

**Gautam Buddha University**  
**Gautam Budh Nagar**

**Minutes of Second Academic Council Meeting**

The Second meeting of "Academic Council" was held on 04<sup>th</sup> June 2009 at 11.00 A.M. in the Board Room of the University. The following members were present in the meeting.

- |  |       |          |
|--|-------|----------|
| 1. <b>Prof. R. S. Nirjar</b><br>Vice-Chancellor<br>Gautam Buddha University<br><b>Greater Noida.</b>   | ..... | Chairman |
| 2. <b>Prof. D. S. Hira</b><br>Director<br>Shaheed Udham Singh College<br>of Engineering & Technology<br>Tangori<br><b>Chandigarh.</b>                            | ..... | Member   |
| 3. <b>Prof. C. B. Sharma</b><br>Prof., Deptt. of Education<br>I.G.N.O.U.<br>Maidan Garhi<br><b>New Delhi</b>   | ..... | Member   |
| 4. <b>Prof. Santosh 'Satya'</b><br>Deptt. of Rural Development<br>Indian Institute of Technology<br>Hauz Khas<br><b>New Delhi</b>                                | ..... | Member   |
| 5. <b>Prof. Sudhir Kumar</b><br>Prof. of Environmental Studies &<br>Dean of Student Affairs<br>Malviya National Institute of Technology (MNIT)<br><b>Jaipur.</b> | ..... | Member   |
| 6. <b>Prof. Sushil Kumar</b><br>Dean School of Management<br>Gautam Buddha University<br><b>Greater Noida.</b>   | ..... | Member   |
| 7. <b>Prof. Mahavir Singh</b><br>Dean, School of Humanities & Social Sciences<br>Gautam Buddha University<br><b>Greater Noida.</b>                               | ..... | Member   |

- |   |              |                        |
|---|--------------|------------------------|
| <p>8. <b>Prof. Sanjay Jasola</b><br/>         Dean School of I.C.T.<br/>         Gautam Buddha University<br/> <b>Greater Noida.</b></p>  | <p>.....</p> | <p>Member</p>          |
| <p>9. <b>Sh. Omvir Singh</b><br/>         Registrar<br/>         Gautam Buddha University<br/> <b>Greater Noida</b></p>   | <p>.....</p> | <p>Secretary</p>       |
| <p>10. <b>Prof. Sweta Anand</b><br/>         Chairperson, Deptt. of Business Studies<br/>         School of Management<br/>         Gautam Buddha University<br/> <b>Greater Noida.</b></p> | <p>.....</p> | <p>Special Invitee</p> |
| <p>11. <b>Prof. J.P. Moyal</b><br/>         School of Biotechnology<br/>         Gautam Buddha University<br/> <b>Greater Noida</b></p>   | <p>.....</p> | <p>Special Invitee</p> |

**Member Could not attend the meeting**

1. **Prof. Manoj Anand**  
 Prof. of Finance  
 Chairman, Post Graduate Programme  
 Indian Institute of Management  
 Prabandh Nagar  
**Lucknow.**

## Details of the Decisions taken

**02.01 Approval of minutes of the first Academic Council meeting held on Nov. 24, 2008**

Academic Council approved the minutes of the First Academic Council meeting held on Nov. 24, 2008.

**02.02 To apprise the Academic Council of actions taken as per the proceedings of Academic Council meeting held on Nov. 24, 2008**

The Academic Council was apprised of the actions taken on the decisions of first Academic Council meeting held on Nov. 24, 2008. The Council took note of Action Taken Report and expressed its appreciation.

**02.03 To Discuss and approve different Academic positions**

The Chairman apprised the Academic Council about existing faculty positions in various schools of the University. The Academic council recommended following additional academic positions for approval of Board of Management. Since the University has adopted flexible cadre structure, such positions may be filled up at appropriate levels.

NAME OF SCHOOL	POSITIONS REQUIRED
School of Management	06
School of ICT	04
School of Biotechnology	03
School of Humanities and Social Sciences	04
<b>TOTAL</b>	<b>17</b>

**02.04 To discuss the course structure of various Academic programmes**

The course structure of different programmes was discussed in detail. From 2009 onward a student will have to do 86 – 88 credit hours of courses to obtain Master Degree. It was decided that following two courses should be included in course structures of all the programmes in the University.

- (i) Role and Realm of Values.
- (ii) Buddhist Ethics and Civilizational Harmony.

In addition it was also suggested that in course structure of MBA programme one non credit course on Personality Development should be added in third semester. Also a course on Historical Perspective of Business and Economy in India should also be included in MBA course structure.

The revised course structure incorporating these suggestions is given in Annexure-I

**02.05 To discuss and approve modifications in ordinances.**

The Academic Council agreed to amendment in Clause 5.5 and addition of Clauses 5.6 to 5.16 in the existing Ordinance of the University. All these provisions are related to administration of academic programmes. The amended Clause 5 is given in Annexure-II

**02.06 Other proposals related to academic programmes of the University**

The Academic Council discuss & approved the followings:

- (i) The minimum number of student for run a specialization will be decided by the Dean of the concerned School on recommendation of the Board of Studies of the School.
- (ii) The Course Coordinator of a course can invite Guest Faculty to take lectures in a course up to a maximum of 10% of the course teaching hours. The Guest Faculty will be paid honorarium as per the University norms approved by the competent authority from time to time.

**02.07 Recommendations of the R.D.C.**

The council was informed regarding approval accorded by the R.D.C. to the research proposals of the following three candidates serving in Gautam Buddha University, for registration to the Ph. D programmes w.e.f. 02.06.2009.

- (i) Ms. Samar Raqshin - School of Management
- (ii) Ms. Monika Bhati - School of Management
- (iii) Mr. Sandeep Singh Rana - School of Information & Communication Technology

The Academic Council ratified the approval of the R.D.C. for registration of above three candidates in Ph. D programme and all the members of the Council congratulated them.

**Proposals related to Faculty matters**

The Academic Council was informed about different proposals related to faculty of the University. The decisions taken are as under:

- (i) The Academic Council recommended that the faculty should be allowed to undertake consulting assignment to an extent of 52 days in one academic year and the sharing of consultation fee between the University and faculty in a ratio of 20:80. It was also recommended that there should be no sharing if the amount a faculty member has earned is less than Rs. 2,00,000 in an academic year. This Rs. 2,00,000 also includes remuneration received for occasional teaching in other Universities/ Institutes. However, such work may be undertaken with the prior permission of the competent Authority and the details of remuneration received shall duly be informed to the University.

