 course from each subject under each semester)

Discipline Specific Electives: 2 courses each from **three** subjects, total 6 (1 course from each subject under each semester)

Skill Enhancement Course: 2 courses each from **two** subjects, total 4

Choices for Discipline Specific Electives

Discipline Specific Elective			
Operations Research (Gr-A) Sem-5	Survival Analysis (Gr-B) Sem-6		
Econometrics (Gr-A) Sem-5	Project work (Gr-B) Sem-6		

Choices for Skill Enhancement Courses

Skill Enhancement Course Semesters 3-6	
Statistical Data Analysis Using R (Gr-A1) Sem-3	Research Methodology (Gr-A2) Sem-5
Data Base Management System (Gr B1) Sem4	Monte Carlo Methods (Gr-B2) Sem-6

UNIVERSITY OF CALCUTTA

Notification No. CSR/ 12 /18

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The above shall be effective from the academic session 2018-2019.

SENATE HOUSE
KOLKATA-700073
The 4th June, 2018

(Dr. Santanu Paul)
Deputy Registrar

THE UNIVERSITY OF CALCUTTA
REVISED SYLLABUS OF CBCS (HINDI)
B.A. HINDI
CORE COURSE (CC) / GENERIC ELECTIVE(GE)
HING-CC /GE

अंक विभाजन (सभी 4 प्रश्न पत्रों के लिए मान्य) :-

लिखित परीक्षा (Theory) - 65 अंक

संगोष्ठी / सत्रांत पत्र (Seminar/Term Paper) - 15 अंक

उपस्थिती (Attendance) - 10 अंक

विभागीय मूल्यांकन (Internal Assessment) - 10 अंक

कुल योग- 100 अंक

पत्र विभाजन :-

प्रथम सेमेस्टर : पत्र 1

द्वितीय सेमेस्टर : पत्र 2

तृतीय सेमेस्टर : पत्र 3

चतुर्थ सेमेस्टर : पत्र 4

*(प्रति सेमेस्टर अवधि : 06 महीने)

लिखित परीक्षा (अंक विभाजन):-

वृहत प्रश्न 2 x 15 अंक = 30

आलोचनात्मक/ व्याख्या 2 x 10 अंक= 20

टिप्पणी 3 x 5 अंक = 15

कुल योग =65 अंक

UNIVERSITY OF CALCUTTA

SYLLABUS

Subject: Physical Education (General)

According to
CBCS
w.e.f. 2018-19 Session

Syllabus Structure

Course Nature	Subject Code	Subject	Marks	Credit	Evaluation
Core Course (CC)	PEDN-G-CC-1-1-TH	Foundation and History of Physical Education	100	4+2 (6)	Term-end Theory Examination - 50 Marks Term-end Project Evaluation- 30 Marks Internal Evaluation -10 Marks
	PEDN-G-CC-2-2-TH	Health Education, Physical Fitness and Wellness	100	4+2 (6)	Term-end Theory Examination - 50 Marks Term-end Project Evaluation- 30 Marks Internal Evaluation -10 Marks
	PEDN-G-CC-3-3-TH-P	Anatomy, Physiology and Exercise Physiology	100	4+2 (6)	Term-end Theory Examination - 50 Marks Term-end Lab Practical & Record Book - 30 Marks Internal Evaluation -10 Marks Attendance -10 Marks
	PEDN-G-CC-4-4-TH-P	Psychology and Sociology in Physical Education & Sports	100	4+2 (6)	Term-end Theory Examination - 50 Marks Term-end Lab Practical & Record Book - 30 Marks Internal Evaluation -10 Marks Attendance -10 Marks
Discipline Specific Elective (DSE)	PEDN-G-DSE-A-5-1-TH-P	Management in Physical Education and Sports	100	4+2 (6)	Term-end Theory Examination - 50 Marks Term-end Lab Practical & Record Book - 30 Marks Internal Evaluation -10 Marks Attendance -10 Marks
	PEDN-G-DSE-A-5-2-TH-P	Modern Trends in Physical Education & Exercise Science	100	4+2 (6)	Term-end Theory Examination - 50 Marks Term-end Lab Practical & Record Book - 30 Marks Internal Evaluation -10 Marks Attendance -10 Marks
	PEDN-G-DSE-B-6-1-TH-P	Sports Training	100	4+2 (6)	Term-end Theory Examination - 50 Marks Term-end Lab Practical & Record Book - 30 Marks Internal Evaluation -10 Marks Attendance -10 Marks
	PEDN-G-DSE-B-6-2-TH-P	Test, Measurement and Evaluation in Physical Education	100	4+2 (6)	Term-end Theory Examination - 50 Marks Term-end Lab Practical & Record Book - 30 Marks Internal Evaluation -10 Marks Attendance -10 Marks
Skill Enhancement Course (SEC)	PEDN-G-SEC-A-3-1-P	Track and Field	100	4+2 (6)	Term-end Practical Examination - 50 Marks Term-end Project & Practical Record Book - 30 Marks Internal Evaluation -10 Marks Attendance -10 Marks
	PEDN-G-SEC-B-4-1-P	Gymnastics and Yoga	100	4+2 (6)	Term-end Practical Examination - 50 Marks Term-end Project & Practical Record Book - 30 Marks Internal Evaluation -10 Marks Attendance -10 Marks
	PEDN-G-SEC-A-5-2-P	Ball Games (Any Two)	100	4+2 (6)	Term-end Practical Examination - 50 Marks Term-end Project & Practical Record Book - 30 Marks Internal Evaluation -10 Marks Attendance -10 Marks
	PEDN-G-SEC-B-6-2-P	Indian Games (Any One) and Racket Sports (Any One)	100	4+2 (6)	Term-end Practical Examination - 50 Marks Term-end Project & Practical Record Book - 30 Marks Internal Evaluation -10 Marks Attendance -10 Marks

N.B.: 1. Term-end Field, Lab Practical & Project Work examination to be evaluated as per CU Examination procedure.
    2. A student is to take one DSE subject from Group-A in the fifth semester and one DSE subject from Group-B in the sixth semester.
    3. A student is to take one SEC subject from Group-A in the third/fifth semester and one SEC subject from Group-B in the fourth/sixth semester.

