



SIR GURUDAS MAHAVIDYALAYA

33/6/1, B. B. Ghosh Sarani, Muraripukur, Ultadanga, Kolkata - 700 067



Annual Quality Assurance Report (AQAR) 2016-17

The Annual Quality Assurance Report (AQAR) of the IQAC

Part – A

I. Details of the Institution

1.1 Name of the Institution

1.2 Address Line 1

Address Line 2

City/Town

State

Pin Code

Institution e-mail address

Contact Nos.

Name of the Head of the Institution:

Tel. No. with STD Code:

Mobile:

Name of the IQAC Co-ordinator:

Dr Ratna Lodh

Mobile:

+91-94335 59700

IQAC e-mail address:

iqacsgm@gmail.com

1.3 NAAC Track ID (For ex. MHCOGN 18879)

WBCOGN25819

1.4 NAAC Executive Committee No. & Date:

(For Example EC/32/A&A/143 dated 3-5-2004.
This EC no. is available in the right corner- bottom
of your institution's Accreditation Certificate)

NAAC/WH/Cert-A&A/EC/(18th
SC)/74.1/2016

1.5 Website address:

www.sirgurudasmahavidyalaya.com

Web-link of the AQAR:

<http://www.sirgurudasmahavidyalaya.com/wp-content/uploads/2018/06/AQAR.pdf>

For ex. <http://www.ladykeanecollege.edu.in/AQAR2012-13.doc>

1.6 Accreditation Details

Sl. No.	Cycle	Grade	CGPA	Year of Accreditation	Validity Period
1	1 st Cycle	B	2.25	2016	2021
2	2 nd Cycle				
3	3 rd Cycle				
4	4 th Cycle				

1.7 Date of Establishment of IQAC:

DD/MM/YYYY

28.01.2013

1.8 AQAR for the year (for example 2010-11)

2016-17

1.9 Details of the previous year's AQAR submitted to NAAC after the latest Assessment and Accreditation by NAAC ((for example AQAR 2010-11 submitted to NAAC on 12-10-2011)

- i. AQAR _____ (DD/MM/YYYY)
- ii. AQAR _____ (DD/MM/YYYY)
- iii. AQAR _____ (DD/MM/YYYY)
- iv. AQAR _____ (DD/MM/YYYY)

***Not applicable since this is the first AQAR of our first cycle of NAAC**

1.10 Institutional Status

University State Central Deemed Private

Affiliated College Yes No

Constituent College Yes No

Autonomous college of UGC Yes No

Regulatory Agency approved Institution Yes No

(eg. AICTE, BCI, MCI, PCI, NCI)

Type of Institution Co-education Men Women

Urban Rural Tribal

Financial Status Grant-in-aid UGC 2(f) UGC 12B

Grant-in-aid + Self Financing Totally Self-financing

1.11 Type of Faculty/Programme

Arts Science Commerce Law PEI (Phys Edu)

TEI (Edu) Engineering Health Science Management

Others (Specify)

Nil

1.12 Name of the Affiliating University (*for the Colleges*)

UNIVERSITY OF CALCUTTA

1.13 Special status conferred by Central/ State Government-- UGC/CSIR/DST/DBT/ICMR etc

Autonomy by State/Central Govt. / University

No

University with Potential for Excellence

No

UGC-CPE

No

DST Star Scheme

No

UGC-CE

No

UGC-Special Assistance Programme

No

DST-FIST

No

UGC-Innovative PG programmes

No

Other (*Specify*)*

DODL, NSOU

UGC-COP Programmes

No

* PG courses in DODL of Kalyani University and Netaji Subhas Open University are conducted on the college campus on various subjects.

2. IQAC Composition and Activities

2.1 No. of Teachers

7

2.2 No. of Administrative/Technical staff

2

2.3 No. of students

1

2.4 No. of Management representatives

2

2.5 No. of Alumni

0

2.6 No. of any other stakeholder and
community representatives

0

2.7 No. of Employers/ Industrialists

0

2.8 No. of other External Experts

2.9 Total No. of members

2.10 No. of IQAC meetings held:

2.11 No. of meetings with various stakeholders: Faculty

Non-Teaching Staff Students Alumni Others

2.12 Has IQAC received any funding from UGC during the year? Yes No

If yes, mention the amount

2.13 Seminars and Conferences (only quality related)

(i) No. of Seminars/Conferences/ Workshops/Symposia organized by the IQAC

Total Nos. International National State Institution Level

(ii) Themes

2.14 Significant Activities and Contributions made by IQAC

Following are some of the significant activities and contributions made by the IQAC in the year 2016-17:

1. In view of the directive of the State Government the college had already introduced partially online admission process in 2015-16. This year the IQAC ensured a smooth transition to complete online admission.
2. In accordance with the recommendation of the IQAC, an Academic Audit of the college was conducted by an audit team of the University of Calcutta on 1.09.2016. The eminent members of the team gave their valuable observations and inputs which were tabled in the next IQAC meeting and discussed extensively with the resolve of taking necessary steps.
3. Under the leadership and guidance of the IQAC, the college participated in the 1st cycle of NAAC Accreditation. A NAAC Peer Team visited the college on and from 26.09.2016 to 29.09.2016. The entire process was conducted successfully and the college was accredited with Grade B (CGPA 2.25)
4. Fulfilling the recommendation of the IQAC, the Department of Chemistry was opened and a chemistry laboratory was instated.

5. The IQAC proposed the construction of a modular office with judicious and effective allocation of space and provision for and access to computer and internet facilities. Accordingly a modular office was built.
6. Taking cognisance of the demands of the students the college renovated the college canteen and the Students' Union Room.
7. Immediately after the NAAC Accreditation the IQAC with help from various stakeholders and experts, prepared a detailed plan to procure grant under RUSA. This plan was vetted by the principal and the Governing Body and submitted to the Department of Higher Education.
8. The IQAC took initiative to procure grant to set up Virtual Classroom under a West Bengal Government Scheme for the development of Non-Government colleges. Accordingly the college received a grant of Rs 3, 00,000 and an additional grant of 50,000. Utilising this grant, the college has set up a state-of-the-art virtual classroom.
9. The IQAC took all necessary steps to fill the post of the principal and two more substantive posts. As a result, Dr Manishankar Roy could join the college as its new principal and Sri Prabir Tarafder and Sri Suvra Kanti Chakraborty joined the departments of Commerce and Mathematics respectively in the capacity of Assistant Professors.
10. The IQAC took steps to complete the promotional procedure under CAS of three incumbent teachers – Dr Paramita Halder, Dr Shinjini Basu and Smt Anandita Biswas.
11. According to the proposal of the IQAC a biometric system of attendance was installed to bring transparency in the attendance and performance of the teaching and non-teaching staff.
12. In response to the recommendations of the IQAC the feed-back system from the students was regularised and the feedback was analysed systematically. A mechanism to obtain feed-back from the guardians has also been put in place.

2.15 Plan of Action by IQAC/Outcome

The plan of action chalked out by the IQAC in the beginning of the year towards quality Enhancement and the outcome achieved by the end of the year *

Sl No	Plan of Action	Achievements
	Curricular aspects	
	<p>To expand and update science laboratories</p> <p>To build a language laboratory as per the recommendations of the NAAC Peer Team</p>	<p>With the initiative of the IQAC new equipments such as JFET were purchased for the physics laboratory.</p> <p>The college applied for and received a grant of Rs 5, 00,000 for MLALAD to upgrade science laboratories. Among other things a part of this grant is to be utilised for the renovation and modernisation of the Computer Science laboratory.</p> <p>The IQAC has constituted a committee to look into possibilities of liaison with external academic bodies, organisations and experts to constitute a Language Lab.</p>
	Teaching, Learning, Evaluation	
	<p>To fill up vacant teaching posts</p> <p>To create new teaching posts for better teacher-student ratio</p>	<p>Two new teachers were recruited against substantive posts in the departments of commerce and mathematics.</p> <p>In view of the increasing significance of the Computer Science Hons. Course than Computer Science Major, the IQAC initiated the process of converting the substantive post in Computer Science Major to Computer Science Hons.</p> <p>The IQAC has helped the administration in initiating the official process of filling up 4 remaining vacant substantive posts.</p> <p>In consideration of the respective workload of different subjects and in accordance with the West Bengal Government statutes, the IQAC placed a recommendation and accordingly the administration submitted requisition for 13 new teaching posts to the Department of Higher Education.</p>
	Research, Consultancy and Extension	
	To take effective steps towards expansion and encouragement of academic and research activities	As per the recommendations of the NAAC Peer Team a Research Cell and a Journal Committee was constituted by the IQAC.

Infrastructure and Learning Resources	
<p>To expand the current building of the college in order to accommodate the growing number of departments and students</p> <p>To increase ICT resources for classroom teaching</p>	<p>The IQAC has taken preliminary steps in this regard. In order to make create space for more personalised interaction with students two new cubicles have been created for the departments of physics and mathematics.</p> <p>The plan for the annex building has been sanctioned</p> <p>Apart from setting up a Digital Classroom, computer and internet facilities were increased in the office and extensive Wi-Fi facility was ensured in the college premises.</p>

*(Academic Calendar attached as Annexure VI)

2.15 Whether the AQAR was placed in statutory body

Yes No

Management

Syndicate

Any other body

General Body of the
College

Provide the details of the action taken

The AQAR was tabled in the meeting of the General Body of the college held on 13.02.2018. Various points of the report were discussed and debated. The GB took cognisance of the comprehensive picture of the development of the institution and requirements listed by the IQAC. As a result following resolutions were taken:

- i. An Annex Building to be constructed to accommodate increasing number of students
- ii. Steps to be taken to increase student intake capacity. Already application has been forwarded to the University of Calcutta to increase student intake in Bengali, Commerce and Mathematics. The Principal is to pursue the matter further.
- iii. The process to procure fund for development under RUSA has already been initiated, but the college has not received any positive response so far. The principal is to further pursue the matter.
- iv. The feedback analysis report of the outgoing 3rd Year students was tabled and accepted after discussion of various points.

Part – B Criterion – I

I. Curricular Aspects

1.1 Details about Academic Programmes

Level of the Programme	Number of existing Programmes	Number of programmes added during the year	Number of self-financing programmes	Number of value added / Career Oriented programmes
PhD	0	0	0	0
PG	0	0	0	0
UG	15	1	0	0
PG Diploma	0	0	0	0
Advanced Diploma	0	0	0	0
Diploma	0	0	0	0
Certificate	0	0	0	0
Others	0	0	0	0
Total	15	1	0	0
Interdisciplinary	0	0	0	0
Innovative	0	0	0	0

- 1.2 (i) Flexibility of the Curriculum: CBCS/Core/Elective option / Open options
(ii) Pattern of programmes:

Pattern	Number of programmes
Semester	0
Trimester	0
Annual	16

1.3 Feedback from stakeholders* Alumni Parents Employers Students
(On all aspects)

Mode of feedback : Online Manual Co-operating schools (for PEI)

*(Feed Back analysis attached as Annexure V)

- 1.4 Whether there is any revision/update of regulation or syllabi, if yes, mention their salient aspects.

During this session no revision of the syllabi was done to any department.

1.5 Any new Department/Centre introduced during the year. If yes, give details.

During this year Chemistry was sanctioned for teaching as a general subject by the West Bengal State Council for Higher Education and the University of Calcutta.