This proposal will be put to Board of Management for approval.

- (ii) The proposal related to funded research norms was discussed and approved.
- (iii) The Academic Council recommended that the University faculty should be allowed to take up teaching assignment in Institutes/University of good academic repute.

This proposal will be put to Board of Management for approval.

- (iv) Proposal related to modification in the existing provision for participation by the faculty in national and international conferences was discussed and recommended for approval from the Board of Management. The modification suggested relates to participation in two conferences organized in India in lieu of one conference abroad and one in India.

This proposal will be put to Board of Management for approval.

- (v) The Academic Council recommended that University should sponsor each faculty member below the rank of Professor to attend one Faculty Development Programme organized by Universities/Institutes of good academic repute in India, in one academic year.

This proposal will be put to Board of Management for approval.

02.09

**Proposed new departments and centres of excellence in different schools of the University**

The Academic Council agreed to creation of following Departments & Centres in different Schools of the University.

**A. School of Management**

- i. Department of Business Studies. (Already existing)
- ii. Centre for Entrepreneurship and Innovation.
- iii. Centre for Management of Financial Services
- iv. Centre for Executive Education.

**B. School of Information and Communication Technology**

- i. Department of Computing and Networks.
- ii. Department of Microelectronics
- iii. Centre for Intelligent Systems.
- iv. Centre for Information Security.
- v. Centre for Open Resources and e-learning

**C. School of Biotechnology**

- i. Department of Genetic Engineering.
- ii. Department of Bioinformatics
- iii. Department of Plant Biotechnology
- iv. Department of Animal Biotechnology
- v. Department of Industrial Microbiology

**D. School of Humanities and Social Sciences**

- i. Department of Applied Psychology
- ii. Department of International Relations
- iii. Department of Social Works\*
- iv. Centre for Policy Research\*

Recommendations for creation of above departments and centres will be put to Board of Management.

\*(These centres were suggested by the members of the Academic Council)

02.10

**Any other matter with the permission of Chairman**

The Academic Council agreed to the proposed amendment in clause 9 of the University ordinances related to Special Provision for University Employees to take admission in Ph. D programme. The amended clause is given in Annexure-III.

  
**(Omvir Singh)**  
Secretary & Registrar

  
**(R. S. Nirjar)**  
Chairman & Vice Chancellor

09.06.09

## Annexure I

### COURSE STRUCTURE OF DIFFERENT PROGRAMMES

#### A. MBA Programme (2009-11 Batch onwards)

##### Semester I

S. No.	Course	L	T	P	Credits
1.	Financial Accounting	3	0	0	3
2.	Managerial Economics	3	0	0	3
3.	Business Communication	2	0	0	2
4.	Business Law	2	0	0	2
5.	Organizational Behaviour, Structure and Design	3	0	0	3
6.	IT for Managers	2	2	0	3
7.	Marketing Management I	2	0	0	2
8.	Quantitative Techniques I	3	0	0	3
9.	Business, Society and Sustainability	2	0	0	2
	<b>Total</b>	<b>22</b>	<b>2</b>	<b>0</b>	<b>23</b>

##### Semester II

S. No.	Course	L	T	P	Credits
1.	Business Environment	2	0	0	2
2.	Management Accounting	2	0	0	2
3.	Financial Management	3	0	0	3
4.	Corporate Communication	2	0	0	2
5.	Business Research Methods	2	0	0	2
6.	Human Resource Management	2	0	0	2
7.	Marketing Management II	2	0	0	2
8.	Operations Management	3	0	0	3
9.	Quantitative Techniques II (Operations Research)	2	0	0	2
10.	Strategic Management	3	0	0	3
	<b>Total</b>	<b>23</b>	<b>0</b>	<b>0</b>	<b>23</b>

### Semester III

S. No.	Course	L	T	P	Credits
1.	Evaluation of Summer Project	0	0	3	2
2.	Research Project	0	0	3	2
3.	Role and Realm of Values	2	0	0	2
4.	Personality Development*	2	0	0	*
5-9.	Electives	15	0	0	15
	<b>Total</b>	<b>19</b>	<b>0</b>	<b>6</b>	<b>21</b>

### Semester IV

S. No.	Course	L	T	P	Credits
1.	Entrepreneurship & Innovation	3	0	0	3
2.	Management Information System	2	0	0	2
3.	Buddhist Ethics and Civilizational Harmony (Open Elective)	2	0	0	2
4-8.	Electives	12	0	0	12
	<b>Total</b>	<b>19</b>	<b>0</b>	<b>0</b>	<b>19</b>

*\*The 'Personality Development' course is Non-credit course, with two hours of teaching every week, and the students have to pass the course with a 'Satisfactory Grade'*



**MBA Programme 2008-10 Batch**

**Semester II**

S. No.	Course	L	T	P	Credits
1.	Management Accounting	3	0	0	3
2.	Financial Management	3	0	0	3
3.	Human Resource Management	2	0	0	2
4.	Operations Management	3	0	0	3
5.	Business Research Methods	2	0	0	2
6.	Marketing Management II	2	0	0	2
7.	Strategic Management	3	0	0	3
8.	Corporate Communication	3	0	0	3
9.	Management Information Systems	2	0	0	2
	<b>Total</b>	<b>23</b>	<b>0</b>	<b>0</b>	<b>23</b>

**Semester III**

S. No.	Course	L	T	P	Credits
1.	Evaluation of Summer Project	0	0	3	2
2.	Research Project-I	0	0	3	2
3.	Role and Realm of Values	2	0	0	2
4.	Personality Development*	2	0	0	*
5.	Electives	16	0	0	16
	<b>Total</b>	<b>20</b>	<b>0</b>	<b>6</b>	<b>22</b>

