MINUTES OF 12th MEETING

OF

BOARD OF STUDIES (BOS)

DEPARTMENT OF COMPUTER ENGINEERING & APPLICATIONS

GLA UNIVERSITY
MATHURA
Established vide U.P. Act 21 of 2010.

JULY 14th, 2018

Minutes of the 12th BoS meeting
Department of Computer Engineering & Applications

GLAU/CEA/BOS_MoM/2018-19/01   18.07.2018

Members Present:

1. Prof. Kolin Paul, IIT Delhi	13. Mr. Rishi Agrawal	25. Mr. Samkit Jain
2. Dr. Vikram Goyal, IIIT Delhi	14. Ms. Aikta Arya	26. Mr. Vivek Kumar
3. Mr. Nitish Mittal, Wingify, Delhi	15. Ms. Shalini Agarwal	27. Mr. Subhash Agrawal
4. Mr. Atul Bansal, EC	16. Ms. Preetika Rani	28. Mr. Puneet Kansal
5. Prof. Anand Singh Jalal	17. Ms. RuchiraManke	29. Mr. Nishant Singh
6. Prof. Ashish Sharma	18. Mr. Akhilesh Kumar	
7. Prof.Diwakar Bhardwaj	19. Ms. Anupam Yadav	
8. Prof. Dilip Kumar Sharma	20. Ms. Rekha Rani	
9. Dr. Anant Ram	21. Ms. JagratiKulshretha	
10. Dr. Manas Kumar Mishra	22. Mr. Rahul Pradhan	
11. Dr. Ashish Sharma	23. Mr. Palash Jain	
12. Mr. Shashi Shekhar	24. Mr. Saurabh Anand	

The Chairman Board of Studies welcomed all the members and started proceedings of the tenth meeting of BoS in accordance with the Agenda note circulated earlier.

Agenda Item – 12.1: To confirm the minutes of the 11th BoS meeting
The minutes of the 11th BoS meeting held on July 31st, 2017 were implemented and enclosed as Annexure A

Agenda Item – 12.2: Action Taken Report (ATR)

The ATR based on the minutes of the Eleventh BoS were presented.

Agenda Item – 12.3: To consider inclusion of TWO new specializations i.e. Cyber Security and Forensics and Internet of Things (IoT) for B. Tech. (Computer Science &Engg.) and approve their course structure and syllabi.

The experts and members of BoS critically observed and approved the course structure and syllabi for TWO new specializations i.e. Cyber Security and Forensics and Internet of Things (IoT) are enclosed as Annexure B.

Agenda Item – 12.4: To consider and approve the courses offered by Department of CEA both at Undergraduate and Postgraduate level under Choice Based Credit System.
The experts and members of BoS thoroughly checked and appraised with new course structure and syllabi of different courses under CBCS system for the following courses:

- *B. Tech. Computer Science & Engineering (**Specialization in Cyber Security and Forensics**) - Annexure C*
- *B. Tech. Computer Science & Engineering (**Specialization in Internet of Things**) - Annexure C*
- *BCA - Annexure D*
- *MCA - Annexure E*

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- *M. Tech. Computer Science & Engineering - Annexure F*

The experts and members of BoS offered their suggestion to add Problem Solving Lab in M.Tech first year to improve programming skills of the students. The suggestion was incorporated.

Agenda Item – 12.5: To consider and approve renaming and restructuring of Object-Oriented Programming using C++ and Essentials of Information Technology

The experts made their observations and approved the syllabi for above subjects - enclosed as Annexure G.

Agenda Item – 12.6: To consider and approve revised syllabi for the BCA and MCA programmes.

All the members of BoS thoroughly checked and appraised the the feedback received from the various stakeholders (Faculty/Employer/Student/Alumni) and the revision/modification in syllabus of existing courses of various programmes is proposed as follows.