Criterion – II

2. Teaching, Learning and Evaluation

2.1 Total No. of permanent faculty

Total	Asst. Professors	Associate Professors	Professors	Others (Govt. Approved Part Time Teachers)
29	9	3 Associate Professors	1(Principal)	16

2.2 No. of permanent faculty with Ph.D.

5

2.3 No. of Faculty Positions Recruited (R) and Vacant (V) during the year

Asst. Professors		Associate Professors		Professors		Others		Total	
R	V	R	V	R	V	R	V	R	V
2	4	0	0	0	0			2	0

2.4 No. of Guest and Visiting faculty and Temporary faculty

19

6

9

2.5 Faculty participation in conferences and symposia:

No. of Faculty	International level	National level	State level
Attended	2	6	4
Presented papers	4	7	5
Resource Persons	0	0	1

2.6 Innovative processes adopted by the institution in Teaching and Learning:

- The institution encourages interactive teaching-learning environment
 - Teaching-learning process maintains a balance between traditional chalk and talk model and ICT-enabled teaching. The master time-table accommodates both regular and ICT classes in such a manner that by rotation students of all departments can avail of both types of classes.
 - Students are provided with digital study material and e-resources such as video lectures from NPTEL site in the class and through the library.
 - Screening of educational films and film adaptations of texts in the syllabus are arranged on a regular basis
 - Some departments invite learned academicians from other colleges and institutions to deliver special lectures. Inter-departmental lectures are also encouraged.
 - Apart from the UGC-sponsored Remedial Classes, special classes and tutorials are held, particularly during the slack session to prepare students for the university examination
 - Departments of Bengali and Education arranged educational tours for the students.
 - Departments of English and Political Science organised special lectures by eminent outside

2.7 Total No. of actual teaching days during this academic year

160

2.8 Examination/ Evaluation Reforms initiated by the Institution (for example: Open Book Examination, Bar Coding, Double Valuation, Photocopy, Online Multiple Choice Questions)

As per university norm

2.9 No. of faculty members involved in curriculum Restructuring /revision/syllabus development as member of Board of Study/Faculty/Curriculum Development workshop

3

3

0

2.10 Average percentage of attendance of students:

75%

2.11 Course/Programme wise distribution of pass percentage:

Title of the Programme	Name of the Examination	Total no. of students appeared	Division					Total no of students passed
			Distinction %	I %	II %	III %	Pass %	
Bengali Honours	Part I	68	N.A.	-	57.3	0	57.3	39
	Part II	26	N.A.	-	76.9	0	76.9	20
	Part III	15	N.A.	-	73.3	0	73.3	11
English Honours	Part I	59	N.A.	-	37.2	0	37.2	22
	Part II	15	N.A.	-	60	0	60	09
	Part III	09	N.A.	-	77.7	0	77.7	07
Education Honours	Part I	29	N.A.	-	86.2	0	86.2	25
	Part II	19	N.A.	-	63.1	0	63.1	12
	Part III	19	N.A.	12.5	87.5	0	84.2	16
Political Science Honours	Part I	44	N.A.	-	10	0	10	04
	Part II	03	N.A.	-	33.3	0	33.3	01
	Part III	07	N.A.	-	85.7	0	85.7	06
History Honours	Part I	15	N.A.	-	46.6	0	46.6	07
	Part II	16	N.A.	-	93.7	0	93.7	15
	Part III	08	N.A.	-	100	0	100	08
Sanskrit Honours	Part I	10	N.A.	-	10	0	10	01
	Part II	1	N.A.	-	0	0	00	0
	Part III	N.A.	N.A.	-	-	-	-	-
B.A. General	Part I	142	N.A.	-	73.84	0	73.84	52
	Part II	237	N.A.	-	80.5	0	80.5	112
	PART-III	118	N.A.	-	29.5	0	29.5	25
Computer Science Honours	Part I	06	N.A.	-	33.3	0	33.3	02
	Part II	07	N.A.	-		0	28.5	02
	Part III	03	N.A.	33.3	66.7	0	100	03
Physics Honours	Part I	23	N.A.	-	17.4	0	17.4	04
	Part II	01	N.A.	-		0	100	01
	Part III	N.A.	N.A.	-				
Mathematics Honours	Part I	11	N.A.	-	27.3	0	27.3	03
	Part II	N.A.	N.A.	-				
	Part III	N.A.	N.A.	-				
B.Sc. General	Part I	11	N.A.	-	97.0	0	97.0	09
	Part II	04	N.A.	-	99	0	99	03
	Part III	N.A.	N.A.	-	-	-	-	-
B. Com Honours	Part I	110	N.A.	-			90.91	100
	Part II	122	N.A.				59.02	72
	Part III	54	N.A.	15.38			24.07	13
B. Com	Part I	77	N.A.				62.34	48

General	Part II	98	N.A				69.39	68
	Part III	153	N.A				01.97	3

Note: * Distinction is not issued in the mark-sheet of our affiliating university.

2.12 How does IQAC Contribute/Monitor/Evaluate the Teaching & Learning processes:

In order to improve the academic environment and output of the institution the IQAC meets various stakeholders on a regular basis. Teachers are asked to prepare a comprehensive academic calendar for the college detailing classes allocated for various topics along with the name of the teacher. Accountability is thus established and ensured by regular stock-taking. Results of different internal examinations are analysed. The IQAC also holds regular meetings with students and guardians to communicate and discuss students' progress. The feedbacks of those meetings are shared and analysed. Departments are encouraged to organise seminars and workshops. Departmental seminars are held where students are encouraged to present papers. Learned academicians are called from other institutions to deliver special lectures. The IQAC closely monitors the attendance of students.

2.13 Initiatives undertaken towards faculty development

<i>Faculty / Staff Development Programmes</i>	<i>Number of faculty benefitted</i>
Refresher courses	2
UGC – Faculty Improvement Programme	Nil
HRD programmes	1
Orientation programmes	0
Faculty exchange programme	Nil
Staff training conducted by the university	3
Staff training conducted by other institutions	2
Summer / Winter schools, Workshops, etc.	Nil
Others	Nil

2.14 Details of Administrative and Technical staff

Category	Number of Permanent Employees	Number of Vacant Positions	Number of permanent positions filled during the Year	Number of positions filled temporarily
Administrative Staff	11+1 (Librarian)	05	Nil	05
Technical Staff	02	Nil	Nil	01

Criterion – III

3. Research, Consultancy and Extension

3.1 Initiatives of the IQAC in Sensitizing/Promoting Research Climate in the institution

As per the IQAC recommendations the college provides complete institutional and infrastructural assistance to teachers in order to pursue their research interest. Teachers are encouraged to participate in national and international conferences and seminars. In such cases they are given leave from their regular duties as far as possible without hampering the academic activities of the college. The college provides facilities such as library, e-resource, internet facility, laboratories to pursue research activity. In the IQAC meeting held on 21.04.2017 a Research Cell was constituted as per the recommendations of the NAAC Peer Team. This cell was endowed with the responsibility of encouraging academic and research oriented activities of the teachers, provide with relevant information, forward applications for pursuing research to proper authorities for grant and other needs and generally facilitate the atmosphere of research. This committee collects information about various seminars, conferences, projects and keeps the teachers updated about them. It has also started to interact with various institutions, organisations and government bodies to generate research funds. However, this procedure is in a nascent stage right now.

3.2 Details regarding major projects

	Completed	Ongoing	Sanctioned	Submitted
Number	Nil	Nil	Nil	Nil
Outlay in Rs. Lakhs	—	—	—	—

3.3 Details regarding minor projects

	Completed	Ongoing	Sanctioned	Submitted
Number	Nil	Nil	Nil	Nil
Outlay in Rs. Lakhs	—	—	—	—

3.4 Details on research publications

	International	National	Others
Peer Review Journals	4	3	2
Non-Peer Review Journals	3	5	3
e-Journals	1	2	—
Conference proceedings	3	3	4

3.5 Details on Impact factor of publications:

Range Average h-index Nos. in SCOPUS

3.6 Research funds sanctioned and received from various funding agencies, industry and other organisations

Nature of the Project	Duration Year	Name of the funding Agency	Total grant sanctioned	Received
Major projects	Nil	----	----	---
Minor Projects	Nil	----	----	---

Interdisciplinary Projects	Nil	----	----	---
Industry sponsored	Nil	----	----	---
Projects sponsored by the University/ College	Nil	----	----	---
Students research projects <i>(other than compulsory by the University)</i>	Nil	---	---	---
Any other(Specify)	Nil	---	---	---
Total	Nil	---	---	---

3.7 No. of books published i) With ISBN No. Chapters in Edited Books

ii) Without ISBN No.

3.8 No. of University Departments receiving funds from

UGC-SAP CAS DST-FIST
DPE DBT Scheme/funds

3.9 For colleges
Autonomy CPE DBT Star Scheme
INSPIRE CE Any Other (specify)

3.10 Revenue generated through consultancy

3.11 No. of conferences

Organized by the Institution

Level	International	National	State	University	College
Number	0	0	0	0	4
Sponsoring agencies	---	---	---	---	College

3.12 No. of faculty served as experts, chairpersons or resource persons

3.13 No. of collaborations International National Any other

3.14 No. of linkages created during this year

3.15 Total budget for research for current year in lakhs:

From funding agency

From Management of University/College

Total

Nil

3.16 No. of patents received this year

Type of Patent		Number
National	Applied	0
	Granted	0
International	Applied	0
	Granted	0
Commercialised	Applied	0
	Granted	0

3.17 No. of research awards/ recognitions received by faculty and research fellows
Of the institute in the year

Total	International	National	State	University	Dist	College
0	0	0	0	0	0	0

3.18 No. of faculty from the Institution
who are Ph.D. Guides
and students registered under them

Nil

Nil

3.19 No. of Ph.D. awarded by faculty from the Institution

Nil

3.20 No. of Research scholars receiving the Fellowships (Newly enrolled + existing ones)

JRF Nil SRF Nil Project Fellows Nil Any other Nil

3.21 No. of students Participated in NSS events:

University level 25 State level Nil
National level Nil International level Nil

3.22 No. of students participated in NCC events:

University level N.A State level N. A.
National level N. A. International level N. A.

3.23 No. of Awards won in NSS:

University level Nil State level Nil

3.24 No. of Awards won in NCC:

National level	Nil	International level	Nil
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University level	N.A.	State level	N. A.
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National level	N.A.	International level	N.A.
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3.25 No. of Extension activities organized

University forum	Nil	College forum	Nil
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NCC	N.A.	NSS	06	Any other	02
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3.26.1 Major Activities during the year in the sphere of extension activities and Institutional Social Responsibility: -

- Blood-donation camp on 9.9.2016.
- A library outreach programme involving children from the adjoining locality.
- Republic Day was celebrated on 26.01.2017. Students participated in the parade.
- Rabindra Jayanti was celebrated on 8.05.2017.
- The NSS Unit of the college participated in the Digital India Campaign.
- The NSS Unit participated in the NSS annual celebration.

Criterion – IV

4. Infrastructure and Learning Resources

4.1 Details of increase in infrastructure facilities:

Facilities	Existing	Newly created	Source of Fund	Total
Campus area	1244.13 Sq. Mt	Nil	Nil	1244.13 Sq. Mt
Class rooms	15	Nil	Nil	15
Laboratories	05	Nil	Nil	05
Seminar Halls	01	Nil	Nil	01
No. of important equipments purchased (\geq 1-0 lakh) during the current year.	---	Visual/Smart Classroom(1)	State Government	01
Value of the equipment purchased during the year (Rs. in Lakhs)	—	3.50 Lks	State Government	3.50 Lks
Others	—	Students' Union Room	College	2.15 Lks

4.2 Computerization of administration and library

Much of the administrative work has been computerized. The college uses a Customised Admission cum Accounting Software. The library is equipped with KOHA software and OPAC facility. Audio-Visual lectures on various topics are conducted in the library throughout the year.

4.3 Library services:

	Existing		Newly added		Total	
	No.	Value	No.	Value	No.	Value
Text Books	13827		388	113528	14215	
Reference Books						
e-Books	Accessed under INFLIBNET-NLIST	---	Accessed under INFLIBNET-NLIST	—	Accessed under INFLIBNET-NLIST	
Journals	4	6150	1 (Renewal of <i>Indian Accounting</i>)	800		

			<i>Review)</i>			
e-Journals	1	5730	1 (Renewal of INFLIBNET-NLIST)	5750		
Digital Database	1	11,500	Renewal of DELNET	11,500		
CD & Video	80 (2 sets+ 1 audio cassette)	1 set CD Rs 1200	0	0		
Others (specify)	3 institutional membership for libraries	21,500	1 (Renewal of British Council Library and American Library membership)	8,500		

4.4 Technology up gradation (overall)

	Total Computers	Computer Labs	Internet	Browsing Centres	Computer Centres	Office	Departments	Others
Existing	61	2	10	N.A	N.A.	2	—	—
Added	—	—	—	—	—	1	—	—
Total	61	2	10	—	—	3	—	—

4.5 Computer, Internet access, training to teachers and students and any other programme for technology upgradation (Networking, e-Governance etc.)

- IQAC arranged for regular training for the teachers to upgrade their technical skills in the use of ICT. CICIKO provided on-campus training.
- The college inaugurated a Digital Classroom with state of the art ICT and internet facilities. Webel conducted training programme for teachers on the use of the Digital Classroom.
- On the recommendation of the IQAC the college started to provide students and teachers with free Wi-Fi.

4.6 Amount spent on maintenance in lakhs:

i) ICT	1.00 Lks
ii) Campus Infrastructure and facilities	2.50 Lks
iii) Equipments	3.00 Lks
iv) Others	1.00 Lks
Total:	7.50 Lks

Criterion – V

5. Student Support and Progression

5.1 Contribution of IQAC in enhancing awareness about Student Support Services

- The college ensures that students are made aware of various Student Support Services and schemes through regular circulation of notices in the class-rooms and their publication on the students' notice board and college website.
- Students are given support and often personal care by the teaching and non-teaching staff of the college in order for them to avail of various financial support schemes
- Remedial classes for SC, ST, OBC (A), OBC (B) students are conducted on a regular basis.
- Tutorials and extra classes are held, particularly during the slack session to prepare students for university examinations
- Financial assistance is extended to the economically weaker section of students. Students are regularly notified about such programs. The college is particularly committed to the admission and continuance of education of the girl students. That is why Kanyasree Prakalpa is carried out with due importance and diligence.

5.2 Efforts made by the institution for tracking the progression

- Regular internal assessment through class-tests, mid-term examination and selection test
- Continuous evaluation of practical exercises in laboratory based subjects
- Collecting students' feedback through regular interaction with students and guardians
- Regular analyses of university examination results

5.3 (a) Total Number of students

UG	PG	Ph. D.	Others
2,517	N.A.	N.A.	N.A.

