

P.G. DEPARTMENT OF INSTRUMENTATION & ELECTRONICS & TECHNOLOGY

UNIVERSITY OF SRINAGAR-1

P.B.No:- 395
Date: 10-12-13

NOTES:

The Board of Studies (BOS) for M.Sc. (Electronics) is to be constituted afresh owing to completion of about three years of the erstwhile BOS and that several members of the BOS have already retired. The new BOS for M.Sc.(Electronics) is proposed as under:

- | | | |
|-----|---|----------|
| 1. | Prof. G. Mohiuddin Bhat
Head, Department of Electronics and I.T.
University of Kashmir, Sgr. | Convenor |
| 2. | Dr. M. Tariq Bandy
Sr. Assistant Professor,
Department of Electronics and I.T.
University of Kashmir, Sgr. | Member |
| 3. | Dr. Farooq A. Khanday
Assistant Professor,
Department of Electronics and I.T.,
University of Kashmir, Sgr. | -do- |
| 4. | Dr. Shabir A. Parrah
Assistant Professor,
Department of Electronics and I.T.
University of Kashmir, Sgr. | -do- |
| 5. | Dr. Javid A. Sheikh
Assistant Professor
Department of Electronics and I.T.
University of Kashmir, Sgr. | -do- |
| 6. | Prof. Javid A. Sheikh
Head, Department of Physics
University of Kashmir, Sgr. | -do- |
| 7. | Prof. S. M. Khurshid Qadri,
Head, Department of Computer Science,
University of Kashmir, Sgr. | -do- |
| 8. | Prof. M. Salim Beg
Department of Electronics Engg.
AMU, Aligarh-202002 | -do- |
| 9. | Prof. Aiyaz H. Mir
Department of Electronics and
Communication Engineering,
National Institute of Technology (NIT), Sgr. | -do- |
| 10. | Javid Iqbal Reshi
Research Scholar
Department of Electronics and I.T.
University of Kashmir, Sgr. | -do- |

Mir

10/12/2013

etc.

G. DEPARTMENT OF ELECTRONICS & INSTRUMENTATION TECHNOLOGY

UNIVERSITY OF KASHMIR

SRINAGAR-190006

NOTES:

11. Mr. Shakeel Ahmad Bhat
Research Scholar
Department of Electronics and I.T.
University of Kashmir, Sgr.
-do-
12. Dr. Gh. Jeelani Qureshi
Associate Professor
Govt. Degree College Baramullah
Kashmir
-do-
13. Mr. Bashir Ahmad Parray
Associate Professor
S. P. College Srinagar
-do-
14. Er. A. Mueed Hafiz
Assistant Professor,
Department of Electronics and I.T.
University of Kashmir, Sgr.
Co-opted Member
15. Er. Rouf-ul-Alam Bhat
Assistant Professor,
Department of Electronics and I.T.
University of Kashmir, Sgr.
Co-opted Member

It is requested that the above recommended Board of Studies (BOS) for M.Sc. (Electronics) may be approved for the year 2013-14 to 2016-17.

Approval may also be granted to convene the first BOS for M.Sc. (Electronics) on 16th of Dec, 2013, since the Department is in the final stage of adopting the CBCB system for the P.G. Course.

(Prof. G. Mohiuddin Bhat)
9/11/15
Head of the Department.

Dean Academic Affairs

Vice Chancellor



UNIVERSITY OF KASHMIR, SRINAGAR

No: F (Law & BOS) Acad/KU/13/472
Dated: December 30, 2013

The Head,
Department of Electronics & Instrumentation Technology,
University of Kashmir,
Srinagar.

Sub:- Re-constitution of Board of Post-graduate Studies in Electronics & Instrumentation Technology. (M.Sc.)

Sir,
Apropos your office note bearing P.B. No. 395 dated 10-12-2013, this is to inform you that the Vice-Chancellor has been pleased to authorize re-constitution of the Board of Post-graduate Studies in Electronics & Instrumentation Technology as under:-