Programme	No. of Courses under consideration for revision	Name of the Courses under consideration for revision
BCA	12	- Programming Logic - C Programming Lab - Introduction of Logic Circuit and Digital Design - Data Structure using C - Data Structure using C Lab - Database Management System - Database Management System Lab - Programming Lab - Introduction to Python - Web Technology - Web Technology Lab - Computer Organization & Architecture
MCA	7	- Computer Programming - Fundamentals of Information Technology - Computer Programming Lab - Design and Analysis of Algorithm - Data Structure - Data Structure Lab - Software Engineering

The experts and members of BoS approved the same. The details of revised syllabi enclosed in Annexure H.

Agenda Item – 12.7: To consider and approve courses imparting employability/skill development/ entrepreneurship in the B.Tech (CSE), B.Tech (CCV), B.Tech (DA), BCA and MCA programmes.

The experts and members of BoS approved the same. The details enclosed in Annexure I.

Agenda Item – 12.8: To consider and approve introduction of new courses in the existing programmes.

Based on the feedback of various stakeholders (Faculty, Alumni, Corporate and Students) department present details of new courses to be introduced. After thorough discussion Board approved the same. The details enclosed in Annexure J.

Agenda Item – 12.9: To consider and approve courses recommended by Training & Development Department for B.Tech, MCA, BCA respectively.

Training & Development Department of the University recommended to get the syllabi of few courses approved in the Board of Studies Meeting of the department. Same was presented in front of the board. After due discussions, the board approved the same whose details are as follows:

Year & Semester	Code & Title of the Course
II Year, III Sem	BTDH 0301: Soft Skills - I
II Year, IV Sem	BTDH 0302: Soft Skills - II

Year & Semester	Code & Title of the Course
I Year, I Sem	MTDH 0301: Soft Skills - I
I Year, II Sem	MTDH 0302: Soft Skills - II

Year & Semester	Code & Title of the Course
I Year, I Sem	BCTH 0101: Soft Skills - I
I Year, II Sem	BCTH 0102: Soft Skills - II

Agenda Item – 12.10: Any other item with the permission of chair.
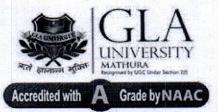*No item has been reported*

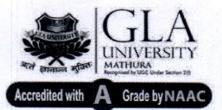The meeting ended with thanks to the Chair.

(A.S. Jalal)
Head, CEA

Copy to: Chairman, Academic Council
Director IET, GLA University, Mathura
Registrar
All the members of BoS

ANNEXURE-I

Department: Computer Engineering and Applications

List of courses having focus on employability/ entrepreneurship/ skill development offered by the Department (2018-19)

S.No.	Name of the Course	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1	Engineering Mathematics I	Employability/Skill Development
2	English Language Skills for Communication I	Employability/Skill Development
3	Basic Electrical Engineering	Employability
4	Electronics Engineering	Employability
5	Computer Programming	Employability
6	English Language Lab I	Employability/Skill Development
7	Electrical Engineering Lab	Employability
8	Electronics Lab I	Employability
9	Engineering Drawing Lab	Employability/Skill Development
10	Computer Programming Lab	Employability
11	Engineering Mathematics II	Employability/Skill Development
12	English Language Skills for Communication II	Employability/Skill Development
13	Basic Mechanical Engineering	Employability
14	Python Programming	Employability
15	English Language Lab II	Employability/Skill Development
16	Engineering Workshop Practice Lab	Employability/Skill Development
17	Python Programming Lab	Employability
18	Object Oriented Programming	Employability
19	Database Management System	Employability
20	Operating Systems	Employability
21	Computer Organization	Employability
22	Data Structures and Algorithms	Employability
23	Introduction to Microprocessors	Employability
24	Computer Networks	Employability
25	Software Engineering	Employability
26	Discrete Mathematics	Employability/Skill Development
27	Object Oriented Programming Lab	Employability
28	Database Management System Lab	Employability
29	Operating Systems Lab	Employability
30	Computer Organization Lab	Employability
31	Data Structures and Algorithms Lab	Employability
32	Microprocessors Lab	Employability
33	Soft Skills – I	Skill Development
34	Soft Skills – II	Skill Development

List of courses having focus on employability/ entrepreneurship/ skill development offered by the Department (2018-19)