SOCIOLOGY

B.A.(General Program)

SYLLABUS

Under Choice Based Credit System (CBCS)

UNIVERSITY OF CALCUTTA
2018

Note:

- ❖ **Attendance: 10 marks per paper**
- ❖ **Internal Assessment: 10 marks per paper**

- ➢ **Core Courses, Discipline Specific Elective and Generic Elective Courses:** **(TU+Th=15+65) = (1+5 credits each) = 6 Credits each**

- ➢ **Skill Enhancement Courses: (Th=2 credits each) =2 Credits each**

Course Distribution:

- ➢ <u>Core Courses</u>:8: 6 Credits each

  - 2 Courses each in Semesters 1, 2, 3 and 4 covering two subjects

  LCC: 4 : 6 Credits each (2 courses each from LCC(1) & LCC(2))

- ➢ <u>Elective Courses</u>:

  i. Discipline Specific Elective DSE:4: 6 Credits each
     - 2Courses in each Semesters 5 and 6,of 2 subjects,
                                    (Group-A& B for specified semester)

  ii. Skill Enhancement Elective: 4 : 2 credits each
      - 2 Courses each in Semesters 3and 5 from Group-A of 2 subjects
      - 2 Courses each in Semesters 4and 6 from Group-Bof 2 subjects

  iii. Generic Elective: 2 : 6 Credits each
       - 1 Course each in Semesters 1and 2 from one subject different from Core Subjects including LCC

Important Note:

- ❖ **UGC Model Syllabus for Sociology has been followed while framing the Syllabus Below. Reference:https://www.ugc.ac.in/pdfnews/1196038_BA_Sociology.pdf**
- ❖ **The Readings provided below include many of those of the UGC Model CBCS Syllabus in Sociology.**
- ❖ **The format is subject to the common structural CBCS format of the University.**

❖ <u>Suggested Mode for 15 Marks Tutorial Segment:</u>

▪ **<u>Written Mode:</u> 15 marks written evaluation by college CT (Class test) -(7th/ 8th week of the semester); Upto1000/1200 words Term papers- (1/2@ 500/600 Words each)**

▪ **<u>Presentation Mode</u>: Paper or Report Presentation/ writing on Syllabus based topics or Current topics.**

[All modes/ themes/ topic of the tutorial related segments to be decided by concerned faculty of respective colleges.]

LIST OF COURSES - GENERAL PROGRAM	
CORE COURSES/GENERIC ELECTIVE (4 Courses)	
Subject-Gen-Core/Generic-Semester-Paper-Th &TU	**(6 Credits per Course)** 4x6=24 Credits
SOC-G-CC/GE-1-1-TH&TU	Introduction to Sociology
SOC-G-CC/GE-2-2-TH&TU	Sociology of India
SOC-G-CC/GE-3-3-TH&TU	Sociological Theories
SOC-G-CC/GE-4-4-TH&TU	Methods of Sociological Enquiry
Skill Enhancement Course (2 Credits per Course) **4 courses in 4 semesters from 2 subjects**	
GROUP-A: 2Courses each in Semesters3/ 5 from Group-A of 2 subjects	
SOC-G-SEC-X-A(1)-TH	Techniques of Social Research
SOC-G-SEC-X-A (2)-TH	Gender Sensitization
GROUP-B:2Courses each in Semesters 4/ 6 from Group-B of 2 subjects	
SOC-G-SEC-X-B(1)-TH	Theory and Practice of Development
SOC-G-SEC-X- B(2)-TH	Applications of Statistics for Sociology
DISCIPLINE SPECIFIC ELECTIVE **(6 Credits per Course)**	
GROUP-A 2 Courses in Semesters 5 from 2 subjects	
SOC-G-DSE- 5 -A(1)-TH&TU	Religion and Society
SOC-G-DSE- 5 -A(2)-TH&TU	Family Marriage Kinship
GROUP-B 2 Courses in Semesters 6from 2 subjects	
SOC-G-DSE-6-B(1)-TH&TU	Social Stratification
SOC-G-DSE-6-B(2)-TH&TU	Gender and Sexuality

Course Structure for B.A. (General)

Course Components	B.A. General
Core Course (CC)	**8****
Language Core Course (LCC)	**4**
Generic Elective (GE)	**2**
Discipline Specific Elective (DSE)	**4****
Ability Enhancement Compulsory Course (AECC)	**2**
Skill Enhancement Elective Course (SEC)	**4****
Total no. of courses	**24**
**Covering two subjects	

Semester wise Courses forB. A. (General):