(b) No. of students outside the state

0

(c) No. of international students

03

Last Year							This Year					
General	SC	ST	OBC (A)	OBC (B)	Physically Challenged	Total	General	SC	ST	OBC	Physically Challenged	Total
1640	211	81	153	263	05	2353	2276	157	18	66	00	2517

Men	No	%	Women	No	%
	1697	67.42		620	32.58

Demand ratio 2.20:1 Dropout % 18

5.4 Details of student support mechanism for coaching for competitive examinations (If any)

There is no such programme at present. However, under UGC XII Plan the College ran a UGC sponsored coaching of “entry in service”. The objective of this programme is to prepare the students belonging to SC/ST/OBC (non creamy layer) and minority communities to get gainful employment in all National/State/Provincial Services and equivalent positions in the private sector.

No. of students beneficiaries

N. A.

5.5 No. of students qualified in these examinations

NET	0	SET/SLET	0	GATE	0	CAT	0
IAS/IPS etc	0	State PSC	0	UPSC	0	Others	5

5.6 Details of student counselling and career guidance (See Annexure III for details)

Date	Name of the Programme	Students Participated
16.11.16	Scholarship Test by the Institute of Computer Accountants	33
18.11.16	Screening Test for recruitment in Yes Bank	26 (5 students were selected)
5.12.16	Walk In interview for Bharti Airtel	36
21.01.17	Seminar on GST conducted by the Institute of Computer Accountants	54

No. of students benefitted

149

Note: Beneficiaries include all the students who have enrolled for and participated in the programmes

5.7 Details of campus placement

<i>On campus</i>			<i>Off Campus</i>
Number of Organizations Visited	Number of Students Participated	Number of Students Placed	Number of Students Placed
2	62	5	-----

5.8 Details of gender sensitization programmes

The college has a Cell for the Prevention of Sexual Harassment. A complaint box has been installed for the students to report any gender-related issue. The college also arranges sensitization programmes on a regular

5.9 Students Activities

No. of students participated in cultural events: State/ University level National level
International level

5.9.1 No. of students participated in Sports, Games and other events in 2016-17

State/ University level National level International level

5.9.2 No. of medals /awards won by students in Sports, Games and other events

Sports: State/ University level National level International level
Cultural: State/ University level National level International level

5.10 Scholarships and Financial Support

	Number of students	Amount
Financial support from institution	79	79857.00
Financial support from government	70	1,75,0000
Financial support from other sources	0	0
Number of students who received International/ National recognitions	0	0

5.11 Student organised / initiatives

Fairs : State/ University level National level International level
Exhibition: State/ University level National level International level

5.12 No. of social initiatives undertaken by the students

5.13 Major grievances of students (if any) redressed: A long standing demand of the students has been improvement of the college canteen. This demand was addressed this year as the canteen space was renovated.

Criterion – VI

6. Governance, Leadership and Management

6.1 State the Vision and Mission of the institution

Vision of our college is to ensure easy access to quality education at under graduate level to a large section of under-privileged segment of the society at an affordable cost by striking a proper balance between quality and quantity. Effective delivery of quality education to a maximum possible number of students for the enhancement of knowledge, empowerment and development is an integral part of its vision document. Expansion, access, quality and performance are the four pillars of the college. Creation of knowledge based society, skill development and nation building are the core values of the vision statement.

The missions of the college are all those plans, programs and actions that are considered necessary to translate its vision into reality. The mission statements of the college are -

1. To ensure gradual expansion of quality education with focus on modern emerging area.
2. To admit maximum possible number of students while keeping within the in-take capacity.
3. To ensure transparency and promptness in the admission process.
4. To communicate to the students the plan of academic actions as on the date of admission.
5. To complete the syllabus in time.

6.3.1 Curriculum Development

For effective implementation of curriculum action plans are developed in scientifically structured delivery system. An all inclusive academic calendar of the college is deployed and rigorously followed throughout the year for quality teaching and learning. It acts as an all important tool for efficient and effective planning and implementation of curriculum.

Academic calendar in the form of a binding book contains stream/ course/ subject/ paper wise break-up of syllabus with corresponding name of teachers and standard number of lectures for completion of a topic or sub-topic. Unique and effective features of academic calendar are evident from its structure and content.

College is enriched with digital classroom, 2 smart classrooms, 60 desktop computers, 5 laptop computers, 6 projectors and other ICTs for efficient and effective curriculum implementation through quality teaching and learning.

The vision, missions and objectives are communicated to the students, teachers, staffs, guardians and other stakeholders through the issue of prospectus, academic calendar, college magazine, induction meeting and circulars & notifications issued from time to time.

For effective implementation of the academic plan prepared by the college, details of execution are communicated to the students and the teachers. Necessary supports in terms of allotment of required number of classes, engagement of required new teachers, flexibility in mutual transfer of teaching load, provision for classes beyond the normal teaching hours and providing tools and instruments to the teachers.

For effective curriculum delivery and academic transactions, division of syllabus amongst the teachers indicating the standard number of lectures for completion of particular topic is included in the teaching plan. In preparing the plan for curricular aspects, university guidelines and suggestions are observed. For effective curricular transactions and improved teaching practice, a robust ICT infrastructure is acquired, installed and deployed.

Staff members participate in different seminars, symposium, workshops organized by the university and other statutory bodies for curriculum design and development. They participate in the deliberations and give necessary suggestions. In a landmark incident, university has re-introduced the different B.A., B. Sc. and B. Com (Major) courses at the instance of the higher education department, government of West Bengal in which the staff members have important contributions.

College has developed curriculum for certificate course in Computer Hardware and Networking. To analyze how far the stated objectives of curriculum are achieved and to what extent it has been ensured to the students, a list is prepared showing the name of individual students along with the number of classes delivered & attended, marks obtained in internal examinations and remarks. This gives a clear picture of regularity and academic progress of the students.

6.3.2 Teaching and Learning

Introduction of new and innovative teaching approaches and methods have positively impacted the learning process of the students. Their encouragement, enthusiasm, involvement and enjoyment in ICT enabled innovative teaching practices are visible within the class room and the result is evident from students improved performance with better result.

- Film adaptations of literary texts are arranged by the department of English and Bengali.
- Re-training of faculties for using digital class rooms and other ICTs available in the college.
- Renewed effort to maximize the utilization of ICT infrastructure.

6.3.3 Examination and Evaluation

- Class Tests
- Internal assessment based on mid-term and selection test
- Some departments hold quiz contests on topics included in the syllabi

6.3.4 Research and Development

Being a UG college with limited amenities and infrastructure the college has no in-house research centre. However teachers who aspire to pursue individual research are allowed study leave up to maximum 2 years with full pay. They are granted permission to participate seminar, conference, workshop etc. Applications for financial grant from UGC or any other agency for Minor or Major Research Projects by the teachers are encouraged and promptly forwarded. Teachers are involved in research and development activities as evident from the award of M.Phil., Ph.D. degrees and publications in journals and magazines.

6.3.5 Library, ICT and physical infrastructure / instrumentation

The library has institutional membership of DELNET (Developing Library Network). The library is an institutional member of American Centre Library Kolkata. Membership to institutions of high repute such as IIM Calcutta shall be beneficial as far as the commerce and science subjects are concerned. Being a member of BCL (The British Council Library) is a part to specially access and enhance the spoken English initiative as well as online resources and E-Books. The Institutional Library memberships for BCL have been applied for. The library has a separate collection of books for remedial coaching and UGC Entry in Services Scheme. The library conducts various awareness programmes. It also issues privilege cards for VH, PH readers as well as for those readers who use the library most frequently.

Most of the administrative work has been computerized. COSA has been introduced for pay-roll.

There has been significant infrastructural expansion this year. Four new classrooms have been created to accommodate the needs of the three new departments opened last year.

6.3.6 Human Resource Management

- Effective utilisation of existing man-power
- Attendance record of teachers and non-teaching staff is maintained
- Decision has been made to introduce bio-metric attendance.
- Regular notification of different activities
- Regular meetings of various committees for academic and administrative purposes
- Maintenance of the collage website and regular updates of various activities are provided

6.3.7 Faculty and Staff recruitment

The recruitment of both the teaching and non-teaching staff is made by the Government of West Bengal through the recommendation of College Service Commission, West Bengal. The posts of non-teaching staff are sanctioned by the government. The college makes recruitments as per its requirement. This year the IQAC has helped the administration in initiating the official process of filling up 5 remaining vacant substantive posts. Also, in consideration of the respective workload of different subjects and in accordance with the West Bengal Government statues, a requisition for 30 new teaching posts has been submitted to the Department of Higher Education.

6.3.8 Industry Interaction / Collaboration

As such there is no Industry Interaction/collaboration programme conducted by the institute.

6.3.9 Admission of Students

Completely merit-based on-line admission system

6.4 Welfare schemes for

Teaching	<p>Provident Fund, ex-gratia for non substantive teachers, bonus for Government Approved Part Time teachers</p> <p>Procedure to avail of several welfare schemes declared by the Government of West Bengal such as West Bengal Health Scheme for substantive teachers and Swastha Sathi for non-substantive teachers have been initiated by the college.</p>
Non teaching	<p>Group Insurance Scheme, Provident Fund, short term loan against salary from the college fund, festival bonus, ex-gratia for non substantive non teaching staff</p> <p>Procedure to avail of Swastha Sathi, West Bengal Government's health scheme has been initiated by the college.</p>
Students	<p>Student Aid fund and Student concession from the college Government sanctioned SC/ST/OBC/Minority scholarships Kanyasree, Swami Vivekananda Scholarship etc.</p>

6.5 Total corpus fund generated

6.6 Whether annual financial audit has been done Yes No

6.7 Whether Academic and Administrative Audit (AAA) has been done?

Audit Type	External		Internal	
	Yes/No	Agency	Yes/No	Authority
Academic	No	N.A.	no	N.A.
Administrative	√	University of Calcutta	no	N.A.

6.8 Does the University/ Autonomous College declare results within 30 days?

For UG Programmes Yes No

For PG Programmes Yes No

6.9 What efforts are made by the University/ Autonomous College for Examination Reforms?

N.A.

6.10 What efforts are made by the University to promote autonomy in the affiliated/constituent colleges?
N. A.

6.11 Activities and support from the Alumni Association
Efforts are being made to get the Alumni Association registered.

6.12 Activities and support from the Parent – Teacher Association

There is no existing Parent-Teacher Association. However, there are regular interactions between parents and teachers. Parents are informed about the gradual as well as overall progress of the students. Parent-teacher meetings are held on a regular basis.

6.13 Development programmes for support staff
Nil

6.14 Initiatives taken by the institution to make the campus eco-friendly

- **Energy conservation:** Special attention is paid to ensure that all the electrical and electronic installations have been properly switched off after the classes are over. The devices used for the digital classrooms are carefully unplugged once the class is over. The use of AC machines is regulated and monitored.
- **Use of renewable energy:** No such initiative has been taken up by the College till now.
- **Water harvesting:** The College has been persistent in persuading the Kolkata Improvement Trust to improve the condition of the adjoining water body, to conduct regular drainage and clean up the surrounding area with achievement of positive result.
- **Efforts for Carbon neutrality:** Our College is located in a densely populated area. Thus, some of the main sources of carbon emission are unavoidable. However, we have tried to regulate the vehicular movement in and around the college premises by regulating the usage of both four-wheelers and two-wheelers within the boundary wall and by allocating a specific area for parking cars. In order to increase carbon neutrality in the college, initiatives towards plantation of trees are taken on a regular basis. Also, we take special care towards the eco-friendly disposal of bio-degradable wastes. Te green waste, food waste or paper waste are not burned; they are disposed off as municipal waste on a regular basis.
- **Plantation:** In spite of being located in a populated area, the college has taken step towards planting trees and preserving and developing the adjoining water body. Around 30 trees have been planted around the college compound. Continuous persuasion of the college with the Kolkata Improvement Trust and other Government authorities has finally resulted in the construction of:
 - Muraripukur, Rabindra Udyan.
 - Rishi Aurobindo Ghat, adjacent to the pond
 - Rajanikanto Childrens' Park
- **Hazardous waste management:**

Not much hazardous waste (mainly chemical and bio-chemical waste) is produced in the college. However, the college authorities are careful about keeping the purchase of potentially hazardous chemicals to bare minimum. Science departments are encouraged to purchase mercury-free instruments and wherever possible hazardous materials have been substituted by non-hazardous ones. In the last four years there has been substantial expansion of the college building. As a result dismantled building materials have been a source of hazardous waste. These have been

regularly collected in the municipal vats meant for waste disposal. The college maintains a system of separating the bio-degradable and non-degradable waste by installing several dustbins in strategic locations. The canteen waste too is collected and disposed off on an everyday basis.