**Semester IV**

S. No.	Course	L	T	P	Credits
1.	Entrepreneurship & Innovation	3	0	0	3
2.	Business Sustainability: Greening Strategies and Carbon Markets	2	0	0	2
3.	Research Project-II	0	0	3	2
4.	Buddhist Ethics and Civilizational Harmony (Open Elective)	2	0	0	2
5.	Electives	10	0	0	10
	<b>Total</b>	<b>17</b>	<b>0</b>	<b>3</b>	<b>19</b>

*\*The 'Personality Development' course is Non-credit course, with two hours of teaching every week, and the students have to pass the course with a 'Satisfactory Grade'*

**B. M. Tech - ICT****M. Tech – ICT (Engineering graduates) of 4 Semesters****SEMESTER I****(For specialization in Software Engineering and Intelligent System)**

S. No.	Courses	L	T	P	Credits
1	Objected-Oriented Programming	3	0	0	3
2	Advanced Computer Organization and Architecture	3	0	0	3
3	Data Base Management System	3	0	0	3
4	Technical Communication	1	0	0	1
5	Information Security	3	0	0	3
6	Advanced Computer Network	3	0	0	3
7	Artificial Intelligence	3	0	0	3
8	Object-Oriented Programming Lab	0	0	4	2
9	Advanced Computer Network Lab	0	0	4	2
	<b>Total</b>	<b>19</b>	<b>0</b>	<b>8</b>	<b>23</b>

**(For specialization in Wireless Communication & Networks and VLSI Design)**

S. No.	Courses	L	T	P	Credits
1	Objected-Oriented Programming	3	0	0	3
2	Advanced Computer Organization and Architecture	3	0	0	3
3	Technical Communication	1	0	0	1
4	Information Security	3	0	0	3
5	Digital Communication System	3	0	0	3
7	Advanced Computer Network	3	0	0	3
6	Artificial Intelligence	3	0	0	3
8	Object-Oriented Programming Lab	0	0	4	2
9	Advanced Computer Network Lab	0	0	4	2
	<b>Total</b>	<b>19</b>	<b>0</b>	<b>8</b>	<b>23</b>

**SEMESTER – II**

S. No.	Courses	L	T	P	Credits
1	Electives of Main Specialization (04 Courses)	12	0	0	12
2	Elective of Other Specialization (01 Course)	3	0	0	3
3	Role and Realm of Values	2	0	0	2
4	Seminar	0	0	4	2

5	Lab-I*	0	0	4	2
6	Lab-II*	0	0	4	2
	<b>Total</b>	<b>17</b>	<b>0</b>	<b>12</b>	<b>23</b>

\* Details of lab-I and Lab-II for different specializations are given below

LABS	
<b>SOFTWARE ENGINEERING</b>	
Lab-I	Open Source Software Systems
Lab-II	Software Testing and Tools
<b>INTELLIGENT SYSTEM</b>	
Lab-I	Logic and AI Programming Languages
Lab-II	Natural Language Processing
<b>WIRELESS COMMUNICATION AND NETWORKS</b>	
Lab-I	Networking Protocols
Lab-II	QoS in Networks
<b>VLSI DESIGN</b>	
Lab-I	Digital VLSI Design
Lab-II	HDL and Digital Systems Design

#### SEMESTER – III

S. No.	Courses	L	T	P	Credits
1	Buddhist Ethics and Civilizational Harmony	2	0	0	2
2	Electives of Main Specialization (04 Courses)	12	0	0	12
3	Elective of Other Specialization (01 Course)	3	0	0	3
4	Research Methodologies	3	0	0	3
5	Dissertation-Part I	1*	0	4	3
	<b>Total</b>	<b>21</b>	<b>0</b>	<b>4</b>	<b>23</b>

\* This will not be a usual lecture session, but this is one to one interaction of each individual student with the concerned faculty member.

#### SEMESTER – IV

S. No.	Courses	L	T	P	Credits
1	Dissertation-Part II	0	0	38	19
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>38</b>	<b>19</b>

**Grand Total of Credits = 88**

**M. Tech – ICT (Science Graduates) of 7 Semesters**

**Common Courses**

**SEMESTER - I**

S. No.	Courses	L	T	P	Credits
1	Engineering Mathematics	3	0	0	3
2	Basic Electronics	3	0	0	3
3	Fundamentals of Electrical Engineering	3	0	0	3
4	Discrete Structure	3	2	0	4
5	Problem Solving using Java	3	2	0	4
6	Technical Communication	2	0	0	2
7	Basic Electronics Lab	0	0	4	2
8	Problem Solving using Java Lab	0	0	4	2
	<b>Total</b>	<b>17</b>	<b>4</b>	<b>8</b>	<b>23</b>

**SEMESTER – II**

S. No.	Courses	L	T	P	Credits
1	Internet Technology	2	0	0	2
2	Data Structures & Algorithms	3	2	0	4
3	Analog and Digital Communication	3	2	0	4
4	Computer Organization & Architecture	3	0	0	3
5	Digital Electronics	2	0	0	2
6	Logic Design	2	0	0	2
7	Linear Circuits	2	0	0	2
8	Data Structures & Algorithms Lab	0	0	4	2
9	Logic Design Lab	0	0	4	2
	<b>Total</b>	<b>17</b>	<b>4</b>	<b>8</b>	<b>23</b>

**SEMESTER – III**

S. No.	Courses	L	T	P	Credits
1	Operating System	3	0	0	3
2	Data Base Management Systems	3	2	0	4
3	Computer Network	3	0	0	3
4	Software Engineering	3	0	0	3

5	Information Security	3	0	0	3
6	Artificial Intelligence	3	0	0	3
7	Data Base Management Systems Lab	0	0	4	2
8	Computer Network Lab	0	0	4	2
<b>Total</b>		<b>18</b>	<b>2</b>	<b>8</b>	<b>23</b>

**SEMESTER - IV**  
(For specialization in Software Engineering and Intelligent System)

S. No.	Courses	L	T	P	Credits
1	Advanced Java Programming	3	2	0	4
2	Data Mining and Warehousing	3	0	0	3
3	Design and Analysis of Algorithm	3	0	0	3
4	Object-Oriented Analysis and Design	3	2	0	4
5	Compiler Design	3	0	0	3
6	Role and Realm of Values	2	0	0	2
7	Advanced Java Programming Lab	0	0	4	2
8	Compiler Design Lab	0	0	4	2
<b>Total</b>		<b>17</b>	<b>4</b>	<b>8</b>	<b>23</b>

