

School of Computer Science & IT
Uttarakhand Open University, Haldwani

Minutes of Meeting

Board of Studies meeting of School of Computer Science & IT was held at UOU Headquarter, Haldwani on 15/06/2019 at 11:00 am. The following expert committee were present:

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| 1. Prof. Durgesh Pant, Director -SCS&IT, UOU | Chairman <i>Dw</i> |
| 2. Prof. Manu Pratap Singh, Head-Comp. Sc., Dr. B.R.. Ambedkar University | Member |
| 3. Prof. K.S. Vaisla, Professor- CSE., BCT-KIT, Dwarahat | Member |
| 4. Dr. Jeetendra Pande, Assistant Professor- Comp.Sc., UOU | Member |
| 5. Mr. Balam Dafouti, Academic Associate, Dept. of Comp. Sc., UOU | Member |

The meeting started with the welcome address by Prof. Durgesh Pant, Director- School of CS & IT. Following recommendations were accepted and placed on record.

- The program structure of Certificate in e-governance and cyber security is as follows:

First Semester

S.No	Paper	Paper Code	Marks			Credits	Minimum Counseling Hours
			Theory	Assignment	Total		
1	Fundamentals of Information Security	CEGCS-01	60	40	100	4	12
2	Cyber Security Techniques	CEGCS - 02	60	40	100	4	12
3	Cyber attacks and counter measures: user perspective	CEGCS - 03	60	40	100	4	12
4	Information System	CEGCS - 04	60	40	100	4	12
5	Lab Cyber Security Fundamentals	CEGCS - P1	-	-	100	4	12

The fifth course of the above program has a nomenclature "Lab(Cyber Security Fundamentals) The program coordinator Dr. Jeetendra Pande informed the board about the details of the course contents. The University also desires to offer the above program in full-online mode and has subsequently applied for the permission of the above from the UGC/DEB. UGC have communicated observations of the screening committee vide letter number F. No:7-110(1)/2019(OL) dated:6/6/2019 to the University and informed that as per the clause 4.2 of the University Grants Commission (Online Courses or Programmes) Regulations-2018, the programs requiring Practical or laboratory courses as a curricular requirement shall not be considered for approval. Therefore, it is required to review the course structure and replace the lab course with a theory course with new nomenclature

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“Introduction to Cyber Security”. The members of the BOS agreed to the above suggestion and permitted to replace the Lab course with a new theory course “Introduction to Cyber Security (CEGCS-05)”. The course contents shall be the same as the contents of the “Introduction to Cyber Security” course which is offered as an elective foundation course at the UG level in the University. Also, the distribution of Internal and external marks are also revised as per the direction of the Academic Council e.g. 80(Theory) and 20(Assignment). Herein, the new program structure of Certificate in e-governance and Cyber Security program shall be the following:

First Semester

S. No.	Paper	Paper Code	Marks			Credits	Minimum Counseling Hours
			Theory	Assignment	Total		
1	Fundamentals of Information Security	CEGCS-01	80	20	100	4	12
2	Cyber Security Techniques	CEGCS - 02	80	20	100	4	12
3	Cyber attacks and counter measures: user perspective	CEGCS - 03	80	20	100	4	12
4	Information System	CEGCS - 04	80	20	100	4	12
5	Introduction to Cyber Security	CEGCS - 05	80	20	100	4	12

Since the Master of Science(Cyber Security) and PG Diploma in Cyber Security program follows modular approach and the course structure of the first semester of the above two programs is similar to the first semester of Certificate in e-governance and Cyber Security program, the above changes shall be applicable to Master of Science(Cyber Security) and PG Diploma in Cyber Security programs also.

2. The existing program structure of M.Sc.(Cyber Security) is as follows:

First Semester

S.No	Paper	Paper Code	Marks			Credits	Minimum Counseling Hours
			Theory	Assignment	Total		
1	Introduction to Computing	MIT(CS)-101	60	40	100	4	12
2	Introduction Digital Systems	MIT(CS)-102	60	40	100	4	12
3	Object Oriented Programming Using C++	MIT(CS)-103	60	40	100	4	12
4	Introduction to Operating System	MIT(CS)-104	60	40	100	4	12
5	Practical (C++)	MIT(CS)-P1	-	-	100	4	12

Second Semester

S.No	Paper	Paper Code	Marks			Credits	Minimum Counseling Hours
			Theory	Assignment	Total		
1	Data Structure	MIT(CS)-201	60	40	100	4	12
2	Introduction to DBMS	MIT(CS)-202	60	40	100	4	12
3	Introduction to Networking	MIT(CS)-203	60	40	100	4	12
4	Computer Organization and Architecture	MIT(CS)-204	60	40	100	4	12
5	Practical (DS & DBMS)	MIT(CS)-P2	-	-	100	4	12