- **E-waste management**

The administration of the college, with the help of the faculties of respective departments monitors the use of electronic instruments and takes stock of the unusable electronic or electrical products that may become source of e-waste, such as computers, CPUs, scanners, photocopy machines, projectors etc. Usable parts of rejected machines are recycled. When they are finally discarded, special care is taken for their disposal. Burning of rubber and plastic in the campus and throwing e-waste in municipal vats are strictly prohibited in the college. Toxic or combustible e-waste such as batteries, compressors etc. are not exposed to natural elements.

Criterion – VII

7. Innovations and Best Practices

7.1 Innovations introduced during this academic year which have created a positive impact on the functioning of the institution. Give details.

- Several Departments published their departmental wall-magazines this year.
- Several departments such as Departments of English, Bengali, Political Science and Computer Science organised seminar lectures by eminent academicians of respective fields specially for honours students.
- Students have been encouraged to use ICT in the class and for this purpose several departments organised students' seminars.
- Google Groups have been formed to improved communication between teachers and students and also to encourage more personalised interaction.

7.2 Provide the Action Taken Report (ATR) based on the plan of action decided upon at the beginning of the year

Curricular Aspects:

- IQAC had suggested that specific needs of various departments are to be met in a more customised manner. Keeping this goal in view departmental meetings have been made more frequent and regular in order to closely monitor the functioning of the department, address its requirements and look into the overall development of students.
- The college had applied for and received permission to open the Department of Chemistry from the West Bengal State Council of Higher Education and the University of Calcutta.

Teaching, Learning and Evaluation:

- All honours departments had organised class room seminars where students were encouraged to put forward their views on various topics. They were also encouraged to use ICT.
- It was decided by the IQAC that more emphasis to be given to improve the university results of the students. To achieve this goal special classes, usually taken after the completion of the selection test were made more examination-oriented. Students were prepared for the final examination through class assignments and mock tests.

Research, Consultancy and Extension

- At the beginning of the year the IQAC formed a research committee. This committee has worked towards updating the teachers about various research opportunities, grants along with seminars and conferences. As a result, teachers could attend different workshops, seminars and conferences to upgrade themselves and explore their research areas.

Infrastructure and Learning Resources:

- It was decided to repair and renovate the students' union room and the canteen. Accordingly renovation work was undertaken and completed. A new, modular office space was constructed.
- A large site map was set up in the college premises.
- Biometric system of attendance was installed. (See Annexure
- A new gymnasium was opened.

7.3 Give two Best Practices of the institution (please see the format in the NAAC Self-study Manuals)

BEST PRACTICE-I:

Best Practice I: Curriculum Enrichment Book Fair (See Annexure I)

BEST PRACTICE-II: Installation of biometric attendance system for teachers and office staff (See Annexure II)

**Provide the details in annexure (annexure need to be numbered as i, ii,iii)*

7.4 Contribution to environmental awareness / protection

- Environmental awareness campaigns have been conducted in the college premises.
- The campus has been declared a 'No Smoking Zone'
- Cleanliness programmes have been conducted in the college by NSS units.
- Mechanisms have been put in place for separate disposal of bio-degradable and non-degradable waste material.

7.5 Whether environmental audit was conducted? Yes No

7.6 Any other relevant information the institution wishes to add. (For example SWOT Analysis)

Strength:

- An environment of cultural pluralism and free exchange of ideas
- Committed teachers with good personal interaction with students
- Harmonious relation among various stakeholders – teachers, students, office staff and administration
- The research activities of teachers

Weakness:

- Inadequate infrastructure
- Irregular attendance of students
- Less than adequate number of permanent faculty
- The difficulty in lateral expansion of the college building

Opportunities:

- Providing research facilities for teachers
- Improvement of ICT infrastructure
- Complete computerisation of administration
- Providing language assistance for students

Threat:

- The irregularity and the decreasing number of UGC research grants threatening the atmosphere of research
- The substantial number of student drop outs – students who discontinue their studies due to financial problems
- The inadequate number of permanent posts and the delay in filling up vacancies
- Lack of resources to undertake infrastructural and developmental projects

8. Plans of institution for next year

- To inaugurate the gymnasium for students
- To overhaul the students' union room
- To construct the Annex Building
- To increase student intake in a few departments
- To begin Post-graduate courses in a few subjects

Name: Dr Ratna Lodh

Name: Dr Manishankar Roy

R. Lodh

Manishankar Roy

Signature of the Coordinator, IQAC

Signature of the Chairperson, IQAC

**CO-ORDINATOR, IQAC
SIR GURUDAS MAHAVIDYALAYA
MURARIPUKUR, ULTADANGA
KOLKATA-700067**

**Principal,
Sir Gurudas Mahavidyalaya
Kolkata-700067**

Annexure I
Best Practice I

1. Title of the practice: CURRICULUM ENRICHMENT BOOK FAIR.

2. Goal: Curriculum oriented teaching-learning process is expressed through its structured framework of classroom based learning, where routine- syllabus- examination-assessment-marks-result etc. are the keywords that explain a system for judgment of academic excellence. However a key component of an academic environment is the urge of the student to be actively involved in the learning process, and develop a willingness of the student towards the institutional provisions where interest –participation-interaction etc are the keywords that ultimately gauges the value of education in an individual. An academic institution is a balanced manifestation of both the components. An institution plays a vital role in motivating and orienting a student in an informal method, which ultimately serves the institutions core value of academic excellence. The “Curriculum Enrichment Book Fair” is primarily targeted towards creating an environment in the college where an introduction to the curricula can be inducted at the beginning of the session through an informal approach.

3. The Context: The academic session starts on 1st July. The commencement of actual teaching learning process takes place at around the end of July and the beginning of August. Most of the students get detached from the schedule of study and develop a reluctant attitude after the H.S examinations, as for the case of the new admissions at the U.G. level. The students of part II and III get a short span of time for thorough study within the academic session. To get accustomed to the teaching –learning process as well as assessing the significance of accessing the books and the study materials for necessary curricular support needed a motivational approach. A book fair, which is a highly appreciated means for creating a literary environment be skilfully designed and implemented at the college campus beside the regular commencement of classes, to create an environment where an apparent picture of enjoyment is actually a platform for active involvement and interaction of the faculty, the students, the parents and the library. The process is expected to enrich the curricular process through an active suggestion –feedback model. Hands-on help in selecting books as per the requirements of the students can be provided. The institution can reach out to the students with an introduction to its facilities using appropriate communication aids. The inclination for resources as per curricular requirements can serve as an indicator to the resource development of the institution.

4. The Practice: To organize a book fair at the college premises at the commencement of the academic session. The event is titled as “CURRICULUM ENRICHMENT BOOK FAIR”.

STEPS OF IMPLEMENTATION:

- The thought process involves the analysis and discussion of the fact that developing interest towards the holistic use of institutional learning resources in the multidirectional

and dynamic perspective is possible when the institution inclines to adopt motivational techniques and implement orientation programmes with special emphasis on the exemplary instance of organizing a book fair at the college premises.

The key indicators of adopting such practice are:

- Transformation in pattern of resources (Teaching –learning process is an amalgamation of technology with the course structure in the classroom).
- Equal use of traditional & digital resources in the academic environment.
- Demarcation between students' capability of learning.
- A library emerging as a learning resource centre in respect of effective curricular supplementation.
- The students are not well versed with the syllabus as well as the lesson plans at the beginning of the session.
- The students hesitate or avoid to be involved into the new system. Some of the students fear to get embarrassed while trying to get adapted to the changing academic environment.
- A formal induction process may have some loose ends to put the students into the system of learning without any delay due to other individual concerns It is impossible to identify unless a common platform is shared for opening up.

➤ **The actualisation of the process involves the following initiatives:**

- The book fair committee decides the suitable date, extent of the event and the minimum expenditure to be incurred.
- The publishers and book sellers are invited (No participation fees is charged, however they need to fill up participation forms indicating the facilities they are willing to provide to the students at the book fair)
- The students (volunteers) are selected. They are conveyed with the detailed process.
- The notices are circulated and the invitation letters for the parents are handed over to their wards.

- The dignitaries are invited to the inauguration ceremony (in person and through mail), the faculty are also formally invited via the teacher's council, informing about the goal and objective of the event.
- N.S.S team of our college, the students' council and "The friends of the Library" volunteers actively participate in the wholesome organisation of the fair.
- Temporary stalls are set up at the college premises. The publishers are asked to provide a list of the books they are to display during the fair. The umbral and penumbral relevance to the course curricula are effectively judged. A facility to store the books are also provided to the publishers and book sellers.
- Banners and posters conveying the motto of the fair are printed. Posters and banners that inculcate good reading habits in interesting and readily acceptable approach are developed. Presentations are prepared to convey about the library facilities, rules etc so that an informal communication about the learning resources can be provided. Badges are printed to initiate active involvement by a feeling of belongingness among the students.
- Projection screens are set up to display the relevant contents during the fair.
- Halogen lights, spot lights, stand fans, and refreshments are arranged. This is indeed necessary for a conducive environment.
- The President, Governing body, the principal and the dignitaries address the students at the inaugural programme. It is a skilful supplementation of the induction address at the beginning of the session but in a festive mood.
- The regular readers of the library are given due appraisal by announcing "The reader of the year" as an effort to motivate towards access and utilisation of the resources for curricular enhancement.
- The list of requisitions, purchases and recommendations by the students and faculty are collected from the publishers and book sellers. This serves as an effective feedback.

➤ **The expected outcome:**

- A wide exposure to the books related to the course curriculum.
- Inculcate an interest in reading and learning.

- Be able to see and touch some new books related to the curriculum at their own college campus.
- The publisher –student meet may help the students to purchase books as per their requirement without the hassle of hopping book shops in search of the required books.
- If the students fail to purchase the books during the fair, may purchase the books at the same discounted rate as per their convenience. The students who are unable to purchase books may surely get help and may collect a book under motivational compulsion.
- The faculty may recommend books for resource building of the college library as newer publications are just within their reach from the renowned publishers and book sellers.
- The scope to guide a wider mass of students in picking up the book suitable for the student, which is otherwise impossible.

5. Evidence of success:

Success is evident under quantitative and qualitative parameters. The curriculum enrichment book fair is being organised consecutively for the three years and its success can be qualitatively judged. Since the aspect under consideration has probable qualitative attributes rather than quantitative, it is a long drawn process to actualize the cumulative feedback or result. A qualitative analysis, as is evident from the attitudinal changes, positive response, interesting suggestions and encouragement are the only parameters for analysis.

The students and the faculty are highly interested in organising the book fair at the beginning of the session. The students are willing to stay before and after the college hours for organising the fair. The eager wait is the mark of success.

Our library takes careful consideration of the recommendations of the faculty and the students in building the collection. The supplementary materials that essentially be a part of the “Curriculum Enrichment Book Fair” are highly appreciated. The publishers are give positive feedback and are willing to attend the fair for the three consecutive years. The visitors’ feedback gives a picture of worth of such an event in curricular enrichment. The review published by the daily indicates the necessity of motivational best practices. The photographs taken during the fair expresses the success in its own language. Success is indicated by the visible impact on the quality of the institutional provisions. However success cannot always be recorded in black and white. It is sometimes an essential part of an institutions realisation which can be assessed in the perspective of that institutions objective and method of teaching –learning process.

6. Problems encountered and the resources required:

- The implementation of such programmes along with the curricular routine and library services is sometimes hectic. The students’ involvement in organizing such event demands time. However regular classes go on and students find it difficult to adjust the time among the streams to work with collective effort.

Annexure II **Best Practice II**

Title of the Practice: Biometric Attendance System

The objective: The objectives behind implementing Biometric Attendance System are the following:

- i. To ensure accountability of teachers and non-teaching staff
- ii. To keep the exact time of arrival and departure of staff
- iii. To make the system of attendance impartial and transparent
- iv. To move towards paper-less administration

The context:

In view of the overall drive towards digitisation in higher education, the IQAC proposed the introduction of Biometric Attendance for teachers and the non-teaching staff of the college. The proposal was discussed and debated in various forums of the college including the Academic-Subcommittee, the Teachers' Council and the General Body. The suggestions of all stakeholders, teachers, students and non-teaching staff were sought. All stakeholders took this new measure as a positive step forward and accepted it wholeheartedly. It was finally passed through a GB resolution and implemented at the beginning of the academic session. However, we also maintain a manual register for attendance simultaneously.

The practice:

There are two separate biometric devices – one for the teachers and the principal, the other one for the office staff. At the end of each month the auto-generated reports are collected at the end of each month and duly collated. The soft copies of the monthly attendance data is preserved and sent to the Higher Education Department (Govt. Of West Bengal) along with salary claims.

The impact:

- i. The arrival and departure of staff has become more regular.
- ii. Anomaly in recording and preserving attendance data has been minimised.
- iii. The probability of human error has been minimised too.
- iv. We have been able to digitally preserve attendance data.

Annexure III

Details of the Activities of the Career Counselling Cell

A UGC sponsored and assisted career counselling cell is active in the college. It is a comprehensive, developmental program designed to assist the students in making and implementing educational and occupational choices. Following are the programmes organised by the Career Counselling Cell in 2016-17:

A scholarship test was organized from 'THE INSTITUTE OF COMPUTER ACCOUNTANTS' on 16th November, 2016. The Scholarship test was based on different carrier oriented courses. Total 33 students participated in this scholarship test.