35	Introduction to Cyber security	Entreprenuership
36	Disaster Management	Employability
37	Basic course in Entrepreneurship	Entreprenuership
38	Leadership and Organizational behaviour	Entreprenuership
39	English for professional purposes - I	Employability/Skill Development
40	English for professional purposes - II	Employability/Skill Development
41	Ethics & Values	Entreprenuership
42	Engineering Mathematics - III	Employability/Skill Development
43	Design and Analysis of Algorithms	Employability
44	Software Engineering	Employability
45	Theory of Automata and Formal Language	Employability
46	Web Technology	Employability
47	Computer Graphics	Employability
48	Design and Analysis of Algorithms Lab	Employability
49	Web Technology Lab	Employability
50	Mini Project-I	Employability/Skill Development
51	Soft Skills – III	Skill Development
52	Compiler Design	Employability
53	Optimization Techniques	Employability
54	Unix Operating System	Employability
55	Soft Computing	Employability
56	Industrial Management	Entreprenuership
57	Compiler Design Lab	Employability
58	Unix/Linux Lab	Employability
59	Mini Project-II	Employability/Skill Development
60	Soft Skills – IV	Skill Development
61	Digital Image Processing	Employability
62	Advanced Computer Architecture	Employability
63	Mobile Computing	Employability
64	Digital Image Processing Lab	Employability
65	Advanced Computer Architecture Lab	Employability
66	Industrial Training	Employability/Skill Development
67	Project – Part I	Employability/Skill Development
68	Advanced Computer Networks	Employability
69	Data Mining & Warehousing	Employability
70	Service Oriented Architecture	Employability

Department: Computer Engineering and Applications		
List of courses having focus on employability/ entrepreneurship/ skill development offered by the Department (2018-19)		
71	Embedded System	Employability
72	Information Retrieval System	Employability
73	Business Intelligence	Employability
74	Human Computer Interaction	Employability
75	IT in Business	Employability
76	Elements to Soft Computing	Employability
77	Cyber Security	Employability
78	Distributed System	Employability
79	Cryptography & Network Security	Employability
80	Distributed Systems Lab	Employability
81	Cryptography and Network Security Lab	Employability
82	Project – Part II	Employability/Skill Development
83	Data Compression	Employability
84	Advanced Concepts in Database Systems	Employability
85	Software Quality Engineering	Employability
86	Probability & Statistics	Employability
87	Big Data and Analytics	Employability
88	Distributed & Parallel Database	Employability
89	Software Ontology & Web Semantics	Employability
90	Natural Language Processing	Employability
91	Computational Geometry	Employability
92	Agile Software Development	Employability
93	Cloud Computing	Employability
94	Introduction to Open Source Software & Open Standards	Employability
95	Web Programming through PHP	Employability
96	Design and Analysis of Algorithm	Employability
97	Design and Analysis of Algorithm Lab	Employability
98	Compiler Design	Employability
99	Introduction to IT Infrastructure Landscape	Employability
100	Introduction to Virtualization and Cloud Computing	Employability
101	Cloud Computing Architecture & Deployment Models	Employability
102	Business Process Management	Employability
103	Cloud Management	Employability

Department: Computer Engineering and Applications		
List of courses having focus on employability/ entrepreneurship/ skill development offered by the Department (2018-19)		
104	Cloud Security	Employability
105	Virtualization Lab	Employability
106	Cloud Deployment Lab	Employability
107	Business Process Management Lab	Employability
108	Cloud Management Lab	Employability
109	Cloud Security Lab	Employability
110	Python Programming	Employability
111	Cloud Computing Architecture & Deployment Models	Employability
112	Python Programming Lab	Employability
113	Cloud Deployment Lab	Employability
114	Big Data and Analytics	Employability
115	Business Process Management	Employability
116	Cloud Management	Employability
117	Big Data and Analytics Lab	Employability
118	Cloud Management Lab	Employability
119	Introduction to Business Analytics	Employability
120	Applied Statistical Analysis	Employability
121	Data Mining and Predictive Modeling	Employability
122	Data Warehouse & Multidimensional Modeling	Employability
123	Business Intelligence	Employability
124	Hadoop & Big Data Analytics	Employability
125	Social, Web & Mobile Analytics	Employability
126	Applied Statistical Analysis Lab	Employability
127	Data Mining Lab	Employability
128	Data Warehouse Lab	Employability
129	Business Intelligence Lab	Employability
130	Hadoop & Big Data Analytics Lab	Employability
131	Social, Web & Mobile Analytics Lab	Employability
132	Data Mining and Predictive Modeling	Employability
133	Data Mining Lab	Employability
134	Data warehouse and multi dimensional modelling	Employability
135	Business Intelligence	Employability
136	Data warehouse Lab	Employability