		Sem-1	Sem-2	Sem-3	Sem-4	Sem-5	Sem-6
	Core Course (CC)	2Th+2TU **CC-1**	2Th+2TU **CC-2**	2Th+2TU **CC-3**	2Th+2TU **CC-4**		
	Language(LCC)			1Th+1TU **L1(1)**	1Th+1TU **L2(1)**	1Th+1TU **L1(2)**	1Th+1TU **L2(2)**
Elective Courses:							
i)Generic Elective (GE)		1Th+1TU **GE-1**	1Th+1TU **GE-2**				
ii)Discipline Specific Elective (DSE)						2Th+2TU **DSE-A (1A+2A)**	2Th+2TU **DSE-B (1B+2B)**
Ability Enhancement Compulsory Course (AECC)		1Th+0P/TU **AECC-1**	1Th+0P/TU **AECC-2**				
Skill Enhancement Elective (SEC)				1Th+0TU **SEC-A(1)**	1Th+0TU **SEC-B(1)**	1Th+0TU **SEC-A(2)**	1Th+0TU **SEC-B(2)**
Total No. of Courses and Marks		**4 x 100=400**	**4 x 100 =400**	**4 x 100 =400**	**4 x 100 =400**	**4 x 100 =400**	**4 x 100 =400**
Total Credits		20	20	20	20	20	20

Th= Theory   TU= Tutorial

- ❖ CC/LCC/GE/DSE: Each Theory and Practical Course have 4 and 2 Credits respectively/ Each Theory and Tutorial Course have 5 and 1 Credit(s) respectively
- ❖ CC : 4 courses each from 2 disciplines(one course from each subject under each semester)
- ❖ LCC: L1-English courses; L2=MIL courses; two courses each
- ❖ GE**:** Two courses from one subject different from core subject
- ❖ DSE: 2 courses each from 2 disciplines
- ❖ AECC/SEC : Each Course has 2 Credits
- ❖ AECC-1: Communicative English/MIL,AECC-2: Environmental Studies
- ❖ SEC**:** 2 courses from two subjects
- ❖ DSE/SEC: Choice must be group specific to each semester

UNIVERSITY OF CALCUTTA

Notification No. CSR/ 38 /17

It is notified for information of all concerned that in terms of the provisions of Section 54 of the Calcutta University Act, 1979, (as amended), and, in exercise of his powers under 9(6) of the said Act, the Vice-Chancellor has, by an order dated 15.05.2017 approved the **Revised Regulations and Syllabus for M.Sc.** course of study in **Botany** under this University, as laid down in the accompanying pamphlet.

The above shall be effective from the academic session 2017-2018 and onwards.

SENATE HOUSE
KOLKATA-700073
The 13th June, 2017

(Prof. Dr. Rajagopal Dhar Chakraborti)

Registrar

M.Sc. Regulations and Syllabus

In BOTANY

University of Calcutta

2017

Orientation of Courses in Four Semesters for M.Sc. in Botany

1st Semester

Core courses		Marks(Theo.+Prac.)	Credits
Bot C11	Microbiology	40+ 25	2.5+2.5
Bot C12	Phycology	40 + 25	2.5+2.5
Bot C13	Bryophytes,Pteridophytes and Gymnosperms	40 + 25	2.5+2.5
Bot C14	Cell Biology	40 + 25	2.5+2.5
	Total	**160 (Theoretical) + 100 (Practical)**	**10 (Theoretical) + 10 (Practical)**
		= 260	**= 20**

2nd Semester

Core courses		Marks(Theo.+Prac.)	Credits
Bot C21	Palaeobotany and Palynology	40 + 25	2.5+2.5
Bot C22	Taxonomy of Angiosperms	40 + 25	2.5+2.5
Bot C23	Phytochemistry and Pharmacognosy	40 + 25	2.5+2.5
Bot C24	Genetics and Genomics	40 + 25	2.5+2.5
		40 + 25	2.5+2.5
	Total	**160 (Theoretical) + 100 (Practical)**	**10 (Theoretical) + 10 (Practical)**
		= 260	**= 20**

3rd Semester

Core & other courses		Marks(Theo.+Prac.)	Credits
Bot C31	Mycology and Plant pathology	40+ 25	2.5+2.5
Bot C32	Plant Physiology and Biochemistry	40+25	2.5+2.5
Bot-O-I	Optional Paper I	20 + 0	1.5+0
OA	*Choice based credit course (CBCS 1)	50+0	4+0
OB	*Choice based credit course (CBCS 2)	50+0	4+0
	Total	**200 (Theoretical) + 50 (Practical)**	**14.5 (Theoretical) + 5 (Practical)**
		= 250	**=19.5**
	Dissertation (To be Contd in Sem IV)		

4th Semester

Optional& other courses		Marks(Theo.+Prac.)	Credits
Bot C41	Plant Anatomy and Developmental Biology	40 + 25	2.5+2.5
Bot C42	Plant Biotechnology	40 + 25	2.5+2.5
Bot C 43	Ecology	20 + 0	1.5+0
Bot-O-II	Optional Paper II	20+0	1.5+0
	Dissertation (Contd from Sem III)	60	7.5

	Total:	120 (Theoretical) + 50 (Practical)+60 (Dissertation)	8 (Theoretical) + 5 (Practical) +7.5(Dissertation)
		= **230**	= 20.5
	Grand Total Marks/Credits	**640 (Theoretical) +300 (Practical)+60 (Dissertation)**	**42.5 (Theoretical) +30 (Practical) +7.5 (Dissertation)**
		= **1000**	**=80**

C – Core course; O – Optional course; S – Supportive course

*Appendix-I

Optional PapersBot OP:

Optional Paper I (any 1 of the following)

1. **O-I-A:**   **Applied Virology**
2. **O-I-B:**   **Molecular and Applied Phycology**
3. **O-I-C:**   **Molecular and Applied Mycology**
4. **O-I -D:**   **Molecular Plant Physiology**
5. **O- I -E:**   **Advanced Cell Biology**
6. **O- I -F:**   **Advanced Paleobotany and Palynology**
7. **O- I -G:**   **Advanced Phytochemistry and Pharmacognosy**
8. **O- I-H:**   **Taxonomy and Biosystematics**