'NSHM UDAAN SKILL FOUNDATION' organised a screening test on 18.11. 2016 for recruitment in YES BANK. Around 26 students participated in this screening test.



A Walk in Interview Program was conducted by INSU Solution for the Bharti Airtel Company. 36 students participated in this walk in Interview.

A Seminar on GST (Goods Service Tax) was conducted by The Institute of Computer Accountants on 21.01.2017. Total 54 students and some teachers of our college participated in this seminar.



Annexure IV

Major Activities of the NSS during the Year

The college has two NSS Units under the University of Calcutta NSS Programme. Both the units organise various social extension activities throughout the year, often in collaboration with one or more than one departments of the collage. These are a few of its activities in 2016-17:

1. An outreach programme involving children from the adjoining locality was conducted by the NSS jointly with the college library. A rally was conducted from the college premises through the adjoining locality to spread awareness about books and library among children. In the college various cultural programmes were organised in which the children participated enthusiastically.





2. A blood-donation camp was organised on 9.9.2016. This was accompanied by arrangement for free health check up for students and teachers.
3. The NSS units of the college participated in the celebration of events such as Republic Day and Rabindra Jayanti.
4. On 15.03.2016 the NSS units of the college participated in the programme on Digital India Campaign in the University of Calcutta. This was a day long programme in which students were made aware of various government schemes on digitisation. The NSS volunteers of the college also enthusiastically participated in the following workshop. The NSS units also participated in the NSS annual celebration at Ramakrishna Mission, Golpark.

Annexure V Feedback Analysis

STUDENTS' FEEDBACK FORM OF ACADEMIC YEAR 2016-17

According to the students' feedback of the 3rd year student, both Hons & General, Conducted by the Institution on 20.01.2017, we received a general survey on the overall administrative and academic structure of Sir Gurudas Mahavidyalaya based on their satisfaction and assessment.

Feedback Analysis:

Sir Gurudas Mahavidyalaya has taken 15 parameters for feedback to cover all academic and non academic aspects of the college. Students were given the sheets where they have only mentioned their stream of study. Following are the 15 parameters:

1. Quality of teaching received from the class room
2. Presence of teachers in the classes
3. Assistance of the teachers besides their class-teaching
4. Coverage of the syllabus through class teaching
5. About internal examination system of the college
6. Availability of books & other services in the college library
7. Co-operation of the librarian and library staffs
8. Quality of equipments and services in the laboratory
9. Assistance from cash and general office
10. Communication of notice in proper time
11. About the sports and cultural activities
12. About students' welfare and grievance redressal
13. Availability, quality and price of food in the canteen
14. Standard of sanitation and quality and availability of drinking water
15. Overall impression about the college

Feedback points were assigned to the attributes in the feedback form as follows:

Below Average -1

Fair-2

Good-3

Very Good-4

Excellent-5

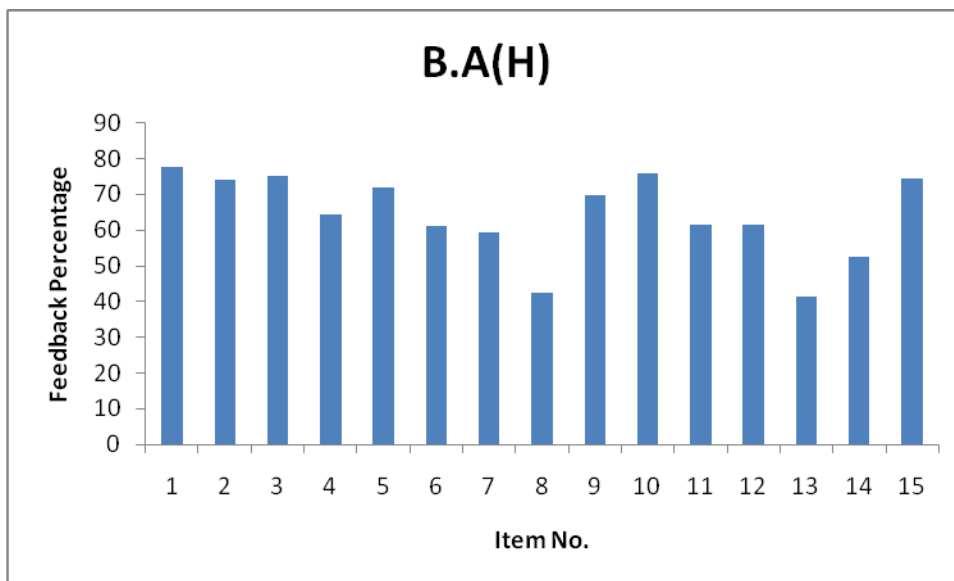
As per the feedback provided by the students, here follows the numerical table to represent the scenario, which is supported by figures and diagrams.

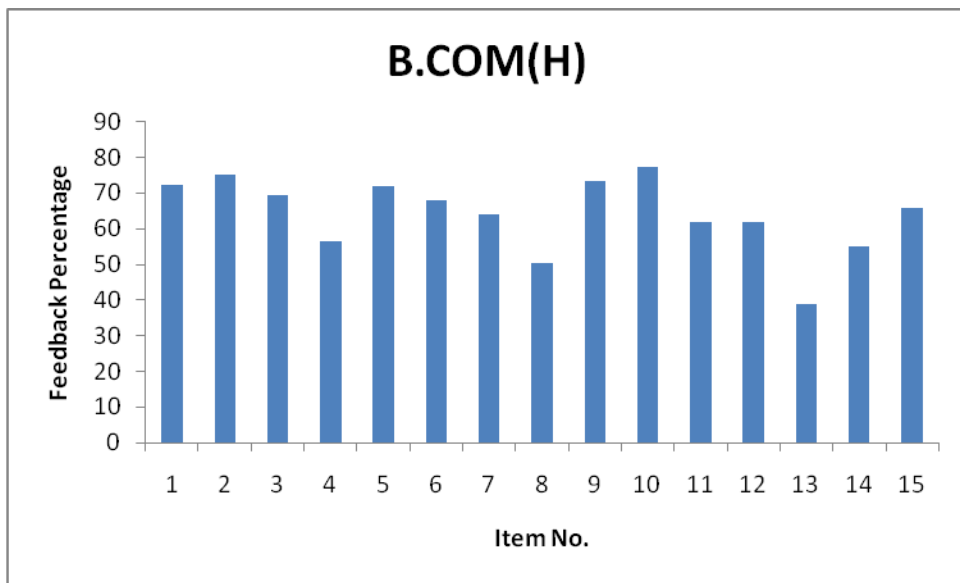
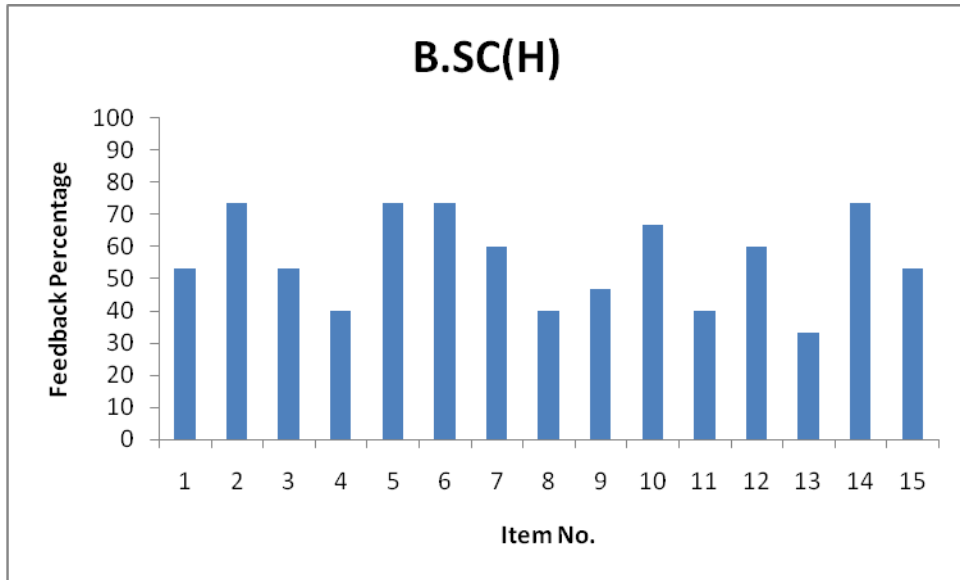
Table: Average percentage of feedback questions against each department of Sir Gurudas Mahavidyalaya

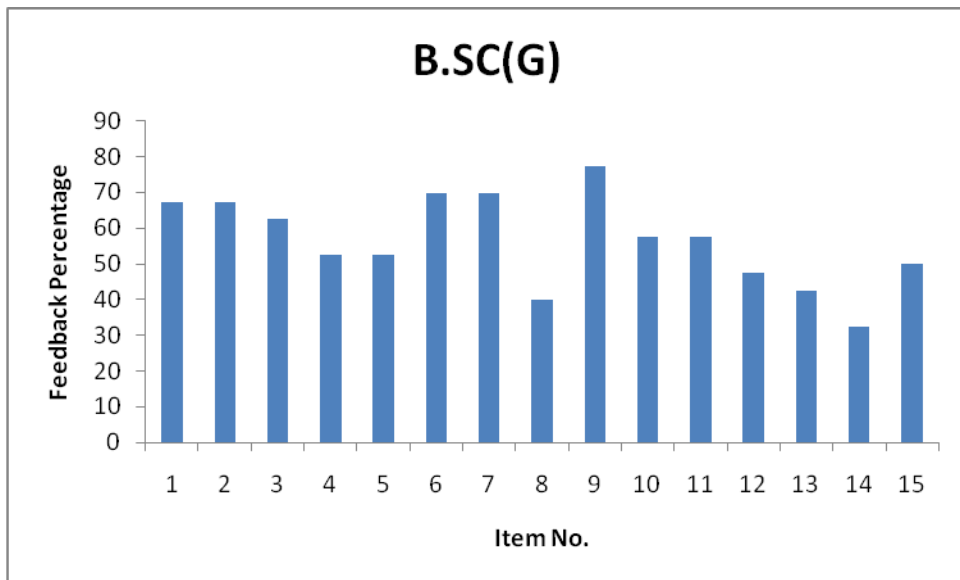
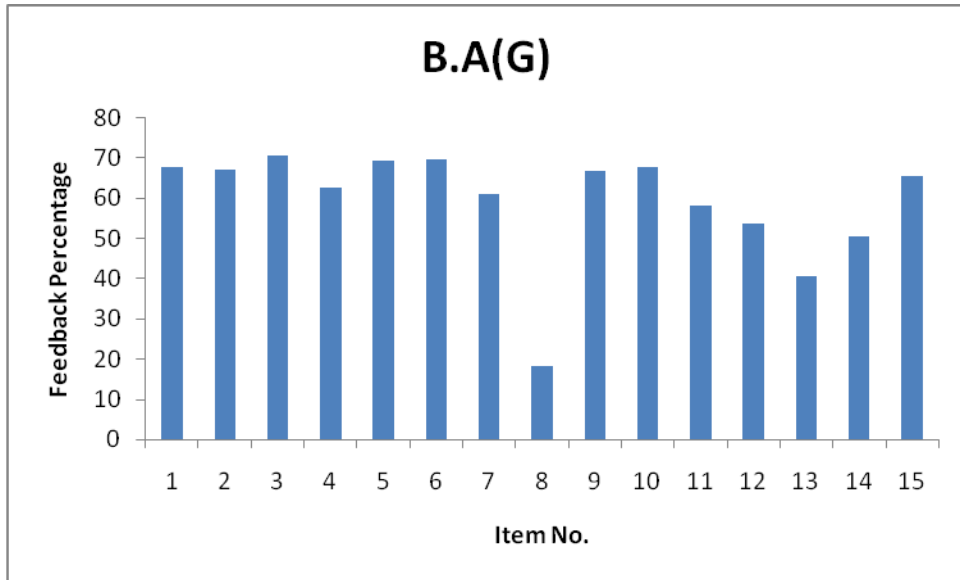
Streams	Str.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
ARTS(H)	53	77.77	74.28	75.31	64.52	71.98	61.26	59.44	42.37	69.72	75.94	61.58	61.58	41.34	52.61	74.36
ARTS(G)	117	67.74	67.35	70.6	62.74	69.5	69.91	61.19	18.29	67	67.88	58.11	53.84	40.68	50.42	65.47
BSC(H)	3	53.33	73.33	53.33	40	73.33	73.33	60	40	46.67	66.67	40	60	33.33	73.33	53.33
BSC(G)	7	67.5	67.5	62.5	52.5	52.5	70	70	40	77.5	57.5	57.5	47.5	42.5	32.5	50
BCOM(H)	52	72.3	75.4	69.6	56.5	71.9	68	64.2	50.4	73.5	77.5	61.9	61.9	38.8	55	65.8
BCOM(G)	153	65.5	67.5	64.7	56.6	69.7	65.8	64.1	50.9	66.3	69.8	58.6	57.5	36.5	52.2	61.8
	385	68.73	69.5	68.49	59.34	69.97	66.86	62.66	39.47	68.01	70.85	59.14	57.38	38.87	51.89	64.9