Department: Computer Engineering and Applications

List of courses having focus on employability/ entrepreneurship/ skill development offered by the Department (2018-19)

137	Business Intelligence Lab	Employability
138	Information Security Fundamentals	Employability
139	IT Systems Security and Physical Security	Employability
140	IT Systems Security and Physical Security Lab	Employability
141	Introduction to Internet of Things	Employability
142	Sensor Technology & Instrumentation	Employability
143	Sensor Technology & Instrumentation Lab	Employability
144	Programming Logic Using 'C'	Employability
145	Fundamentals of Computer and IT	Employability
146	Introduction of Logical Circuit and Digital Design	Employability
147	Remedial English	Employability/Skill Development
148	Mathematics –I	Employability/Skill Development
149	Programming Lab	Employability
150	Information Technology Lab	Employability
151	Soft Skills – I	Skill Development
152	Data Structures using 'C'	Employability
153	Fundamental of Database Management System	Employability
154	Fundamentals of Operating Systems	Employability
155	Management Concepts & Practices	Employability
156	Mathematics –II	Employability/Skill Development
157	Data Structures using 'C' Lab	Employability
158	Database Management System Lab	Employability
159	Operating System Lab	Employability
160	English in Practice	Employability
161	Soft Skills – II	Skill Development
162	Object Oriented Programming	Employability
163	Computer Organization & Architecture	Employability
164	Discrete Structure & Graph Theory	Employability
165	Introduction to Python	Employability
166	Environmental Studies	Skill Development
167	Object Oriented Programming Lab	Employability
168	Python Programming Lab	Employability
169	Soft Skills & Personality Development	Skill Development

Department: Computer Engineering and Applications

List of courses having focus on employability/ entrepreneurship/ skill development offered by the Department (2018-19)

170	GUI based Programming Using Visual Basic	Employability
171	System Design & Software Engineering	Employability
172	Computer Networks & Communication	Employability
173	Programming in JAVA	Employability
174	Visual Basic Programming Lab	Employability
175	Programming in Java Lab	Employability
176	Mini Project I	Employability/Skill Development
177	Professional Communication & Behavioral Grooming	Employability/Skill Development/Entrepreneurship
178	Operations Research	Employability
179	Programming in Advanced Java	Employability
180	Web Technology	Employability
181	Design and Analysis of Algorithms	Employability
182	Operations Research	Employability
183	Advanced Java Lab	Employability
184	Web Technology Lab	Employability
185	.Net Framework using VB.Net	Employability
186	VB.Net Programming Lab	Employability
187	Project	Employability/Skill Development
188	Artificial Intelligence	Employability
189	Enterprise Resource Planning	Employability
190	Software Project Management	Employability
191	Introduction to Distributed System	Employability
192	Advanced Database Management System	Employability
193	Data Mining & Warehousing	Employability
194	Management Information System	Employability
195	Introduction to Big Data	Employability
196	Digital Marketing & Transformation	Employability
197	Digital Marketing Lab	Employability
198	Introduction to Cloud Computing	Employability
199	Software Testing	Employability
200	Introduction to Internet of Things	Employability
201	Cyber Security	Employability
202	Fundamentals of Information Technology	Employability
203	Computer Programming	Employability
204	Computer Organization	Employability

Department: Computer Engineering and Applications

List of courses having focus on employability/ entrepreneurship/ skill development offered by the Department (2018-19)