Third Semester

S.No	Paper	Paper Code	Marks			Credits	Minimum Counseling Hours
			Theory	Assignment	Total		
1	Fundamentals of Information Security	MIT(CS)-301	60	40	100	4	12
2	Cyber Security Techniques	MIT(CS)-302	60	40	100	4	12
3	Cyber attacks and counter measures: user perspective	MIT(CS)-303	60	40	100	4	12
4	Information System	MIT(CS)-305	60	40	100	4	12
5	Lab Cyber Security Fundamentals	MIT(CS)-P3	-	-	100	4	12

Fourth Semester

S.No	Paper	Paper Code	Marks			Credits	Minimum Counseling Hours
			Theory	Assignment	Total		
1	Information Security Assurance : Framework, standards and Industry best practices	MIT(CS)-401	60	40	100	4	12
2	Digital Forensic	MIT(CS)-402	60	40	100	4	12
3	Advanced cyber security techniques	MIT(CS)-403	60	40	100	4	12
4	Computational Number Theory & Cryptography	MIT(CS)-404	60	40	100	4	12
5	Project + Viva	MIT(CS)-Project	-	-	150	4	12

The current course structure of PG Diploma in Cyber Security is given below:

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First Semester

S. No.	Paper	Paper Code	Marks			Credits	Minimum Counseling Hours
			Theory	Assignment	Total		
1	Fundamentals of Information Security	PGDCS-01	60	40	100	4	12
2	Cyber Security Techniques	PGDCS-02	60	40	100	4	12
3	Cyber attacks and counter measures: user perspective	PGDCS-03	60	40	100	4	12
4	Information System	PGDCS-04	60	40	100	4	12
5	Lab Cyber Security Fundamentals	PGDCS-P1	-	-	100	4	12

Second Semester

S.No	Paper	Paper Code	Marks			Credits	Minimum Counseling Hours
			Theory	Assignment	Total		
1	Information Security Assurance : Framework, standards and Industry best practices	PGDCS-05	60	40	100	4	12
2	Digital Forensic	PGDCS-06	60	40	100	4	12
3	Advanced Cyber Security Techniques	PGDCS-07	60	40	100	4	12
4	Computational Number Theory & Cryptography	PGDCS-08	60	40	100	4	12
5	Project	PGDCS-Project	-	-	150	4	12

All the papers of M.Sc.(Cyber Security) II year(III and IV Sem.) are same as PG Diploma in Cyber Security I year(I and II Sem.). In order to facilitate the lateral entry to II year in the M.Sc.(Cyber Security) program to all the candidates who have completed PG Diploma in Cyber Security, the following restructuring of the M.S.(Cyber Security) program is recommended by the BOS. Also, the distribution of Internal and external marks are also revised as per the direction of the Academic Council to 80(Theory) and 20(Assignment).

First Semester

S.No	Paper	Paper Code	Marks			Credits	Minimum Counseling Hours
			Theory	Assignment	Total		
1	Fundamentals of Information Security	MIT(CS)-101	80	20	100	4	12
2	Cyber Security Techniques	MIT (CS)-102	80	20	100	4	12
3	Cyber attacks and counter measures: user	MIT (CS)-	80	20	100	4	12

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4	Information System	MIT (CS)-105	80	20	100	4	12
5	Introduction to Cyber Security	MIT (CS)-106	80	20	100	4	12

Second Semester

S.No	Paper	Paper Code	Marks			Credits	Minimum Counseling Hours
			Theory	Assignment	Total		
1	Information Security Assurance : Framework, standards and Industry best practices	MIT (CS)-201	80	20	100	4	12
2	Digital Forensic	MIT (CS)-202	80	20	100	4	12
3	Advanced cyber security techniques	MIT (CS)-203	80	20	100	4	12
4	Computational Number Theory & Cryptography	MIT (CS)-204	80	20	100	4	12
5	Project + Viva	MIT (CS)-Project	-	-	150	4	12

Third Semester

S.No	Paper	Paper Code	Marks			Credits	Minimum Counseling Hours
			Theory	Assignment	Total		
1	Introduction to Computing	MIT (CS)-301	80	20	100	4	12
2	Introduction Digital Systems	MIT (CS)-302	80	20	100	4	12
3	Object Oriented Programming Using C++	MIT (CS)-303	80	20	100	4	12
4	Introduction to Operating System	MIT (CS)-304	80	20	100	4	12
5	Practical (C++)	MIT (CS)-P1	-	-	100	4	12