Optional Papers II(any 1 of the following)

1. **O-II-A:**   **Microbial Biotechnology**
2. **O-II-B:**   **Plant protection**
3. **O-II-C:**   **Green Nanotechnology**
4. **O-II-D:**   **Plant Molecular genetics**
5. **O-II-E:**   **Plant Molecular Biology**
6. **O-II-F**   **Molecular stress biology**
7. **O-II-G:**   **Immunology**
8. **O-II-H:**   **Instrumentation and Biostatistics**

The students will have to choose one optional paper each in semester III and IV from the given list of optional papers. There is no limit on number of students for any optional paper.

UNIVERSITY OF CALCUTTA

Notification No. CSR/ 68 /18

It is notified for information of all concerned that the Syndicate in its meeting held on 13.07.2018 (vide Item No.11) approved the Syllabus of Two-Year (Four-Semester) M.Sc. Course of Study in Chemistry under CBCS in the Post-Graduate Departments of the University and in the affiliated Colleges offering Post-Graduate Courses under this University, as laid down in the accompanying pamphlet.

The above shall be effective from the academic session 2018-2019.

SENATE HOUSE

KOLKATA-700073

The 17th August, 2018

(Debabrata Manna)

Deputy Registrar (Acting)

SYLLABUS

FOR

TWO-YEAR FOUR-SEMESTER COURSE IN

CHEMISTRY

2018

DEPARTMENT OF CHEMISTRY

UNIVERSITY OF CALCUTTA

TWO YEAR FOUR-SEMESTER M.Sc. COURSE IN CHEMISTRY

COURSE STRUCTURE

DURATION	SEMESTER				TOTAL MARKS
	I JULY-DEC	**II** JAN-JULY	**III** JULY-DEC	**IV** JAN-JUNE	
MARKS	250	250	250	250	1000
COURSE TYPE	THEO PRACT	THEO PRACT	THEO PRACT	THEO PRACT	
GENERAL (G) **CREDIT POINTS** **CBCS** **CREDIT POINTS**	150 100 (12) (8)	150 100 (12) (8)	50 (4) 100 (8)		650 (52)

Course ID	Experiment	General Laboratory performance	*Seminar
CHEM-G14	45	45	10
CHEM-G24	45	45	10
CHEM – SA31/SI31/SO31/SP31	50	50	-

- **Topic should be outside the UG curriculum of CU; use of overhead/LCD projector is mandatory ; time 10m, followed by discussion**

Course ID	*Continuous assessment	Review	Project	Grand Viva
CHEM – SA44/SI44/SO441/SP44	10	25	40	25

*Continuous assessment to be assessed by the guide

Review (maximum 3000 words excluding references and figures) and Project to be assessed by External Expert

Grand Viva to be taken by Sectional Faculty members and assessed by them

SYLLABUS

Notification No. CSR/ 12 /18

It is notified for information of all concerned that the Syndicate in its meeting held on 28.05.2018 (vide Item No.14) approved the Syllabi of different subjects in Undergraduate Honours / General / Major courses of studies (CBCS) under this University, as laid down in the accompanying pamphlet:

List of the subjects

Sl. No.	Subject	Sl. No.	Subject
1	Anthropology (Honours / General)	29	Mathematics (Honours / General)
2	Arabic (Honours / General)	30	Microbiology (Honours / General)
3	Persian (Honours / General)	31	Mol. Biology (General)
4	Bengali (Honours / General /LCC2 /AECC1)	32	Philosophy (Honours / General)
5	Bio-Chemistry (Honours / General)	33	Physical Education (General)
6	Botany (Honours / General)	34	Physics (Honours / General)
7	Chemistry (Honours / General)	35	Physiology (Honours / General)
8	Computer Science (Honours / General)	36	Political Science (Honours / General)
9	Defence Studies (General)	37	Psychology (Honours / General)
10	Economics (Honours / General)	38	Sanskrit (Honours / General)
11	Education (Honours / General)	39	Social Science (General)
12	Electronics (Honours / General)	40	Sociology (Honours / General)
13	English ((Honours / General/ LCC1/ LCC2/AECC1)	41	Statistics (Honours / General)
14	Environmental Science (Honours / General)	42	Urdu (Honours / General /LCC2 /AECC1)
15	Environmental Studies (AECC2)	43	Women Studies (General)
16	Film Studies (General)	44	Zoology (Honours / General)
17	Food Nutrition (Honours / General)	45	Industrial Fish and Fisheries – IFFV (Major)
18	French (General)	46	Sericulture – SRTV (Major)
19	Geography (Honours / General)	47	Computer Applications – CMAV (Major)
20	Geology (Honours / General)	48	Tourism and Travel Management – TTMV (Major)
21	Hindi (Honours / General /LCC2 /AECC1)	49	Advertising Sales Promotion and Sales Management –ASPV (Major)
22	History (Honours / General)	50	Communicative English –CMEV (Major)
23	Islamic History Culture (Honours / General)	51	Clinical Nutrition and Dietetics CNDV (Major)
24	Home Science Extension Education (General)	52	Bachelor of Business Administration (BBA) (Honours)
25	House Hold Art (General)	53	Bachelor of Fashion and Apparel Design – (B.F.A.D.) (Honours)
26	Human Development (Honours / General)	54	Bachelor of Fine Art (B.F.A.) (Honours)
27	Human Rights (General)	55	B. Music (Honours / General) and Music (General)
28	Journalism and Mass Communication (Honours / General)		

The above shall be effective from the academic session 2018-2019.