**(For specialization in Wireless Communication & Networks and VLSI Design)**

S. No.	Courses	L	T	P	Credits
1	Electromagnetic Theory	3	0	0	3
2	Information Theory	3	2	0	4
3	Digital Signal Processing	3	2	0	4
4	Automatic Control System	3	0	0	3
5	Introduction to VLSI Systems	3	0	0	3
6	Role and Realm of Values	2	0	0	2
7	Digital Signal Processing Lab	0	0	4	2
8	Introduction to VLSI Systems Lab	0	0	4	2
<b>Total</b>		<b>17</b>	<b>4</b>	<b>8</b>	<b>23</b>

**SEMESTER - V**

S. No.	Courses	L	T	P	Credits
1	Electives of Main Specialization (04 Courses)	12	0	0	12
2	Electives of Other Specialization (01 Courses)	3	0	0	3

3	Buddhist Ethics and Civilizational Harmony	2	0	0	2
4	Seminar	0	0	4	2
5	Lab-I*	0	0	4	2
	Lab-II*	0	0	4	2
	<b>Total</b>	<b>17</b>	<b>0</b>	<b>12</b>	<b>23</b>

LABS	
<b>SOFTWARE ENGINEERING</b>	
Lab-I	Open Source Software Systems
Lab-II	Software Testing and Tools
<b>INTELLIGENT SYSTEM</b>	
Lab-I	Logic and AI Programming Languages
Lab-II	Natural Language Processing
<b>WIRELESS COMMUNICATION AND NETWORKS</b>	
Lab-I	Networking Protocols
Lab-II	QoS in Networks
<b>VLSI DESIGN</b>	
Lab-I	Digital VLSI Design
Lab-II	HDL and Digital Systems Design

\* Details of lab-I and Lab-II for different specializations are given below

#### SEMESTER - VI

S. No.	Courses	L	T	P	Credits
1	Electives of Main Specialization (04 Courses)	12	0	0	12
2	Elective of Other Specialization (01 Course)	3	0	0	3
3	Research Methodologies	3	0	0	3
4	Dissertation-Part I	1*	0	4	3
	<b>Total</b>	<b>19</b>	<b>0</b>	<b>4</b>	<b>21</b>

\* This will not be a usual lecture session, but this is one to one interaction of each individual student with the concerned faculty member.

#### SEMESTER - VII

S. No.	Courses	L	T	P	Credits
1	Dissertation-Part II	0	0	38	19
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>38</b>	<b>19</b>

**Grand Total of Credits = 155**

**TENTATIVE LIST OF ELECTIVES**

**SOFTWARE ENGINEERING**

S. No.	Courses	L	T	P	Credits
1	Software Project Management	3	0	0	3
2	Object-Oriented Software Engineering	3	0	0	3
3	Open Source Software Systems	3	0	0	3
4	Component-Based Software Engineering	3	0	0	3
5	Software Quality Assurance and Engineering	3	0	0	3
6	Software Testing and Tools	3	0	0	3
7	Aspect-Oriented Software Engineering	3	0	0	3
8	Software Reusability	3	0	0	3
9	Software Re-Engineering	3	0	0	3
10	Software Architecture and Design	3	0	0	3
11	Software Measurement and Estimation	3	0	0	3
12	Software Reliability and Fault Tolerant Systems	3	0	0	3
13	Software Maintenance	3	0	0	3
14	Software Agents	3	0	0	3

**INTELLIGENT SYSTEM**

S. No.	Courses	L	T	P	Credits
1	Logic and AI Programming Languages	3	0	0	3
2	Natural Language Processing	3	0	0	3
3	Soft Computing	3	0	0	3
4	Machine Translation and Learning	3	0	0	3
5	Speech Processing	3	0	0	3
6	Robotics	3	0	0	3
7	Neural Network	3	0	0	3
8	Pattern Matching	3	0	0	3
9	Expert System	3	0	0	3
10	Discourse Analysis and Natural Language Generation	3	0	0	3
11	Intelligent Information Retrieval	3	0	0	3
12	Data Mining in AI	3	0	0	3
13	Knowledge Engineering	3	0	0	3

**WIRELESS COMMUNICATION & NETWORKS**

S. No.	Courses	L	T	P	Credits
1	Networking Protocols	3	0	0	3
2	Wireless Telecom Networks	3	0	0	3
3	QoS in Networks	3	0	0	3
4	Ad-Hoc Wireless Networks	3	0	0	3
5	Broadband Wireless Networks	3	0	0	3
6	Security in Wireless Networks	3	0	0	3
7	Microwave Techniques	3	0	0	3
8	Advanced RF Engineering	3	0	0	3
9	Smart Antenna System	3	0	0	3
10	Sensor Network	3	0	0	3
11	Mobile Computing	3	0	0	3
12	Distributed systems	3	0	0	3
13	Network Programming	3	0	0	3
14	Discrete Simulation and Modeling	3	0	0	3

**VLSI DESIGN**

S. No.	Courses	L	T	P	Credits
1	VLSI Technology	3	0	0	3
2	Digital VLSI Design	3	0	0	3
3	Analog Integrated Circuits	3	0	0	3
4	HDL and Design of Digital Systems	3	0	0	3
5	VLSI Physical Design Tools	3	0	0	3
6	Embedded System Design	3	0	0	3
7	Test and Verification of VLSI circuits	3	0	0	3
8	ASIC/SOC CAD Tools	3	0	0	3
9	Advanced HDL (prototyping with FPGA)	3	0	0	3
10	Advanced Digital VLSI Design	3	0	0	3
11	Advanced Analog VLSI Design	3	0	0	3
12	RF Design	3	0	0	3
13	Design of Semiconductor Memories	3	0	0	3
14	VLSI Algorithms	3	0	0	3

*'Open Elective' means a Course(s) which can be taken from other Schools of the Gautam Buddha University.*