Forth Semester

S.No	Paper	Paper Code	Marks			Credits	Minimum Counseling Hours
			Theory	Assignment	Total		
1	Data Structure	MIT (CS)-401	80	20	100	4	12
2	Introduction to DBMS	MIT (CS)-402	80	20	100	4	12
3	Introduction to Networking	MSIT (CS)-403	80	20	100	4	12
4	Computer Organization and Architecture	MIT (CS)-404	80	20	100	4	12

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5	Practical (DS & DBMS)	MIT (CS)-P2	-	-	100	4	12
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3. The Government of India has notified UGC(Online Program or Course) Regulation , 2018 through its Gazette notification dated 4 July, 2018. Uttarakhand Open University has developed its e-learning platform [learning.uou.ac.in] which contains MOOCs on various courses on computer science. These courses are offered as non-credit, self –paced free online courses since last one year. School of Computer Science & IT desires to offer these courses through online mode now. In order to apply for the approval of offering these programs under online mode to UGC/DEB, as per the clause 5.2.1, the approval of the statutory bodies is required to offer the course in online mode. The portal and existing MOOCs available on the portal are demonstrated to the members. The BOS gave its consent to offer Certificate in e-governance and Cyber Security and PG Diploma in Cyber Security in full-fledged online mode. However, these programs shall be offered in online mode only after obtaining the permission from the UGC/DEB.
4. Currently Lateral entry to MCA is given following the criteria mentioned below:
- Lateral Entry: MCA IIIrd SEM, A Level from DOEACC with Graduation, PGDCA[Following the modular structure]
 - MCA Vth Semester: M.Sc.(IT/CS)[Following the modular structure]

MCA is a professional program which comes within the jurisdiction of AICTE. The Norms for Duration, Entry Level Qualifications and Statutory Reservations for the Technical Programmes are defined in the Appendix 1(Page 94) for the full time program. As per the clause 1.4

S.No.	Program	Duration	Eligibility
xv	MCA (Lateral Entry to Second year)	2 years	<ol style="list-style-type: none"> Passed in BCA, B.Sc. (IT/ Computer Science) with Mathematics as a Course at 10+2 level or at the Graduation Level. Obtained at least 50% marks (45% in case of candidates belonging to reserved category) in the qualifying Examination.

Hence, it is recommended to adopt the above norms for lateral entry to MCA III Semester in addition to existing lateral entry norms mentioned at 4(a) and 4(b). It is also clarified that PGDCA should be from UGC recognized University/Institution in order to qualify for lateral entry to MCA IIInd year.

5. As per the UGC(Credit Framework for Online Learning Courses through SWAYAM) Regulation-2016, clause number 6, the parent institution(Uttarakhand Open University)shall give equivalent weightage to the students for the credits earned through online learning courses through SWAYAM platform in the credit plan of the program. Uttarakhand Open University has introduced a foundation course entitled "Introduction to Cyber Security" at

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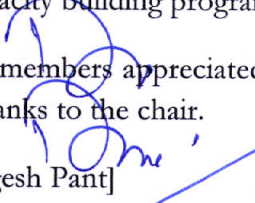
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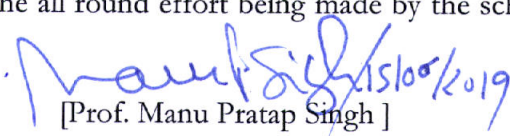
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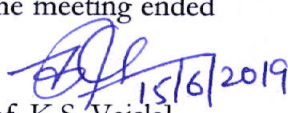
Bachelor level. Dr. Jeetendra Pande, Assistant Professor- Computer Science has prepared an online course on the above subject which is now offered through SWAYAM portal. Therefore, it was decided by the BOS that all the students registered in the above online program at SWAYAM portal shall be awarded credits defined in the course structure.

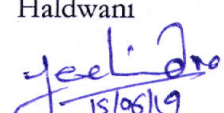
6. In order to upload the videos in the SWAYAM portal, academic and technical review of the video lectures is required. The course coordinator placed the video lectures prepared by the experts for Introduction to Cyber Security course for academic and technical review before the BOS members. The BOS a reviewed the lectures from the academic and technical point of view and approved the permission for uploading the lectures in the SWAYAM portal.
7. The board identified newer technological areas like AI, Machine Learning, IoT, National Language Processing, Big Data Analytics, etc. wherein processes need to be activated for the development of various certifications.
8. It was also resolved to identify such Computer Science & IT programs which hitherto have not been initiated and are running in other Universities and the SLM is available under Open License and other resources which can be adopted/adapted for securing gainful employment to the people at large.
9. The board also proposed to initiate various computing and informatics based skill/training, capacity building program and vocational program by the School.

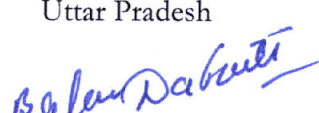
The board members appreciated the all round effort being made by the school. The meeting ended with the thanks to the chair.


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