SENATE HOUSE
KOLKATA-700073
The 4th June, 2018

(Dr. Santanu Paul)
Deputy Registrar

University of Calcutta

Under Graduate Curriculum under Choice Based Credit System (CBCS)

Syllabus forAbility Enhancement Compulsory Course-2 (AECC-2) in
Environmental Studies

Semester-2

Total Marks-100*(Credit -2)*
(50 Theory-MCQ type + 30 Project + 10 Internal Assessment + 10 Attendance)

[Marks obtained in this course will be taken to calculate SGPA & CGPA]

Theory

Unit 1	**Introduction to environmental studies**	2 lectures

•Multidisciplinary nature of environmental studies;
•Scope and importance; Concept of sustainability and sustainable development.

Unit 2	**Ecology and Ecosystems**	6 lectures

•Concept of ecology and ecosystem, Structure and function of ecosystem; Energy flow in an ecosystem; food chains, food webs; Basic concept of population and community ecology; ecological succession.
•Characteristic features of the following:
    a) Forest ecosystem
    b) Grassland ecosystem
    c) Desert ecosystem
    d) Aquatic ecosystems (ponds, streams, lakes, wetlands, rivers, oceans, estuaries)

Unit 3	**Natural Resources**	8 lectures

• Concept of Renewable and Non-renewable resources
• Land resources and landuse change; Land degradation, soil erosion and desertification.
•Deforestation: Causes, consequences and remedial measures
•Water: Use and over-exploitation of surface and ground water, floods, droughts, conflicts over water (international & inter-state).
•Energy resources: Environmental impacts of energy generation, use of alternative and nonconventional energy sources, growing energy needs.

Unit 4	**Biodiversity and Conservation**	8 lectures

•Levels of biological diversity: genetic, species and ecosystem diversity;
• Biogeographic zones of India; Biodiversity patterns and global biodiversity hot spots
•India as a mega-biodiversity nation; Endangered and endemic species of India
•Threats to biodiversity: Habitat loss, poaching of wildlife, man-wildlife conflicts, biological invasions;
•Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.
•Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and Informational value.

Unit 5	**Environmental Pollution**	8 lectures

• Environmental pollution: concepts and types,
• Air, water, soil, noise and marine pollution- causes, effects and controls
• Concept of hazards waste and human health risks
• Solid waste management: Control measures of Municipal, biomedical and e-waste.

Unit 6	Environmental Policies and Practices	7 lectures

•Climate change, global warming, ozone layer depletion, acid rain and their impacts on human communities and agriculture

•Environment Laws: Wildlife Protection Act; Forest Conservation Act. Water (Prevention and control of Pollution) Act; Air (Prevention & Control of Pollution) Act; Environment Protection Act; Biodiversity Act.

•International agreements: Montreal Protocol, Kyoto protocol and climate negotiations; Convention on Biological Diversity (CBD).

•Protected area network, tribal populations and rights, and human wildlife conflicts in Indian context.

Unit 7	Human Communities and the Environment	6 lectures

•Human population growth: Impacts on environment, human health and welfare.

•Case studieson Resettlement and rehabilitation.

• Environmental Disaster: Natural Disasters-floods, earthquake, cyclones, tsunami and landslides; Manmade Disaster- Bhopal and Chernobyl.

•Environmental movements: Bishnois.Chipko, Silent valley,Big dam movements.

•Environmental ethics: Role of gender and cultures in environmental conservation.

•Environmental education and public awareness

Project/ Field work	Equal to 5 lectures

•Visit to an area to document environmental assets: Natural resources/flora/fauna, etc.

•Visit to a local polluted site-Urban/Rural/Industrial/Agricultural.

•Study of common plants, insects, fish, birds, mammals and basic principles of identification.

•Study of ecosystems-pond, river,wetland, forest,estuary and agro ecosystem.

Total	50 Lectures

Suggested Reading:

Asthana, D. K. (2006).*Text Book of Environmental Studies*. S. Chand Publishing.

Basu, M., Xavier, S. (2016). Fundamentals of Environmental Studies, Cambridge University Press, India

Basu, R. N., (Ed.) (2000). *Environment*. University of Calcutta, Kolkata

Bharucha, E. (2013). *Textbook of Environmental Studies for Undergraduate Courses*. Universities Press.

De, A.K., (2006).*Environmental Chemistry*, 6th Edition, New Age International, New Delhi.

Mahapatra, R., Jeevan, S.S., Das, S. (Eds) (2017). *Environment Reader for Universities*, Centre for Science and Environment, New Delhi.

Masters, G. M., &Ela, W. P. (1991).*Introduction to environmental engineering and science*. Englewood Cliffs, NJ: Prentice Hall.

Odum, E. P., Odum, H. T., & Andrews, J. (1971).*Fundamentals of ecology*. Philadelphia: Saunders.

Sharma, P. D., & Sharma, P. D. (2005).*Ecology and environment*.Rastogi Publications.