**C. M. Tech (Biotechnology)**

**Common Courses**

**Semester 1**

S.No.	Course	L	T	P	Credits
<b>THEORY</b>					
1.	Foundation course : Remedial Biology / Remedial Mathematics	3	0	-	3
2.	Bio-instrumentation and Analytical Techniques	4	0	-	4
3.	Information Technology for Biologists	3	0	-	3
4.	Introduction to Biostatistics	3	0	-	3
5.	Introductory Bioinformatics	3	2	-	4
6.	Fundamentals of Genetic Engineering	3	0	-	3
<b>PRACTICAL</b>					
7.	Bioinstrumentation and Analytical Techniques Lab	-	-	2	1
8.	Information Technology for Biologists Lab	-	-	2	1
9.	Introductory Bioinformatics Lab	-	-	2	1
	<b>Total</b>	<b>19</b>	<b>2</b>	<b>6</b>	<b>23</b>

**Semester 2**

S.No.	Course	L	T	P	Credits
<b>THEORY</b>					
1.	Cell Biology and Genetics	4	0	-	4
2.	Principles of Physiology	3	0	-	3
3.	Principles of Molecular Biology	3	0	-	3
4.	Principles of Biochemistry	3	0	-	3
5.	Microbiology and Microbial system	3	0	-	3
6.	Immunology: Principles and Application	2	0	-	2
7.	Principles of Management & Entrepreneurship	2	0	-	2
<b>PRACTICAL</b>					
8.	Molecular Biology lab	-	-	4	2
9.	Cell Biology & Biochemistry lab	-	-	2	1
10.	Microbiology and Immunology lab	-	-	2	1
	<b>Total</b>	<b>20</b>	<b>0</b>	<b>8</b>	<b>24</b>

### Semester 3

S.No.	Course	L	T	P	Credits
1.	Animal and Plant Biotechnology	4	0	-	4
2.	Microbial Biotechnology	3	0	-	3
3.	Nano-Biotechnology	2	0	-	2
4.	Genetic engineering and its application	2	0	-	2
5.	Data structure & Database Management system	2	0	-	2
6.	Computational Biology-I	2	2	-	3
7.	Role and Realm of Values	2	0	-	2
7.	Tissue culture lab	-	-	4	2
8.	Microbial Biotechnology lab	-	-	4	2
9.	Computational Biology-I lab	-	-	2	1
	<b>Total</b>	<b>17</b>	<b>2</b>	<b>10</b>	<b>23</b>

### Semester 4

S.No.	Course	L	T	P	Credits
<b>THEORY</b>					
1.	Industrial Biotechnology	3	0	-	3
2.	Fermentation Technology	2	0	-	2
3.	Food Biotechnology	3	0	-	3
4.	Genomics and Proteomics	2	2	-	3
5.	Regulation, Ethics and Patenting of Biotechnology	2	0	-	2
6.	Buddhist Ethics and Civilizational Harmony	2	0	-	2
<b>PRACTICAL</b>					
7.	Industrial Biotechnology & Fermentation lab	-	-	4	2
8.	Genomics and Proteomics lab	-	-	4	2
<b>DISSERTATION /SEMINAR</b>					
9.	Minor Dissertation	-	-	6	3
10.	Seminar	-	-	4	2
	<b>Total</b>	<b>14</b>	<b>2</b>	<b>18</b>	<b>24</b>

**M.Tech. Biotechnology (Specialization in Genetic Engineering)**

**Semester 5**

S.No.	Course	L	T	P	Credits
<b>THEORY PAPER</b>					
1.	Organization & Structure of Genome	3	-	-	3
2.	Gene Mapping & Sequencing of Genome	4	0	-	3
3.	Functional Genomics	3	2	-	4
4.	DNA-finger Printing & Forensic Analysis	3	-	-	3
<b>ELECTIVE PAPER (ANY ONE)</b>		3	-	-	3
5.	Therapeutic Agents & its Application	-	-	-	-
6.	Mutagenesis & Interference	-	-	-	-
7.	Molecular Probe, Hybridization & Diagnostics	-	-	-	-
<b>PRACTICAL</b>					
8.	Genetic Engineering Lab	-	-	4	2
9.	Functional Genomics Lab	-	-	4	2
<b>SEMINAR</b>					
10.	Seminar	-	-	3	2
	<b>Total</b>	<b>16</b>	<b>2</b>	<b>11</b>	<b>22</b>

**Semester 6**

S.No.	Course	L	T	P	Credits
<b>THEORY PAPER</b>					
1.	Gene Targeting & Antisense Technology	3	0	-	3
2.	Protein & Biotechnology Products	4	0	-	4
3.	Genetic Manipulation for Crop Improvement	4	0	-	4
4.	Transgenic Animals	3	0	-	3
<b>ELECTIVE PAPER (ANY ONE)</b>		3	-	-	3
5.	Environmental Biotechnology	-	-	-	-
6.	Fuel Technology	-	-	-	-
7.	Human Gene Therapy	-	-	-	-
8.	Drug Designing & Development	-	-	-	-
<b>PRACTICAL</b>					

9.	Biotechnology Applications Lab	-	-	8	4
<b>SEMINAR</b>					
	Seminar	-	-	3	2
	<b>Total</b>	<b>17</b>	<b>0</b>	<b>11</b>	<b>23</b>

### Semester 7

S.No.	Course	L	T	P	Credits
<b>MAJOR DISSERTATION</b>					
1.	Project work and Work defense	0	0	32	16
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>32</b>	<b>16</b>

## M. Tech. Biotechnology (Specialization in BIOINFORMATICS)

### Semester 5

S.No.	Course	L	T	P	Credits
<b>THEORY PAPER</b>					
1.	Computational Biology-II	3	-	-	2
2.	Bioinformatics Algorithms	3	-	-	3
3.	Database Systems-SQL &PL/SQL	3	-	-	2
4.	Statistical Methods in Bioinformatics	3	-	-	3
<b>ELECTIVE PAPER (ANY ONE)</b>		<b>3</b>	<b>-</b>	<b>-</b>	<b>3</b>
5.	Programming with Visual Basic .Net	-	-	-	
6.	Programming with Java	-	-	-	
7.	Programming with Python	-	-	-	
<b>PRACTICAL</b>					
8.	Computational Biology lab	-	-	4	2
9.	Bioinformatics Algorithms lab	-	-	4	2
10.	Database Systems-SQL &PL/SQL lab	-	-	4	2
<b>ELECTIVE PAPER LAB (ANY ONE)</b>		<b>-</b>	<b>-</b>	<b>4</b>	<b>2</b>
11.	Programming with Visual Basic .Net Lab	-	-	-	
12.	Programming with Java Lab	-	-	-	
13.	Programming with Python Lab	-	-	-	