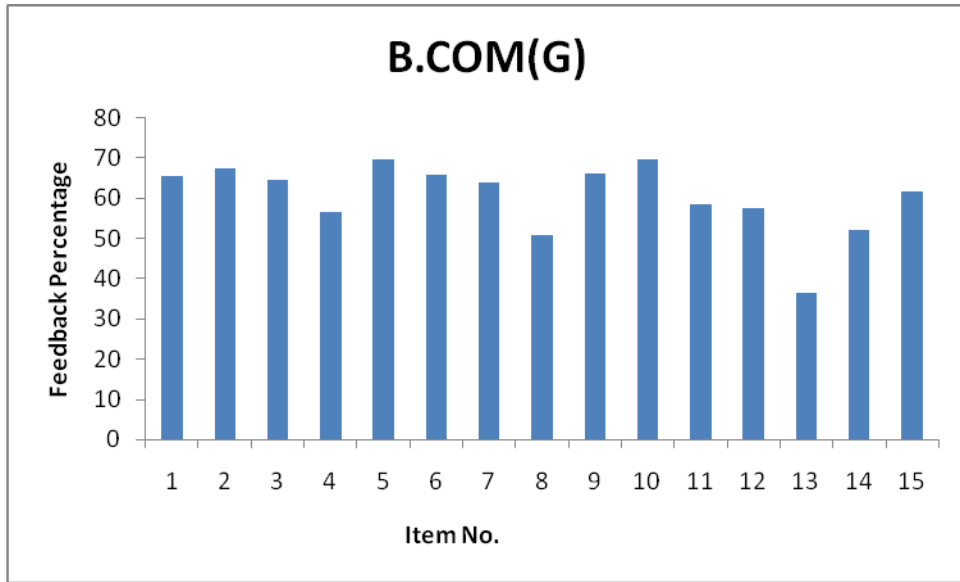
In the above table, the sequential numbers (1-15) in the first row represent the question numbers of the feedback form. The last row denotes the weighted average of the feedback points to get a view of the college as a whole of total 385 students.

The following fourteen bar diagrams represent the percentage for each questions for six streams. The horizontal axis and vertical axis represent the question number in the feedback form and percentage respectively.

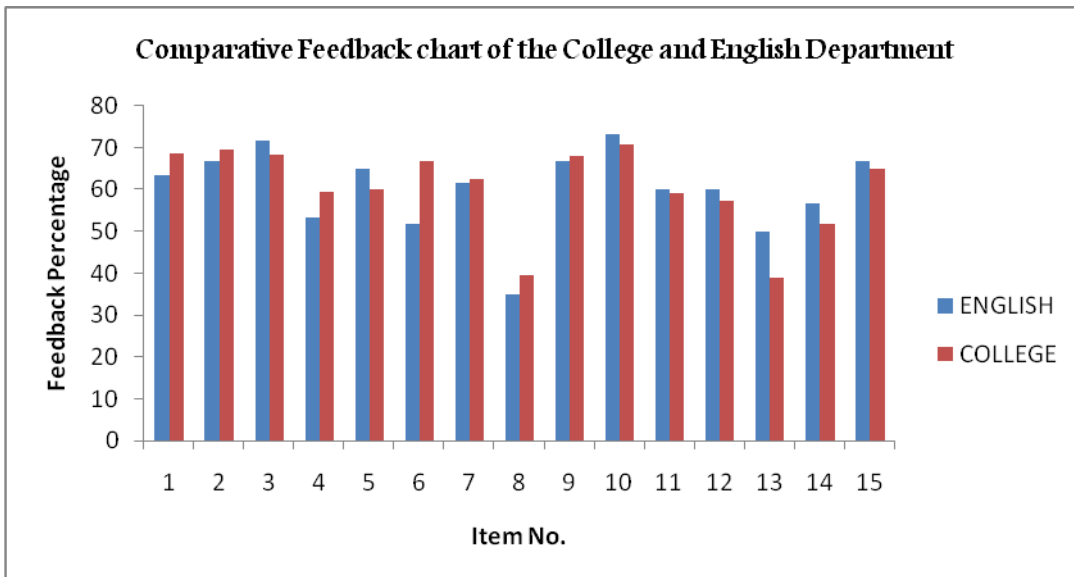
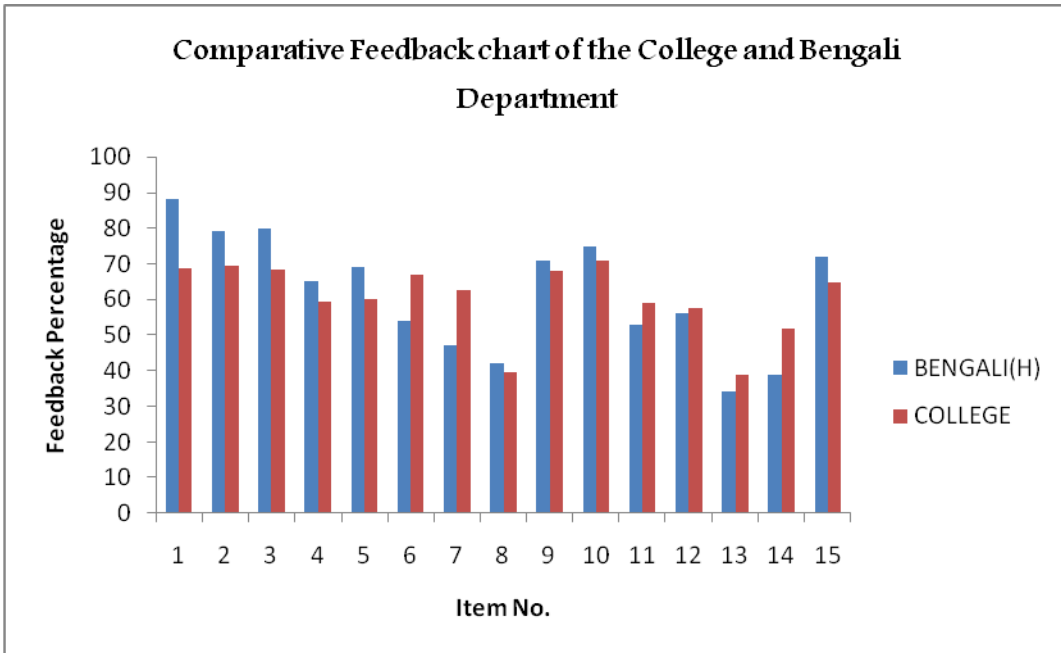


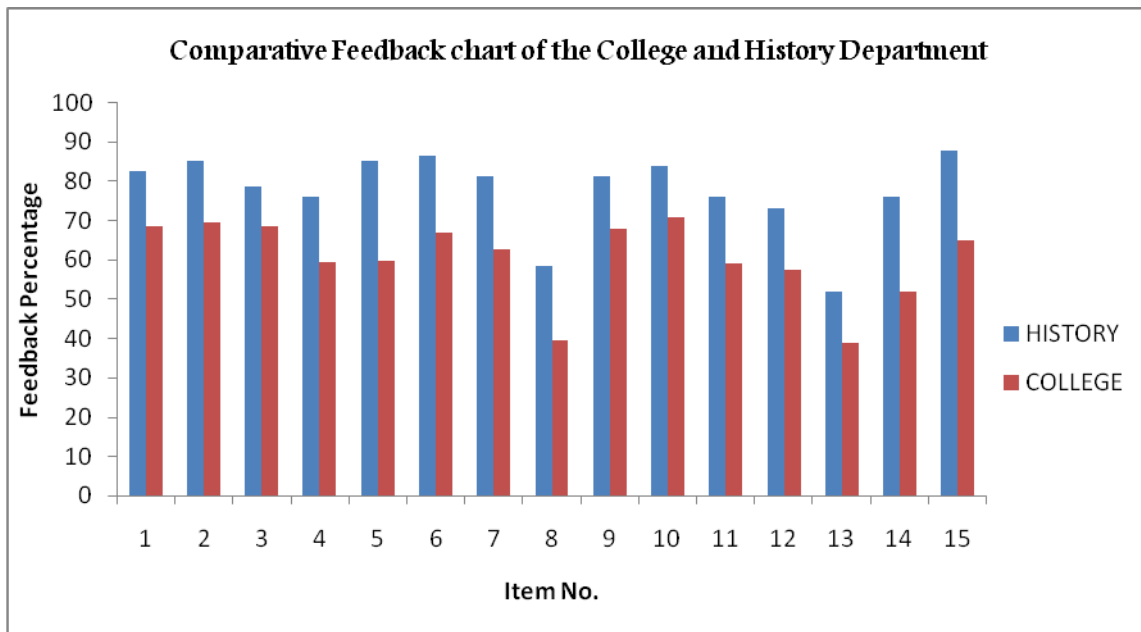
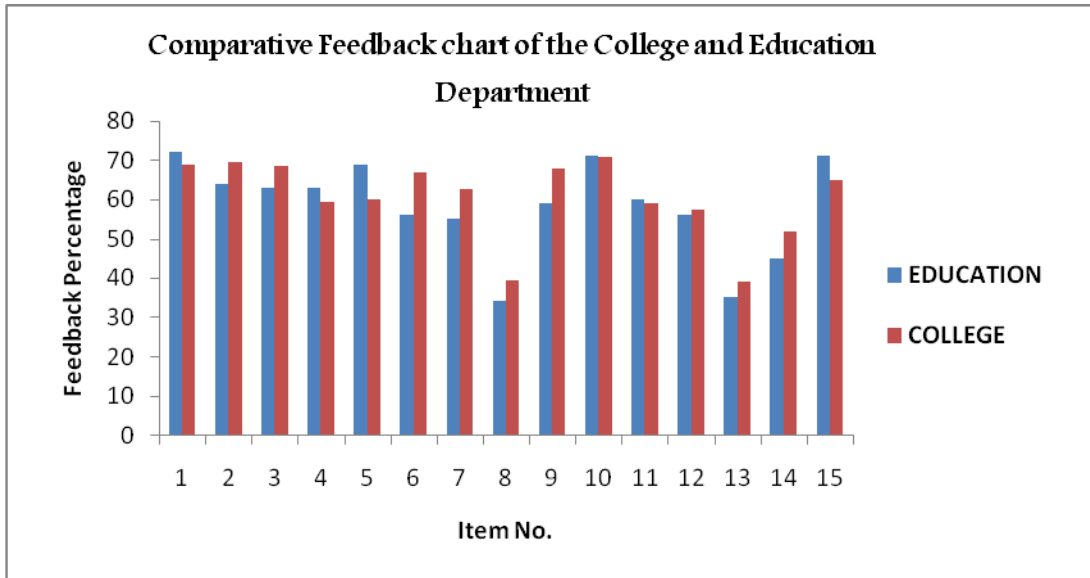