ইউ.জি.সি নির্দেশিত সিবিসিএস অনুসারে

(উত্তর লেখার ক্ষেত্রে পরীক্ষার্থীদের পশ্চিমবঙ্গ বাংলা আকাদেমি-র বানানবিধি অনুসরণ করতে হবে)

৫১

AECC-1 [MIL (Bengali)]–2 Credits
BNG-AECC-1-1-TH

- □ স্নাতক কলা, বাণিজ্য, বিজ্ঞান বিভাগের যে-সমস্ত পড়ুয়া AECC-1 স্তরে MIL হিসেবে বাংলা বিষয়টি গ্রহণ করবে তাদের জন্য প্রথম সেমেস্টারে ২ ক্রেডিটের এই কোর্সটি পাঠ্য।
- □ সেমেস্টারে মোট পনেরো সপ্তাহ ক্লাস হবে ধরে নিয়ে Class Hour/Teaching Hours-এর হিসেব দেওয়া হয়েছে।
- □ এই কোর্সটি ১০০ নম্বরের। এর মধ্যে ১০ নম্বর সংশ্লিষ্ট ক্লাসে পড়ুয়ার উপস্থিতির জন্য এবং ১০ নম্বর কোর্সভিত্তিক আভ্যন্তর মূল্যায়নের জন্য বরাদ্দ থাকবে।
- □ অবশিষ্ট ৮০ নম্বরের জন্য বিশ্ববিদ্যালয়ের সংশ্লিষ্ট দপ্তর পরীক্ষা নেবে। 4টি মডিউল থেকে ১০টি করে ২ নম্বরের মোট 40টি MCQ ধর্মী প্রশ্ন হবে।

মডিউল-১ : প্রবন্ধ (কলিকাতা বিশ্ববিদ্যালয় প্রকাশিত *ভাষাপাঠ সঞ্চয়ন*-এ সংকলিত)

	Class Hours
পাঠ্য প্রবন্ধ : স্বদেশী সমাজ— রবীন্দ্রনাথ ঠাকুর বাঙ্গালা ভাষা— স্বামী বিবেকানন্দ স্ত্রী জাতির অবনতি— বেগম রোকেয়া অপবিজ্ঞান— রাজশেখর বসু	৯

মডিউল-২ : ছোটগল্প (কলিকাতা বিশ্ববিদ্যালয় প্রকাশিত *ভাষাপাঠ সঞ্চয়ন*-এ সংকলিত)

পাঠ্যগল্প : রবীন্দ্রনাথ ঠাকুর লিখিত (পোস্টমাস্টার, ছুটি, জীবিত ও মৃত এবং বলাই	৯

মডিউল-৩ : কবিতা (কলিকাতা বিশ্ববিদ্যালয় প্রকাশিত *ভাষাপাঠ সঞ্চয়ন*-এ সংকলিত)

নৈবেদ্য— রবীন্দ্রনাথ ঠাকুর পাঠ : বৈরাগ্য সাধনে মুক্তি সে আমার নয় (৩০), শতাব্দীর সূর্য আজি রক্ত মেঘ-মাঝে (৬৪), স্বার্থের সমাপ্তি অপঘাতে (৬৫), তোমার ন্যায়ের দণ্ড প্রত্যেকের করে (৭০), চিত্ত যেথা ভয় শূন্য উচ্চ যেথা শির (৭২), শক্তিদৃপ্ত স্বার্থলোভ মারীর মতন (৯২)	৬

মডিউল-৪ : পরিভাষা

কলিকাতা বিশ্ববিদ্যালয় প্রকাশিত ভাষাপাঠ সঞ্চয়ন-এ নির্ধারিত ২৫০টি পরিভাষা	৬

৫৪

UNIVERSITY OF CALCUTTA

Notification No. CSR/ 12 /18

It is notified for information of all concerned that the Syndicate in its meeting held on 28.05.2018 (vide Item No.14) approved the Syllabi of different subjects in Undergraduate Honours / General / Major courses of studies (CBCS) under this University, as laid down in the accompanying pamphlet:

List of the subjects

Sl. No.	Subject	Sl. No.	Subject
1	Anthropology (Honours / General)	29	Mathematics (Honours / General)
2	Arabic (Honours / General)	30	Microbiology (Honours / General)
3	Persian (Honours / General)	31	Mol. Biology (General)
4	Bengali (Honours / General /LCC2 /AECC1)	32	Philosophy (Honours / General)
5	Bio-Chemistry (Honours / General)	33	Physical Education (General)
6	Botany (Honours / General)	34	Physics (Honours / General)
7	Chemistry (Honours / General)	35	Physiology (Honours / General)
8	Computer Science (Honours / General)	36	Political Science (Honours / General)
9	Defence Studies (General)	37	Psychology (Honours / General)
10	Economics (Honours / General)	38	Sanskrit (Honours / General)
11	Education (Honours / General)	39	Social Science (General)
12	Electronics (Honours / General)	40	Sociology (Honours / General)
13	English ((Honours / General/ LCC1/ LCC2/AECC1)	41	Statistics (Honours / General)
14	Environmental Science (Honours / General)	42	Urdu (Honours / General /LCC2 /AECC1)
15	Environmental Studies (AECC2)	43	Women Studies (General)
16	Film Studies (General)	44	Zoology (Honours / General)
17	Food Nutrition (Honours / General)	45	Industrial Fish and Fisheries – IFFV (Major)
18	French (General)	46	Sericulture – SRTV (Major)
19	Geography (Honours / General)	47	Computer Applications – CMAV (Major)
20	Geology (Honours / General)	48	Tourism and Travel Management – TTMV (Major)
21	Hindi (Honours / General /LCC2 /AECC1)	49	Advertising Sales Promotion and Sales Management –ASPV (Major)
22	History (Honours / General)	50	Communicative English –CMEV (Major)
23	Islamic History Culture (Honours / General)	51	Clinical Nutrition and Dietetics CNDV (Major)
24	Home Science Extension Education (General)	52	Bachelor of Business Administration (BBA) (Honours)
25	House Hold Art (General)	53	Bachelor of Fashion and Apparel Design – (B.F.A.D.) (Honours)
26	Human Development (Honours / General)	54	Bachelor of Fine Art (B.F.A.) (Honours)
27	Human Rights (General)	55	B. Music (Honours / General) and Music (General)
28	Journalism and Mass Communication (Honours / General)		

The above shall be effective from the academic session 2018-2019.