- 01. Prof. G. Mohiuddin Bhat,
Head, Department of Electronics & I.T.,
University of Kashmir.
Convonor
- 02. Dr. M. Tariq Bhanday,
Assistant Professor,
Department of Electronics & I.T.,
University of Kashmir, Sgr.
Member
- 03. Dr. Farooq A. Khanday,
Assistant Professor,
Department of Electronics & I.T.,
University of Kashmir, Sgr.
--do--
- 04. Dr. Shabir A. Parrah,
Assistant Professor,
Department of Electronics & I.T.,
University of Kashmir, Sgr.
--do--
- 05. Dr. Javaid A. Sheikh,
Assistant Professor,
Department of Electronics & I.T.,
University of Kashmir, Sgr.
--do--
- 06. ~~Prof. Javaid A. Sheikh~~ ✓
Head, Department of Physics,
University of Kashmir, Sgr.
--do--
- 07. Prof. S.M. Khurshid Qadri,
Head, Department of Computer Science,
University of Kashmir, Sgr.
--do--
- 08. / Prof. M. Salim Beg,
Department of Electronics Engg.,
AMU, Aligarh-202002
--do--
- 09. Javaid Iqbal Reshi,
Research Scholar,
Department of Electronics & I.T.,
University of Kashmir, Sgr.
--do--

H.A. for records.
 30/11/13

Yours faithfully,
 Assistant Registrar
 ACADEMIC
 2/12/13

The term of the members on this Board shall be for a period of three years from the date of issuance of this letter.

- | | | |
|-----|---|-----------------|
| 10. | Mr. Shakeel Ahmad Bhat,
Research Scholar,
Department of Electronics & I.T.,
University of Kashmir, Sgr. | --do-- |
| 11. | Dr. Ch. Jeevani Qureshi,
Associate Professor,
Govt. Degree College Baramulla,
Kashmir. | --do-- |
| 12. | Mr. Bashir Ahmad Parray,
Associate Professor,
S.P. College,
Srinagar. | Co-opted Member |
| 13. | Er. A. Mueed Hafiz,
Assistant Professor,
Department of Electronics & I.T.,
University of Kashmir, Sgr. | --do-- |
| 14. | Er. Rouf-ul-Aam Bhat,
Assistant Professor,
Department of Electronics & I.T.,
University of Kashmir, Sgr. | --do-- |



UNIVERSITY OF KASHMIR, SRINAGAR

No: F (Conf. - PG/UC, Res) Acad/KU/10 / 222
Dated: December 28, 2010

The Head,
PG Department of Electronics and
Instrumentation Technology,
University of Kashmir,
Srinagar.

Sub:- Re-constitution of the Board of Post-graduate and Under-graduate Studies in Electronics .

Sir,

Apropos your letter No.F(BOPGS)Elec/KU/10/300 dated 27-11-2010, this is to inform you that the Vice-Chancellor has pleased to authorize re-constitution of the Board of Post-graduate and Under-graduate Studies in Electronics as under:-

Board of Post-graduate Studies in Electronics

- | | | |
|-----|--|----------|
| 1. | Prof. N.A. Shah,
Head, Department of Electronics,
University of Kashmir, Sgr. | Convener |
| 2. | Prof. M. Mustafa,
Department of Electronics,
University of Kashmir, Sgr. | Member |
| 3. | Mr. M. Tariq Bandy,
Assistant Professor,
Department of Electronics,
University of Kashmir, Sgr. | -do- |
| 4. | Mr. Farooq Ahmad Khanday,
Assistant Professor,
Department of Electronics,
University of Kashmir, Sgr. | -do- |
| 5. | Mr. Sahbir Ahmad Parah,
Assistant Professor,
Department of Electronics,
University of Kashmir, Sgr. | -do- |
| 6. | Mr. Javid Ahmad Shiekh,
Assistant Professor,
Department of Electronics,
University of Kashmir, Sgr. | -do- |
| 7. | Prof. Javid Ahmad Shiekh,
Department of Physics,
University of Kashmir, Sgr. | -do- |
| 8. | Dr. Khurshed Qaudri,
Department of Computer Sciences,
University of Kashmir, Sgr. | |
| 9. | Mr. Sheikh Ajaz Bashir,
Research Scholar,
Department of Electronics,
University of Kashmir, Sgr. | |
| 10. | Mr. Mohammad Rafiq Beigh,
Research Scholar,
Department of Electronics,
University of Kashmir, Sgr. | |