205	Discrete Mathematics	Employability/Skill Development
206	Theory of Automata & Formal Language	Employability
207	Introduction to Microprocessors	Employability
208	Object Oriented Programming	Employability
209	Data Structures	Employability
210	Database Management System	Employability
211	Operating Systems	Employability
212	Computer Networks	Employability
213	Software Engineering	Employability
214	Design and Analysis of Algorithm	Employability
215	Web Technology	Employability
216	Distributed Systems	Employability
217	Fundamentals of Information Technology Lab	Employability
218	Computer Programming Lab	Employability
219	Computer Organization Lab	Employability
220	Microprocessors Lab	Employability
221	Problem Solving Lab	Employability/Skill Development
222	Object Oriented Programming Lab	Employability
223	Data Structures Lab	Employability
224	Database Management System Lab	Employability
225	Operating System Lab	Employability
226	Web Technology Lab	Employability
227	Object Oriented Programming	Employability
228	Data Structures	Employability
229	Database Management System	Employability
230	Software Engineering	Employability
231	Operating System	Employability
232	Ethics & Values	Entreprenuership
233	Object Oriented Programming Lab	Employability
234	Data Structures Lab	Employability
235	Database Management System Lab	Employability
236	Soft Skills-I	Skill Development
237	Unix & Shell Programming	Employability
238	Design and Analysis of Algorithm	Employability
239	Computer Networks	Employability
240	Python Programming	Employability

Department: Computer Engineering and Applications

List of courses having focus on employability/ entrepreneurship/ skill development offered by the Department (2018-19)

241	Unix & Shell Programming Lab	Employability
242	Design and Analysis of Algorithm Lab	Employability
243	Python Programming Lab	Employability
244	Mini Project – II	Employability/Skill Development
245	Soft Skills – II	Skill Development
246	Information Retrieval System	Employability
247	Soft Computing	Employability
248	Digital Image Processing	Employability
249	Management Information System	Employability
250	Data Compression	Employability
251	E-Commerce	Employability
252	Service Oriented Architecture	Employability
253	Mobile Application Development	Employability
254	Web Technology	Employability
255	Distributed System	Employability
256	.Net framework using C#	Employability
257	Technical Writing	Skill Development
258	Web Technology Lab	Employability
259	.Net framework Lab	Employability
260	Mini Project – III	Employability/Skill Development
261	Seminar	Skill Development
262	Industrial Training	Employability/Skill Development
263	Data Mining & Warehousing	Employability
264	Cloud Computing	Employability
265	Mobile Computing	Employability
266	Agile Software Development	Employability
267	Cryptography & Network Security	Employability
268	Software Project Management	Employability
269	Artificial Intelligence	Employability
270	Business Intelligence	Employability
271	Soft Skills-I	Skill Development
272	Soft Skill-II	Skill Development
273	Theory of Computation	Employability
274	Software Engineering Methodologies	Employability
275	Advanced Concepts in Data Mining	Employability
276	Advanced Concepts in Networking	Employability

Department: Computer Engineering and Applications

List of courses having focus on employability/ entrepreneurship/ skill development offered by the Department (2018-19)

277	Probability and Stochastic Processes	Employability/Skill Development
278	Problem Solving Lab - I	Employability/Skill Development
279	Mobile Ad-hoc Networks	Employability
280	Intelligent Systems	Employability
281	Information Retrieval	Employability
282	Image Processing and Analysis	Employability
283	Design of Distributed Systems	Employability
284	Seminar-I	Skill Development
285	Seminar-II	Skill Development
286	Problem Solving Lab - II	Employability/Skill Development
287	Image Processing and Analysis Lab	Employability
288	Computer Vision	Employability
289	Wireless Sensor Networks	Employability
290	Software and Service Oriented Architecture	Employability
291	Pattern Recognition	Employability
292	High Performance Computing	Employability
293	Web Mining	Employability
294	Dissertation - I	Skill Development
295	Dissertation - II	Skill Development
296	Engineering Physics	Employability
297	Engineering Chemistry	Employability
298	Engineering Physics Lab	Employability
299	Engineering Chemistry Lab	Employability
300	Research Methodology	Employability/Skill Development