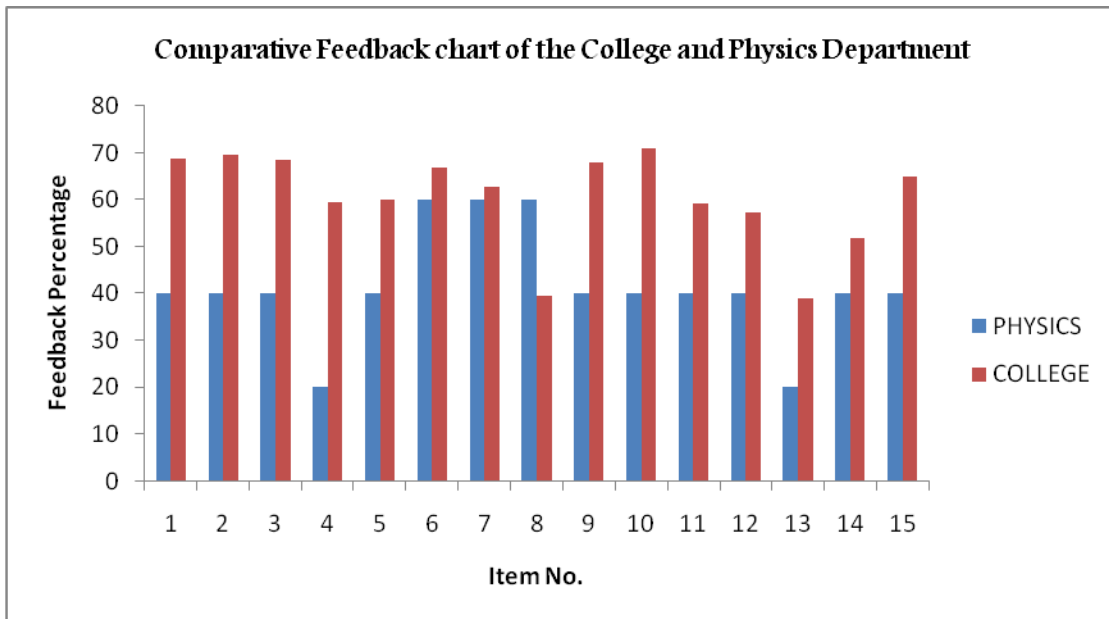
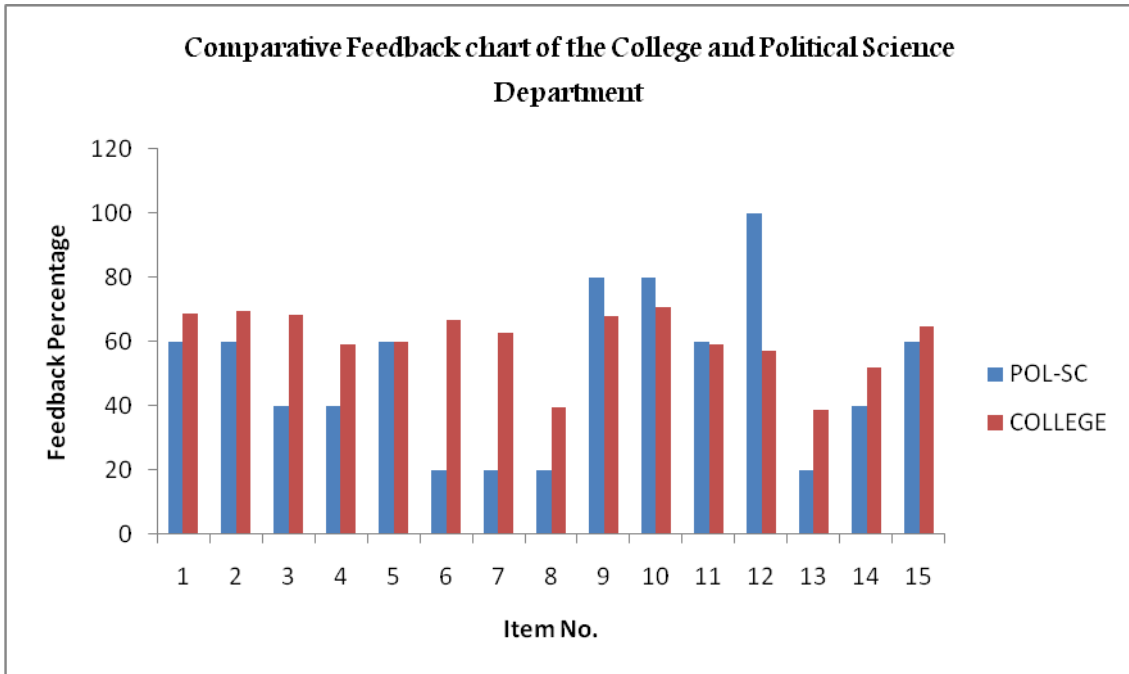


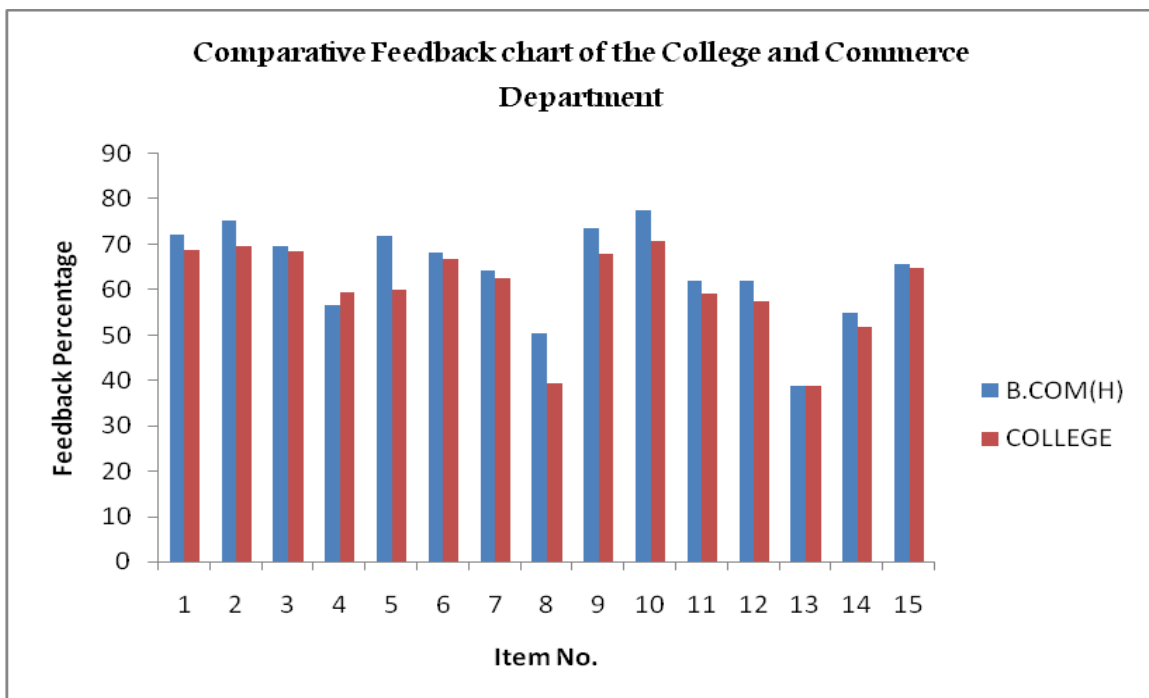
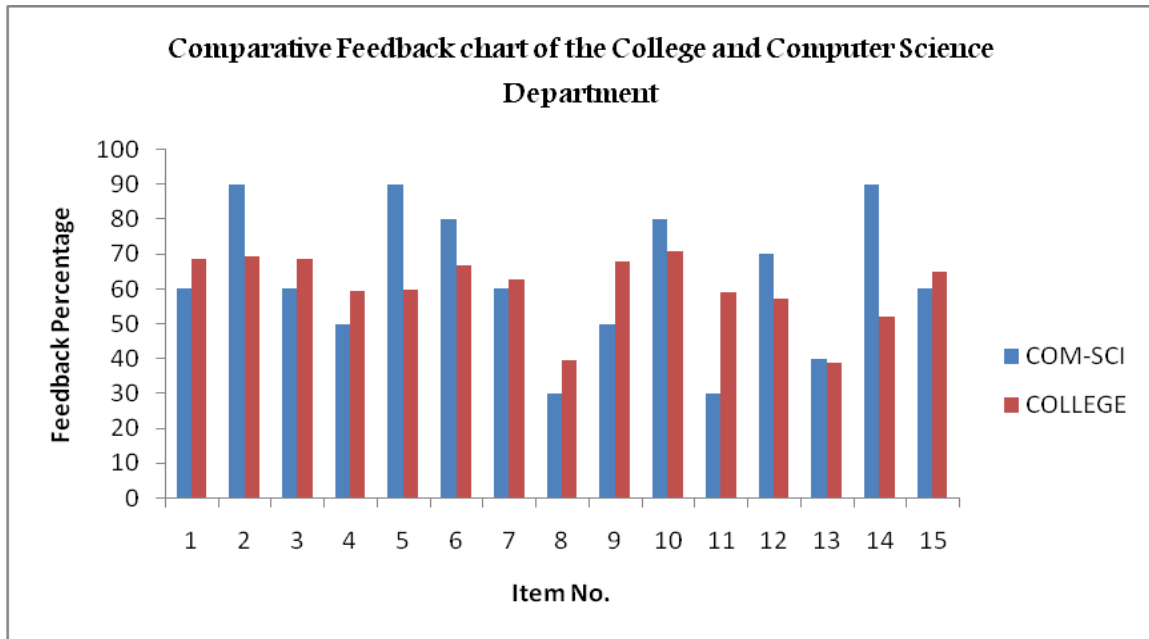


Besides providing the feedback percentage for six (Hons and Gen) streams, it is also desirable to put the feedback percentage of individual departments and that of the college in different charts. This comparative study demonstrates the current condition of the existing departments as well as clearly mentions the item numbers, where the individual department can take some necessary measures.









After the entire analytical survey and assessment we have found that in many target items we have received satisfactory feedback while in few i.e. item no. 8, 13 we need to improve further and need to take necessary reforms after another self-assessment which is subject to IQAC discussions and approvals.

Annexure VI

Academic Calendar 2016-17

SIR GURUDAS MAHAVIDYALAYA

33 6/1, B.B. GHOSH SARANI, ULTADANGA - MURARIPUKUR,

KOLKATA-700 067

Website: www.sirgurudasmahavidyalaya.com

Phone: (033) 2356-1998 / 2356-0404



ACADEMIC CALENDAR

FOR B.A. and B.Sc.

(HONOURS, GENERAL & MAJOR)

ACADEMIC SESSION: 2016-2017

About the College

Sir Gurudas Mahavidyalaya is named after Sir Gurudas Bandyopadhyay (1844-1918), the first Indian Vice Chancellor of the University of Calcutta who is a legend in the field of Indian Education and National Freedom Movement. Since 1890, he ably directed academic concerns of the First Modern University in the sub continent towards international excellence. His contribution to the Indian Judiciary had earned him a permanent place in our national history.

CU Affiliation

The College is affiliated to the University of Calcutta. Regarding admission, syllabus, examination and all other academic and administrative matters, it is guided by the Act, rules, regulations and statutes framed by the affiliating University. Mark sheet, certificate and diploma are issued by the University of Calcutta. Some Add-on courses are taught in collaboration with other reputed professional institutions also.

Segmentation of Academic Session

Academic Session	Date & Month	Probable No. of teaching dates
I	1st July to 17th October 2016	88
II	14th November to 23th December, 2016	32
III	2nd January to 15th May, 2016	107
	Total	227

*** These days include number of days of Examination conducted by C.U.(if college is requisitioned) and Examination taken by college internally 25/02/2016 to 31/12/2016 is considered as winter recess.**

2. List of tentative Holidays for the academic year, 2016-2017

Date	Day	Occasion	No. of Days
06-07-2016	Wednesday	Id-ul-Fitar	1
06-07-2016	Wednesday	Rathajatra	1
15-08-2016	Monday	Independance Day	1
21-08-2016	Sunday	College Foundation Day	1
25-08-2016	Thursday	Janmastami	1
12-09-2016	Monday	Eid ul-Adha/Bakr Id	1
13-09-2016	Tuesday	Mahalaya	1
02-10-2016	Sunday	Birthday of Mahatma Gandhi	1
07-10-2016	TO	Puja Holidays	24
29-10-2016			
12-10-2016	Wednesday	Muharram	1
01-11-2016	Tuesday	Bharatridwitiya	1
09-11-2016	Wednesday	Jagaddhatri Puja	1
14-11-2016	Monday	Birthday of Guru Nanak	1
13-12-2016	Tuesday	Fateh Daus Doham	1
01-01-2017	Sunday	English new year's day	1
23-01-2017	Monday	Birthday of Netaji	1
24-01-2017	Tuesday	University foundation day	1
26-01-2017	Thursday	Republic Day	1
01-02-2017	Wednesday	Saraswati Puja	
02-02-2017	Thursday		2
28-03-2017	Sunday	Doljatra	1
14-04-2017	Friday	Good Friday	1
15-04-2017	Saturday	Easter Saturday	1
14-04-2017	Friday	Chaitra Sankranti	1
15-04-2017	Saturday	Bengali New year's Day	1
01-05-2017	Monday	May Day	1
09-05-2017	Tuesday	Birthday of Rabindra Nath	1
10-05-2017	Wednesday	Buddha Purnima	1
		Principal's Discretion	5
TOTAL			56

UNIVERSITY OF CALCUTTA

**Academic Calendar for the B.A., B.Sc., B .Com. and
B.Mus. Courses of Studies (under 1+1+1 System of
Examinations) for the Academic Session 2016-2017**



Last date of admission to the 1st year Degree

Courses: 04.8.2016

Last date of change of subject (s)/ stream:

24.08.2016

Course of Studies	Date of Commencement of Classes	Submission of Registration Form to C.U. by the College	Mid-term Exam	College Test	Result of College Test	Filling-up of Form for Univ. Exam.	Date of Examinations (Tentative)		Pub. of Result (Tentative)
							Theoretical	practical	
Part-I	Third week of July'16	08.9.2016 (without fine) (Application forms for Registration be submitted by the students to the college With-in 13.9.16). 22.9.2016 (with fine)	Oct.' 16	2nd week of February 2017	1st week of March, 2017	2nd week of March, 2017	<u>B.Com.(H+ G)</u> 20.6.16-30.6 .16 <u>B.A./B.Sc. (H & Major) & B.Com. (Major)</u> 04.07.17-07.07 .17 <u>B.A. / B.Sc.(Genl.)</u> 11.7.17-21.7 .17	<u>B.A ./B.Sc.(H & Major) & B.Com. (Major)</u> 25.07.17. -16.08.17	Within 90 days from the last date of Exam.
Part-II	within 7 days from the completion of Part-I Exam.		Oct.' 16	2nd week of January 2017	1st week of February, 2017	2nd week of February 2017	<u>B.Com.(G+ H)</u> 18.04.17-05.05.17 <u>B.A./B.Sc. (H & Major) & B.Com. (Major)</u> 12.05.17-17.05.17 <u>B.A. / B.Sc.(Genl.)</u> 19.05.17-07.06.17	<u>B.Com.(G+H)</u> 28.3.17-13.4.17 <u>B.A ./B.Sc. (H & Major) & B.Com. (Major)</u> 10.4.17-03.5.17 <u>Genl.</u> 09.6.17-30.6.17	-Do-