SENATE HOUSE
KOLKATA-700073
The 4th June, 2018

(Dr. Santanu Paul)
Deputy Registrar

THE UNIVERSITY OF CALCUTTA
REVISED SYLLABUS OF CBCS (HINDI)
HINA/HING-AECC-1-1-TH/MIL
80 अंक

अंक विभाजन :-

सभी प्रश्न बहुविकल्पीय रहेंगे । (40**x 2 =**80)

पाठ्यक्रम :-

- **निबंध**:

नाखून क्यों बढ़ते हैं **?** - हजारीप्रसादद्विवेदी, धीसा - महादेवीवर्मा, पर्यावरणसंरक्षण - शुकदेवप्रसाद, धूमकेतु - गुणाकर मुले

- **कविताएँ**:

(i)   बीती विभावरी जाग री   - जयशंकरप्रसाद

(ii)   पैतृकसंपत्ति (जबबापमरा…) - केदारनाथअग्रवाल

(iii)   उनकोप्रणाम - नागार्जुन

(iv)   होगईहैपीरपर्वतसी - दुष्यंतकुमार

(v)   धार्मिकदंगोंकीराजनीति - शमशेरबहादुरसिंह

- **कहानियाँ**:

1. मंत्र - प्रेमचंद

2. भोलारामकाजीव - हरिशंकरपरसाई

3. त्रिशंकु - मन्नूभंडारी

4. पाली - यशपाल

- **पारिभाषिकशब्दावली (100 शब्द)**:

1. **Accountability**   जवाबदेही

2. **Ad-hoc**   तदर्थ

3. **Adjournment**   स्थगन

4. **Adjustment**   समायोजन

5.	Agenda	कार्यसूची
6.	Agreement	अनुबंध
7.	Allotment	आवंटन
8.	Allowance	भत्ता
9.	Approval	अनुमोदन
10.	Authority	प्राधिकरण
11.	Autonomous	स्वायत्त
12.	Bonafide	वास्तविक
13.	Bye-law	उप-विधि
14.	Charge	प्रभार
15.	Circular	परिपत्र
16.	Compensation	क्षतिपूर्ति
17.	Confirmation	पुष्टि
18.	Consent	सहमति
19.	Contract	संविदा
20.	Discretion	विवेक
21.	Enclosure	अनुलग्नक
22.	Ex-Office	पदेन
23.	Honorarium	मानदेय
24.	Infrastructure	आधारभूत, संरचना
25.	Memorandum	ज्ञापन
26.	Modus operandi	कार्य-प्रणाली
27.	Notification	अधिसूचना
28.	Officiating	स्थानापन्न
29.	Postponement	स्थगन
30.	Proceedings	कार्यवाही
31.	Record	अभिलेख
32.	Retirement	सेवानिवृत्ति
33.	Stagnation	गतिरोध
34.	Verification	सत्यापन

व्यावसायिक, वाणिज्यिकएवंसंचार-माध्यमसंबंधीशब्दावली

35.	Account	लेखा/खाता
36.	Accountant	लेखपाल
37.	Adjustment	समायोजन
38.	At-par	सममूल्यपर
39.	Audio-Visual display	दृश्य-श्रव्यप्रदर्श
40.	Audit	लेखा-परीक्षा
41.	Audition	स्वर/ध्वनिपरीक्षण
42.	Auditorium	प्रेक्षागृह
43.	Authentic	प्रामाणिक
44.	Back dated	पूर्व-दिनांकित
45.	Bail	जमानत
46.	Bank-Guaranty	बैंकप्रत्याभूति
47.	Bearer	वाहक
48.	Cash Balance	रोकड़बाकी
49.	Clearing	समाशोधन
50.	Commission	दलाली
51.	Confiscation	अधिहरण
52.	Convertible	परिवर्तनीय
53.	Currency	मुद्रा
54.	Current	चालूखाता
55.	Divident	लाभांश
56.	Documentation	प्रलेखन
57.	Endorsement	बंदोबस्ती
58.	Exchange	विनिमय
59.	Finance	वित्त
60.	Fixed Deposit	सावधिजमा
61.	Forfeiture	जब्ती

62.	Guaranty	प्रत्याभूति
63.	Indemnity Bond	क्षतिपूर्तिबंध
64.	Insolvency	दिवाला
65.	Investment	निवेश
66.	Lease	पट्टा
67.	Long term credit	दीर्घावधिउधार
68.	Lumpsum	एकमुश्त
69.	Mobilisation	संग्रहण
70.	Moratorium	भुगतान-स्थगन
71.	Mortgage	गिरवी
72.	Output	उत्पादन
73.	Outstanding	बकाया
74.	Payable	देय
75.	Payment	भुगतान
76.	Progressive-note	रुक्का/हुण्डी
77.	Realization	वसूली
78.	Recommendation	संस्तुति
79.	Rectification	परिशोधन
80.	Recurring	आवर्ती
81.	Redeemable	प्रतिदेय
82.	Renewal	नवीकरण
83.	Revenue	राजस्व
84.	Sensex	शेयरसूचकांक
85.	Security	प्रतिभूति
86.	Short-term credit	अल्पावधिउधार
87.	Squeeze	अधिसंकुचन
88.	Sur-charge	अधिभार
89.	Suspense Account	उचंतलेखा
90.	Trade Mark	मार्का
91.	Transaction	लेनदेन