SEMINAR					
	Seminar	-	-	3	2
	<b>Total</b>	<b>15</b>	<b>0</b>	<b>19</b>	<b>23</b>

### Semester 6

S.No.	Course	L	T	P	Credits
<b>THEORY PAPER</b>					
1.	Molecular Modelling and Drug design	3	-	-	3
2.	Data Analysis in Microarray	3	-	-	2
3.	Computational Genomics	3	-	-	3
4.	Systems Biology	3			3
<b>ELECTIVE PAPER (ANY ONE)</b>		3	-	-	3
5.	Clinical Data Management	-	-	-	
6.	Cheminformatics & Pharmacoinformatics	-	-	-	
7.	Neural Networks				
<b>PRACTICAL</b>					
8.	Molecular Modeling and Drug design Lab	-	-	4	2
9.	Data Analysis in Microarray Lab	-	-	4	2
10.	Computational Genomics Lab	-	-	4	2
<b>DISSERTATION /SEMINAR</b>					
	Seminar	-	-	3	2
	<b>Total</b>	<b>15</b>	<b>0</b>	<b>15</b>	<b>22</b>

### Semester 7

S.No.	Course	L	T	P	Credits
<b>MAJOR DISSERTATION</b>					
1.	Project work and Work defense	0	0	32	16
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>32</b>	<b>16</b>

## **Annexure II**

### **Amended Clause 5 of Ordinances**

#### **5. ACADEMIC PROGRAMMES**

**5.1** Application form for admission to various courses offered by the University shall be as prescribed by the 'Academic Council' of the University from time to time.

**5.2** All courses of study leading to award of respective Degrees/Diplomas shall be conducted by the Schools/Departments/Centres established by the University.

#### **5.3 ELIGIBILITY FOR ADMISSION:**

The eligibility criteria for admission to various courses offered by the University in each year shall be as approved by the Dean of concerned School or any other body authorized for the purpose.

#### **5.4 COURSES OF STUDY AND FRAMING OF THE SYLLABI:**

The courses in a subject of study shall be designed by the concerned faculty members of School, which shall be approved by Board of Studies of the concerned School

#### **5.5 EVALUATION OF ACADEMIC PERFORMANCE**

- i. The University believes and practices system of continuous assessment of academic performance of students in each course throughout a programme.
- ii. Mid-semester and End-semester examinations will normally form two compulsory components of performance evaluation in a course. In addition, the course coordinator may take into account the following components for evaluation:
  - (a) Quizzes (announced or unannounced)
  - (b) Project assignments
  - (c) Class presentations or term papers
  - (d) Oral examination including hands-on projects/ exercises
  - (e) Class participation
  - (f) Any other relevant segment
- iii. The weightage for mid-semester and end-semester tests will be 20% and 40% respectively; the distribution of the remaining 40% will be decided by the Course Coordinator.
- iv. Notwithstanding anything stated above, evaluation scheme of each course will be approved by the Dean of the concerned School on recommendation of the Board of Studies of that School who can allow any deviation from above stated scheme.

## 5.6 GRADING SYSTEM

The grade awarded to a student in any particular course will be based on his/her cumulative performance in all components of assessment as decided by the Course Coordinator. The letter grades that can be awarded and their equivalent grade points are listed below:

Range of Marks	Letter Grade	Points
>90	A+	10
81-90	A	9
71-80	B+	8
61-70	B	7
51-60	C+	6
41-50	C	5
31-40	D	4
21-30	E	2
<21	F	0

Following points need to be kept in mind while assigning grades.

- i. The Course Coordinator will ensure that Grades awarded in a course fit Normal Distribution.
- ii. A student getting 'F' grade in a particular course will have to repeat the course in next Academic Year.
- iii. In case, due to some reasons, the course, in which a student gets 'F' grade, is not offered in the next academic year, the student will be suggested to take a related course of equivalent credit(s).
- iv. A student getting 'E' grade in a particular course will have to carry that course as '**Back Course**' and will have to reappear in the examination (Back paper) to improve his/her grade.
- v. Back paper would be of 60 marks and will include the weightage of both Mid-Semester & End-Semester Examinations.
- vi. For the student of final semester a special examination may be conducted by the concerned teacher after the completion of Semester/Year.

### 'I' Grade

This refers to an '**Incomplete**' grade which is required to be converted into a regular grade later. 'I' grade may be awarded to a student if she/he has not fulfilled all the requirements for the course on account of extraordinary circumstances subject to having 60% attendance in classes. The concerned Course Coordinator should be convinced about the extraordinary



circumstances and should certify the attendance record before this rarely used option to award 'I' grade is recommended to the competent authority.

### **5.7 RULE FOR COMPUTING SGPA/CGPA**

The Semester Grade Point Average (SGPA) will be calculated by computing the sum of grade points in respective courses multiplied by their respective credits and dividing it by the total credits for all courses in that Semester.

Similarly, Cumulative Grade Point Average (CGPA) will be calculated at the end of each Semester as a composite index of academic performance of the student up to that stage in the programme.

### **5.8 REQUIREMENTS FOR PROMOTION TO NEXT SEMESTER**

- i. A student will be promoted to next Semester within one academic year provided he/she has NOT scored 'E/F grades' in more than one third of courses taken in that Semester.
- ii. A student will be promoted to next academic year provided he/she meets all the conditions mentioned below:
  - a. He/she has obtained minimum of 4.00 CGPA at the end of respective year
  - b. NOT scored 'E/F grades' in more than one third of courses taken in the immediately preceding semester.
- iii. Notwithstanding anything in 10.i and 10.ii, the student will be required to clear the subject(s) in which he/she has got 'F' grades, as back paper(s) in subsequent semester.
- iv. In case the student has been promoted to next semester/year before announcement of results for the previous semester/year all such promotions will be provisional and subject to meeting the above mentioned criteria for promotion.