Part-III	within 7 days from the completion of Part-II Exam.		Oct.' 16	2nd week of December 2016	last week of Dec' 2016	2nd week of January 2017	<u>BA/B.Sc./B.Com.</u> (Hons. & Major) 28.3.17-06.4.17 (Genl.) 07.4.17-13.4.17	(H & Major) 28.2.17- 18.3.17 Genl. 20.3.17-04.4.17	Within June, 2017
	Part-I Compulsory Language, 2016						20.2.17-02.3.17	----- -----	
	Part-I & II Supplementary Examination, 20 15			Filling up of Form: 01st week of December, 2016			09.02.17-17.02.17	20.02.17-04.3.17	

**Sd/-
Secretary, U. G. Councils, C.U.**

CHAPTER-3
B.A. ENGLISH HONS. & GENL.
ACADEMIC SESSION: 2016-2017
HONOURS PART I

	MID TERM	TEACHER	LECTURES		TEST	TEACHER	LECTURES
PAPER 1	History of English literature			PAPER 1	<u>History of English Literature</u>		
	Group A				Civil War	S B	20
	Section 1: Old English Period	P H	20		Restoration and Augustan Periods	F M	20
	Section 1: Middle English Period		20		Victorian Period		20
Section 2: Elizabethan and Jacobean Periods	M S	20		Modern and Post-Modern Periods	P G	6	
					Philology	P H	
					<u>Group A</u>		6
					Latin and Greek Influence	P G	

BOOKS & REFERENCES:

History of English Literature:

Andrew Sanders: *The Short Oxford History of English Literature*

G.M. Trevelyan: *English Social History*

Michael Alexander: *A History of English Literature*

Edward Albert: *History of English Literature*

Bibhash Choudhury: *English Social and Cultural History*

History of English Language:

Recommended Reading:

Otto Jespersen: *Growth and Structure of the English Language* (Chapters 4, 5, 6, 8, 10)

C.L. Wren: *The English Language* (Chapters 6 & 7)

Further Reading:

A.C. Baugh: *A History of English Language*

C.L. Barber: *The Story of Language*

P. K. Bose: *A Manual of English Philology*

CHAPTER-5
B.A. HISTORY HONS. & GENL.
ACADEMIC SESSION: 2016-2017
HONOURS PART- I

	MID TERM	TEACH ER	LECTU RES		TEST	TEACH ER	LECTU RES
PAPER R1	<u>History of India from the earliest times to 600CE</u> *Sources of early Indian History *Pre-Harappan and Post-Harappan cultures *The Vedic Age *Janapadas&Mahaja napadas *Mauryan& Post- Mauryan India *The age of the Guptas	TBP	05	PAPER R1	<u>History of India from the earliest times to 600CE</u> *Aspects of Society *Religiou s Devt. *Maurya- Satavahan a- Kushana- Gupta *Urbaniza tion *Cultural Life	SM	05
		DB	05			SM	05
		DB	05			JKB	05
		DB	05			JKB	05
						JKB	05

CHAPTER-6
B.A. EDUCATION HONS. & GENL.
ACADEMIC SESSION: 2016-2017
HONOURS. PART I

	MID TERM	TEACHER	LECTURES		TEST	TEACHER	LECTURES
PAPER1	<p style="text-align: center;">GROUP – A Module -I</p> <p>1. Concept and aims of modern education with special reference to Delor’ s commission (UNESCO, 1997)</p> <p>2. Child centric and Life centric education.</p> <p style="text-align: center;">Module -II</p> <p>5. Role of Philosophy in Education. (2)</p> <p>6. Schools of philosophy and their influence on education: Idealism.</p> <p style="text-align: center;">GROUP – B Module –I</p> <p>1. Rousseau</p> <p>2. Froebel</p> <p style="text-align: center;">Module -II</p> <p>6. Rabindranath Tagore</p>	CD GL RL RL SS NK GL	8 6 5 4 8 6 8	PAPER1	<p style="text-align: center;">GROUP – A Module -I</p> <p>3. Functions and scope of education - Individual and social perspective. Education for Human Resource development.</p> <p>4. Education as propagation of values.</p> <p style="text-align: center;">Module –II</p> <p>6. Schools of philosophy and their influence on education: Idealism, Naturalism, and Pragmatism.</p> <p>7. Schools of Indian Philosophy Basic features and Influence on Education-</p> <p>a) Vedic schools (Sankhya, yoga, Nyaya)</p> <p>b) Non-Vedic schools (Charvak, Buddhist, Jain)</p> <p style="text-align: center;">GROUP – B Module –I</p> <p>3. Montessori</p> <p>4. Bertrand Russell</p> <p style="text-align: center;">Module –II</p> <p>5. Dewey.</p> <p>7. Vivekananda (The Entire Mid Term Examination Syllabus)</p>	SS GL RL CD NK RL NK RL	10 6 15 25 6 6 7 6

B.A. SANSKRIT HONS.
ACADEMIC SESSION 2016-2017
PART- I

	MID TERM	TEACHER	LECTURES		TEST	TEACHER	LECTURES
PAPER 1	General Grammar (15) (Sandhi, Karaka, Krt, Taddhita)	P.M.	10	PAPER 1	Course -1 Marks – 50 Unit – 1 Marks -30	P.M.	30
	Sanskrit Prose Kavya (10) a) Kadambari – kathamukha	K.D.	10		General Grammar: Sandhi, Karaka, Samasa, Krt, Taddhita, San, Yan, Namadhatu Unit – 2 Marks : 20		
	b) Sukanasopadesa	P.M.	15		Sanskrit Prose Kavya		
	Rajavahanacaritam of Dandi (Dasakumaracaritam) (10)	K.D.	15		a) Kadambari kathamukha		
	Drama Text Abhijnanasakuntalam of Kalidasa(Act. 1) (05)		10		b) Sukanasopadesh		
	Kavyalamkarasutravrtti of Vamana (10)				Course – 2 Marks : 50 Unit – 1 Marks : 20		
				Rajavahanacaritam of Dandi (Dasakumaracaritam) Unit – 2 Marks : 15 Drama Text : Abhijnanasakuntalam of Kalidasa Acts 1 , 2, 3. Unit – 3 Marks : 15	P.M.	20	
				Kavyalamkarasutravrtti of Vamana.	A.G. K.D.	15	

Economic Syllabus for BA/BSC (General) FIRST YEAR
2016-2017

PAPER1	MID TERM	TEACHE R	LECTURE S	PAPE R1	TEST	TEACHE R	LECTURES
PAPERIIA	Economics and Microecono mics	JAL	8		Producer's Behaviour	D DAS	18
	Demand and Consumer Behaviour	D DAS	19				
	National Income Accounting	D DAS	7		Consumpti on and Investment	D RD	14
	Money and Banking	JAL	14		Governme nt sector	D DAS	10

CHAPTER-
B.Sc. PHYSICS HONS.
ACADEMIC SESSION: 2016-2017
TENTATIVE SYLLABUS FOR PHYSICS HONOURS PART I

	MID TERM	TEACHER	CLASS	TEST	TEACHER	CLASS
Paper I(100 Marks)	UNIT 01			UNIT 01		
	Mathematical Methods I	SKD,MIS	15	Mathematical Methods I	SKD,MIS	15
	Mathematical Methods II	MG,SKD	15	Mathematical Methods II	MG,SKD	15
	UNIT 02	MG,SKD	15	UNIT 02	MG,SKD	15
	Waves and Optics I			Waves and Optics I		15
	Electronics I	MIS,AD	15	Electronics I	MIS,AD	
Paper II (100 Marks)	Paper IIA			Paper IIA		
	UNIT-03	SG	15	UNIT-03	SG	15
	Classical Mech.I			Classical Mech.I		
	Thermal Physics I	MIS	15	Thermal Physics I	MIS	15
	Paper IIB (50 Marks)			Paper IIB (50 Marks)		
	UNIT-04	MG,MIS	25	UNIT-04	MG,MIS	25
Laboratory			Laboratory			

B.Sc. MATHEMATICS HONS

ACADEMIC SESSION : 2016-2017

TENATIVE SYLLABUS FOR MATHEMATICS HONS – PART I

	MID TERM	TEACHER	CLASS	TEST	TEACHER	CLASS
PAPER 1	Module I Complex number Polynomials, Inequality Set, Relation, Mapping	GM	50	Module I Theory of equation, Integers	GL GM	30
	Module II Transformation, Pair of straight line, Circle, Conic, Pair of tangents			Module II Remaining Part		
PAPER 2	Module III Real number → Sequence & Evaluation on integral	AH GL	50 30	Module III Remaining Part	GL AH	30 40
	Module IV Matrix, Determinant Vector Algebra			Module IV Vector Space Vector Calculus		

**COMPUTER SCIENCE
(HONOURS)
ACADEMIC SESSION : 2016-2017
Computer Science HONOURS. PART I
SYLLABUS FOR MID-TERM EXAMINATION:**

	TOPIC	NAME OF TEACHERS	NO. OF LECTURES
PAPER 1	<u>Group A</u> Computer Fundamental, Number System and Codes	GL	30
	<u>Group B</u> Elementary Circuit theory Elementary Physics of Semi-conductor	TB	10
	<u>Group C</u> Digital system & Design Combinational circuits, Sequential Circuit.	GL	45
	<u>Group D</u> Computer Organization Basic computer Organization I	GL	10
BOOKS & REFERENCES:			
Digital Circuits, Combinational Circuit, Vol1 &2 by D.Roy Choudhuri, Platinum Publication, Digital Logic and Computer Design by M. Morris mano, PHI, Electronics Devices and Circuit Theory by Boylestad, Nashelsky, PHI, Computer Organization and Architecture by William Stallings, Pearson Education.			

**TENTATIVE SYLLABUS FOR B.A/B.Sc 1st YEAR, COMPULSORY HINDI
(Honours and General)
2016-2017**

	TOPIC	NAME OF TEACHERS	NO. OF LECTURES
PAPER 1	<u>MODULE 1 : ESSEYS</u>		
	GILLU, KYA NIRASH HUA JAYE, SANSKRITI HAI KYA, PARYAVARAN SANGRAKSHAN, DHUMKETU	ST	14
	<u>MODULE 2 : POETRY</u>		
	BITI VIBHAWARI JAAG RI, SAVERE UTHA TO DHUP KHILI THI, UNKO PRANAM, TUTA HUA PAHIYA, TUMHARE SATH RAHKAR, HO GAI HAI PEER PARVAT SE.	ST	08
	<u>MODULE 3 : STORIES</u>		
MUKTIMARG, INSPECTOR MATADIN CHAND PAR, WAPSI.	ST	10	
<u>MODULE 4 : PARIBHASHIK SHABDAWALI , PRASHANIK BANKING SHABDAWALI (150 WORDS)</u>	ST	02	
<u>MODULE 5 : PRATIVEDAN LEKHAN (REPORT WRITING ON ANY UNSEEN TOPIC)</u>	ST	06	
BOOKS & REFERENCES:			
1. HINDI PATH SANCHAYAN, CALCUTTA UNIVERSITY			
*There will be no Selection Test for Compulsory Hindi. The students will sit directly for the final examination that will cover the entire syllabus stipulated by the University of Calcutta.			

Syllabus and regulations of the 3-year Hons/General Degree Course of Studies in Environmental Studies (100 marks)

2016-2017

A. Theoretical Portion

1. 25 MCQ type questions be set 1 mark each25 Marks
2. 5 Paragraphs of 10 Marks each50 Marks

B. Field Work

Concerned colleges will organize the field work of 25 marks independently and send the marks to the university.

UNIT 1: The Multidisciplinary Nature of Environmental Studies

Definition, scope and importance. Need for public awareness.

UNIT 2: Natural Resources:

Renewable and non-renewable resources:

Natural resources and associated problems.

- a) Forest resources
- b) Water resources
- c) Mineral resources
- d) Food resources
- e) Energy resources
- f) Land resources
 - Role of an individual in conservation of natural resources.
 - Equitable use of resources for sustainable lifestyles.

UNIT 3: Ecosystems

- Concept of an ecosystem
 - Structure and function of an ecosystem
 - Producers ,consumers and decomposers
 - Energy flow in the ecosystem
 - Ecological succession
 - Food chains, food webs and ecological pyramids.
 - Introducing ,types,characteristics,features,structure and function of the following ecosystem:
 - a) Forest ecosystem
 - b) Grassland ecosystem
 - c) Desert ecosystem
 - d) Aquatic ecosystem(Ponds, streams, lakes, rivers, oceans, estuaries)
-