92. Transfer	अंतरण	
93. Turn over	पण्यावर्त	
94. Undervaluation	अल्पमूल्यांकन	
95. Validity	वैधता	
96. Vault	तहखाना	
97. Warranty	आश्वस्ति	
98. Withdrawal	आहरण	
99. Working Capital	कार्यशीलपूंजी	
100. Winding up	समेटना	

UNIVERSITY OF CALCUTTA

Notification No. CSR/ 12 /18

It is notified for information of all concerned that the Syndicate in its meeting held on 28.05.2018 (vide Item No.14) approved the Syllabi of different subjects in Undergraduate Honours / General / Major courses of studies (CBCS) under this University, as laid down in the accompanying pamphlet:

List of the subjects

Sl. No.	Subject	Sl. No.	Subject
1	Anthropology (Honours / General)	29	Mathematics (Honours / General)
2	Arabic (Honours / General)	30	Microbiology (Honours / General)
3	Persian (Honours / General)	31	Mol. Biology (General)
4	Bengali (Honours / General /LCC2 /AECC1)	32	Philosophy (Honours / General)
5	Bio-Chemistry (Honours / General)	33	Physical Education (General)
6	Botany (Honours / General)	34	Physics (Honours / General)
7	Chemistry (Honours / General)	35	Physiology (Honours / General)
8	Computer Science (Honours / General)	36	Political Science (Honours / General)
9	Defence Studies (General)	37	Psychology (Honours / General)
10	Economics (Honours / General)	38	Sanskrit (Honours / General)
11	Education (Honours / General)	39	Social Science (General)
12	Electronics (Honours / General)	40	Sociology (Honours / General)
13	English ((Honours / General/ LCC1/ LCC2/AECC1)	41	Statistics (Honours / General)
14	Environmental Science (Honours / General)	42	Urdu (Honours / General /LCC2 /AECC1)
15	Environmental Studies (AECC2)	43	Women Studies (General)
16	Film Studies (General)	44	Zoology (Honours / General)
17	Food Nutrition (Honours / General)	45	Industrial Fish and Fisheries – IFFV (Major)
18	French (General)	46	Sericulture – SRTV (Major)
19	Geography (Honours / General)	47	Computer Applications – CMAV (Major)
20	Geology (Honours / General)	48	Tourism and Travel Management – TTMV (Major)
21	Hindi (Honours / General /LCC2 /AECC1)	49	Advertising Sales Promotion and Sales Management –ASPV (Major)
22	History (Honours / General)	50	Communicative English –CMEV (Major)
23	Islamic History Culture (Honours / General)	51	Clinical Nutrition and Dietetics CNDV (Major)
24	Home Science Extension Education (General)	52	Bachelor of Business Administration (BBA) (Honours)
25	House Hold Art (General)	53	Bachelor of Fashion and Apparel Design – (B.F.A.D.) (Honours)
26	Human Development (Honours / General)	54	Bachelor of Fine Art (B.F.A.) (Honours)
27	Human Rights (General)	55	B. Music (Honours / General) and Music (General)
28	Journalism and Mass Communication (Honours / General)		

The above shall be effective from the academic session 2018-2019.

SENATE HOUSE
KOLKATA-700073
The 4th June, 2018

(Dr. Santanu Paul)
Deputy Registrar

Unit 3 – Free translation
Unit 4 – Transcreation

End Semester Question Pattern:
Questions may include (1) translation from one language to another (2) critical comments on a translated passage/poem (3) differences between literal translation and free translation (4) why translation is necessary into other Indian languages and also to foreign languages

Suggested Readings

1. Jyoti Bhattacharya, *Transcreations: Some Experiments on Tagore Songs*, Kolkata: Gangchil
2. Mona Baker, *In Other Words: A Coursebook on Translation*, Routledge, 2001.
3. I.C. Catford, *A Linguistic Theory of Translation*, London: OUP, 1965.
4. Ravinder Gargesh and Krishna Kumar Goswami eds. *Translation and Interpreting: Reader and Workbook*, New Delhi: Orient Longman, 2007.
5. Sukanta Chaudhuri, *Translation and Understanding*, New Delhi: OUP
6. Lawrence Venuti (ed), *The Translation Studies Reader*, London and New York: Routledge, 2012

AECC1 – COMMUNICATIVE ENGLISH (SEMESTER 1) – 2 CREDITS

- Correction of sentences
- Transformation (Simple, Complex and Compound Sentences; Degrees of Comparison; Affirmative and Negative Sentences; Interrogative and Assertive Sentences; Exclamatory and Assertive Sentences)
- Identifying True/False Statements from Given Passages

Internal – 10 marks
Attendance – 10 marks
End Semester Questions – MCQ 80 marks
End Semester Question Patterns:
Correction of Sentences: 20 (2 x 10)
Transformation of Sentences: 20 (2 x 10)
True/False Statements from Given Passage One: 20 (4 x 5)
True/False Statements from Given Passage Two: 20 (4 x 5)

SECA1 – ENGLISH LANGUAGE TEACHING
(SEMESTER 3/5, CODE –ENG-G-SEC-A-3/5-1-TH) – 2 CREDITS

Language Perspectives: First Language Second Language and Foreign Language – Acquisition and Learning
Knowing the Learner: Features of a good language learner
Structure of the English Language
Methods of Teaching English Language
Assessing Language Skills