### **5.9 EXAMINATION**

- i. The schedule for mid-semester and end-semester examinations will be announced by the Programme Office/Examination Cell
- ii. The dates for other components of evaluation will be decided by the Course Coordinators of the respective courses.
- iii. The detailed Examination Guidelines are given below:

#### **Examination Guidelines**

- i. All students must occupy their respective seats as per the seating plan. Any student found shuffling the seating arrangement, or not occupying his/her seat at the scheduled commencement time for the examination may be disallowed from the examination.



- ii. Door of the Examination Hall will be closed **five** minutes before the commencement of the examination and the late comers will be allowed after 15 minutes from the time of reporting.
- iii. Students must put their signatures and the serial number(s) of the answer books/ supplementary sheets on the attendance sheet.
- iv. Students are not permitted to use pencils for writing answers in examinations.
- v. Students are not permitted to carry any of their mobile phones/bags/folders/notes into the examination hall. All such materials, other than those specified by the course coordinator to the Programme/Examination office, must be kept in the separate room near the examination halls, before the start of the examination.
- vi. No answers books(s) or question paper(s) will be issued to any student as long as he/she is in possession of any book/ notes/ bags etc. however, with the permission of the course coordinator concerned, prescribed books are allowed to be brought in for an open book examination. Bringing any other book(s) (for open book examination) will also be considered as adopting unfair means.
- vii. Ordinarily no student would be permitted to temporarily leave the examination hall while the examination is in progress. Permission to temporarily leave the hall may be granted in exceptional circumstances.
- viii. No student shall be permitted temporary absence from the examination hall during the first 45 minutes of an examination.
- ix. No student shall be permitted temporary absence from the examination hall during the last 15 minutes of an examination.
- x. Not more than one student shall be permitted temporary absence from the examination hall at any given time.
- xi. The period of temporary absence from the hall must be recorded in the sheet provided in the examination hall and must not exceed 5 minutes.
- xii. Any student finishing the examination early and leaving the examination room early must leave the Examination Hall immediately. Silence must be maintained when arriving for or leaving from an examination hall.
- xiii. When the examination is in progress, if any student is found discussing anything with another student, either in or outside the examination hall, the same will also be treated as adopting unfair means. Strict vigilance and random checking will be done in this regard, and severe punishment will be imposed whenever a student is found to be violating these regulations.
- xiv. Exchange of calculators, mathematical and other tables, charts etc., is not permitted during examinations.
- xv. Course coordinators/Invigilators have been authorized to summarily disqualify any student who is found to violate any of these instructions of resorting to any unfair means.
- xvi. Use of unfair means in examinations will be treated as a serious disciplinary offence and the student will be debarred from writing the exam and would have to repeat the course in the following academic year. Such a student will not be eligible for promotion/placement/award of degree until successful completion of the examination

in the following academic year. If the same student is found to be using unfair means in examination again, the student's registration in the programme shall be terminated and the student will be expelled from the programme.

- xvii. Copying, or collaborating in copying, in a Quiz/assignment/project will be treated as a disciplinary offence. The penalty for such an offence will be decided by the concerned Course Coordinator in consultation with the Dean of the concerned School.
- xviii. Under no circumstances, the answer books are to be taken out of the classrooms/examination halls. Handling in the answer books will be the sole responsibility of the student.
- xix. There will not be any compensatory examination on account of absence from mid-semester and end-semester examinations on any ground. Thus, any absentee will be awarded 0 (zero) marks on account of absence in any component of the evaluation scheme. Students on medical and authorized leave may, however, be given an opportunity to repeat course(s) in the next academic session, or appear in a special examination if so permitted by the competent authority. The School will decide all such cases on case to case basis at the end of the academic term or session.
- xx. The concerned faculty members will show evaluated **Mid-semester examination answer books/Assignments/Project Reports/Quizzes** to the students directly or through Programme Office. The Programme Office will show the **End-semester examination answer books** in the following semester. Clarification on evaluation of examinations can be directly sought from the faculty concerned. Requests for re-evaluation of answer books are strictly prohibited. Requests for seeing evaluated answer books shall not be entertained after one full semester has elapsed since the examination and in no case after the Convocation.

#### 5.10 RE-EXAMINATION (BACK PAPER)

- i. Students who have obtained a 'E' grade in a particular course will have to appear for re-examination. The same rule applies to a student absent for a major examination (mid-semester and end-semester), provided that prior permission from the concerned Dean of School has been obtained for not appearing in the major examination.
- ii. Back paper would be of 60 marks and would include the weightage of both Mid-semester & End-semester exams.
- iii. The Programme Office/ Examination Cell will make the necessary arrangements for conducting re-examinations.
- iv. Re-examination fees is Rs. 1000/ for each exam.
- v. Normally, there will be no make-up arrangements for quizzes, presentations, other tests, etc. However, a Course Coordinator may decide to have make-up arrangements for missed quizzes, presentations and tests. The Course Coordinator's decision will be final in this matter.
- vi. There will be no provision for re-examination in case of Summer Project report.



## 5.11 ATTENDANCE IN CLASS

- i. Attendance is compulsory in all courses and **100% attendance is desired**. However maximum 25% relaxation can be given in case of any unforeseen emergency. Course coordinator may assign suitable weightage to class attendance in the evaluation scheme of the course. Course coordinator may also take into account unauthorized absence, while evaluating the performance in a course. The penalty for shortage of attendance in all programme is listed as under:

***Those who have attendance below 75% in a course will not be allowed to appear in the End-semester Examination and will have to repeat the course in the next academic year.***

- ii. In specific circumstances the attendance requirement for appearing in the End-Semester examination may further be relaxed by additional 15% on 'Special Grounds'. Such relaxation will be granted by the Vice-Chancellor on specific recommendation of the Dean of the concerned School.
- iii. In all such courses where a student's attendance is below 75% after completion of the course, 'F' grade should be awarded in these courses.
- iv. The student who obtains 'F' grade in particular course(s) will be required to repeat the course(s) in the next academic year.
- v. In case, due to some reasons, the course, in which a student gets 'F' grade, is not offered in the next academic year, the student will be suggested to take a related course of equivalent credit(s).
- vi. Detailed Guidelines for marking attendance in Class are given below:

### **Guidelines for Marking Attendance in a Class**

- i. Attendance will be taken for every session whether it is lecture or tutorial class of any kind prescribed in the University time table.
- ii. Coming late to the University and reporting late to the class is a serious breach of discipline. Students will not be permitted to leave or come late to the class under any pretext such as paying fees or library transaction, etc. Time fixed for such purposes during office hours must be adhered strictly. In any case, no student is allowed to leave the classroom without permission of the teacher.
- iii. No student(s) shall in any manner prevent any other student or students from attending his/ her/ their classes or doing his/her/ their lawful duty.
- iv. Exemption from attending classes will not be granted except for emergencies.
- v. No student shall be absent without prior application for leave.
- vi. If a student absents himself/herself from the classes for more than three days, the parent/guardian must write an explanatory letter giving reasons. If leave of absence is sought on grounds of sickness, medical certificate is necessary. This procedure should be adopted for absence from classes of even less than three days if it happens during the University Examinations.
- vii. Indifference to studies shall be considered violation of order and discipline. Absence from the tests, examinations, non-submission of exercise/assignment in time and

coming late to the classes without valid reasons, shall be considered indifference to studies.

- viii. Late entry in the class is not permitted. In case the faculty concerned does allow the student to enter in the class, no attendance will be credited.
- ix. If a student is continuously absent from the University for more than 10 days without notifying the Dean of the concerned School, his/her name will be struck off the rolls of the University.

#### **5.12 READMISSION**

A student may be allowed for re-admission with the next available batch provided he/she satisfies one of the following conditions:

- He/she is declared fail.
- He/she did not appear in a semester examinations or he/she was not granted permission to appear in the examinations.
- He/she is promoted with carry over subjects and he/she opted for readmission.

##### Readmission Rules

- Readmission in a class-year shall be allowed only once and a student shall not be allowed for readmission in more than two class years during the entire program.
- Maximum years that can be spent in a programme are  $n+2$  years, where  $n$  represents the normal programme duration.
- On readmission the Roll number of the student will remain the same and every Roll number will carry with it the year of admission.
- Student failing to earn yearly qualifying CGPA after taking readmission in any year shall be dropped out of the program.

#### **5.13 INTERNATIONAL EXCHANGE PROGRAMME: CREDIT REQUIREMENT**

Under the International Exchange programme the students who take up studies in foreign University/Institute for some specified period will have to do equivalent credit courses as in GBU for that period. The courses to be taken up by the students will be decided by GBU authorities in consultation with its counterpart in foreign University/Institute and the students will be required to do these courses, compulsorily. Normal conversion criteria as applicable will be used for converting the Credits from foreign University to GBU. In case, due to any reason, the number of courses taken up at foreign University/Institute are less than the credits to be done at GBU for the specified period, the student will have to take up project/guided courses at GBU, after return, to make up for the difference, under the supervision of faculty member as decided by the Dean of the concerned School.

Marks/grades obtained by a student in foreign University/Institute will not be considered for CGPA calculation at GBU. However, the student will have to clear/pass all the courses taken-up in the foreign University/Institute as per the norms of foreign University/Institute.

#### **5.14 FEE STRUCTURE**

Fee structure for various programmes will be decided by the Vice-Chancellor on recommendation of Deans Committee from time to time. The fee structure for the academic session 2009-10 is given below:



**Fee Structure for the Academic Session 2009-10**

S. No.	Item	Programme			
		MBA	M. Tech (Biotech)	M. Tech (ICT)	MSc (App Psy)
<b>Per Academic Session Fee</b>					
1	Tuition Fee	150000	40000	40000	24000
2	Library Fund	1000	1000	1000	1000
3	Computer Fund	1000	1000	1000	1000
4	Sports Fee	1000	1000	1000	1000
5	Students Activities Fund	14000	4000	4000	5000
6	Reading Material/Books	24000	2000	2000	2000
7	Knowledge Generation Fund	16000	4000	4000	3000
8	Laboratory Fee	-	4000	4000	-
9	Examination Fee	1000	1000	1000	1000
10	Group Medical Insurance	2000	2000	2000	2000
	<b>Total</b>	<b>210000</b>	<b>60000</b>	<b>60000</b>	<b>40000</b>
<b>One Time Fee</b>					
1	Registration Fee				
	Orientation Kit	3000	3000	3000	3000
	Industry Interface Fund	4000	4000	4000	4000
	Alumni Association Fund	1000	1000	1000	1000
	Social Responsibility Fund	1000	1000	1000	1000
	Convocation	1000	1000	1000	1000
	<b>Total</b>	<b>10000</b>	<b>10000</b>	<b>10000</b>	<b>10000</b>
	Caution Deposit (Refundable)	10000	10000	10000	10000
	<b>Total Fee</b>	<b>230000</b>	<b>80000</b>	<b>80000</b>	<b>60000</b>
	Hostel Charges	30000	30000	30000	30000
	<b>Grand Total</b>	<b>260000</b>	<b>110000</b>	<b>110000</b>	<b>90000</b>

### 5.15 LATE REGISTRATION/ LATE FEE

- i. The Dean of concerned School may allow a student to register for a programme within seven days of the prescribed Date of Registration with prior permission, with late fee of Rs. 1000. *However, if no prior permission is taken, the amount of late fee will be doubled.*
- ii. The Dean of concerned School may allow a student to deposit his/her fee within seven days of the prescribed Date of Registration with prior permission, with late fee of Rs. 1000.

### 5.16 REFUND OF FEE

If a student leaves the course before completion, he/she will get refund of fee as follows:

- i. Voluntary withdrawal from the programme (applicable at the start of the programme)
  - If a student decides to leave within 3 weeks of the start of the programme, fee amount paid (excluding registration) will be refunded after deduction of 20% of total fee
  - No refund will be made, under any circumstances, after three weeks from the date of registration except the refundable part of the fee
  - The Hostel charges will be refunded after deducting the amount calculated on pro rata basis
- ii. Withdrawal from the programme due to academic failure or any other reasons

If a student, on the basis of failure to meet the conditions for promotion to next Year or due to some emergent conditions, is not able to continue in the programme but has already paid fee for the ongoing academic year, refund policy will be as under:

- Full fee paid for the academic year will be refunded
- Caution money deposit will be refunded after the student has submitted 'No Dues' certificate from all concerned departments
- The Hostel charges will be refunded after deducting the amount calculated on pro rata basis