Handwritten initials

01-01-2011

Board of Under-graduate Studies in Electronics

11.	Dr. Nusrat Parveen, Islamia College of Science and Commerce, Sgr.	Member
12.	Mr. Hakim Shuja Hussain, Government Degree College, Baramulla.	-do-
13.	Prof. R.K. Sarin, Department of Electronics and Communication Engineering, National Institute of Technology, Jalandhar, Punjab	-do-
14.	Prof. Sushil Kumar Sharma, Department of Physics and Electronics, University of Jammu, Jammu.	-do-
1.	Prof. N.A. Shah, Head Department of Electronics, University of Kashmir, Sgr.	Convener
2.	Prof. M. Mustafa, Department of Electronics, University of Kashmir, Sgr.	Member
3.	Mr. M. Tariq Bandy, Assistant Professor, Department of Electronics, University of Kashmir, Sgr.	-do-
4.	Mr. Farooq Ahmad Khanday, Assistant Professor, Department of Electronics, University of Kashmir, Sgr.	-do-
5.	Mr. Sahbir Ahmad Parah, Assistant Professor, Department of Electronics, University of Kashmir, Sgr.	Cop-opted Member
6.	Mr. Javid Ahmad Shekh, Assistant Professor, Department of Electronics, University of Kashmir, Sgr.	-do-
7.	Prof. Javid Ahmad Shekh, Department of Physics, University of Kashmir, Sgr.	Member
8.	Head of the Department of Electronics, Islamia College of Science and Commerce, Sgr.	-do-
9.	Head of the Department of Electronics, Sri Pratap College, Sgr.	-do-
10.	Head of the Department of Electronics, Government College for Women, M.A. Road, Sgr.	-do-
11.	Mr. Shiekh Ajaz Bashir, Government Degree College, Baramulla.	-do-
12.	Mr. Hakim Shuja Hussain, Government Degree College, Baramulla.	-do-
13.	Ms. Aliya Qayoom, Academic Officer, Board of School Education, Sgr.	-do-

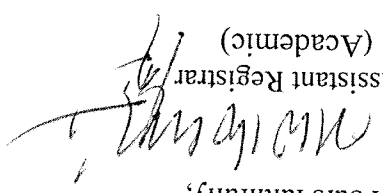
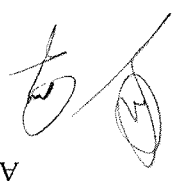


- 14. Prof. Ekram Khan,
Department of Electronics and Communication
Engineering,
Aligarh Muslim University,
Aligarh.
- 15. Prof. Dinish Kumar,
Department of Electronic Sciences,
Kurukshetra University,
Kurukshetra, Haryana

The term of the members on the each Board shall be for a period of three years from the date of issuance of this letter.

Yours faithfully,

M. W. Khan
Assistant Registrar
(Academic)

KU2018-elec-1084



PG Department of ELECTRONICS and INSTRUMENTATION TECHNOLOGY
University of Kashmir

Notes:

Ref.: No. F(CL-DAR)KU/18, Dtd: 23-12-2017

No: KV2017-444-
 Date: 02/01/2018

A meeting of the members of the Departmental Committee was held at 2:00 PM on 2nd January, 2018 in the office chamber of the Head, Department of Electronics and Instrumentation Technology. The committee discussed and deliberated the problems that the Department is facing in terms of paucity of faculty members. The time table for ensuring academic session was thoroughly debated and it was unanimously resolved that the Department needs the services of at least nine contractual lecturers to support the teaching of various semesters of following duly approved professional courses offered by the Department:

1. M. Tech in Embedded Systems and Solutions.
2. M.Sc. Electronics.

The teachers are to be appointed against 05 un-filled teaching positions and 4 additional teaching assistants for coping with the addition teaching load on account of teaching M. Tech programme in ESS, the breakup of which is given as per the specified format along with the required qualifications:

Course Name	Requirement (No. of Lecturers)	Qualification/Specialization		Budget	Vacancies		
		Head	Professor		Associate Professor	Assistant Professor	
M.Sc. & M. Tech	05	NET/SSET/Ph. D in Electronics/ Electronic Engineering with 55% marks	Local Funds of M. Tech.	02	02	01	M. Tech. ESS is run as a Self-supported programme and no additional teaching positions have yet been sanctioned for the programme.
M. Tech. ESS	04	M. Tech in Electronics or equivalent with 55% marks.	Savings	02	02	01	

The breakup of Workload and Time-table of ensuring academic session along with the required certificate is enclosed herewith. The meeting ended with a vote of thanks to the chair.

Members of the Departmental Committee:

Dr. Farooq Ahmad Manday
 Dr. Javid Ahmad Sheikh
 Ms. Farhat Roohi
 Dr. Shabir Ahmad Parrah

The note is submitted to Dean Academic Affairs for the favour of necessary action.

Dr. M. Tariq Bhanday
 (Head of the Department)

Dean Academic Affairs

Teaching Workload for Academic Year 2018

A) Teaching Workload in Hours Per Week

I. Total Teaching Hours (Main + OE/GE): 178 Hours

II. Seminar and Project Guidance: 82 Hours

B) Total Research Workload Per Week: 18 Hours

C) Total Hours Per Week: 278 Hours

D) Requirement of Teachers

Total Teachers Required: 278/16≈17

However, due to the limited resources, the total teachers required shall be limited to 14 as per the following details:

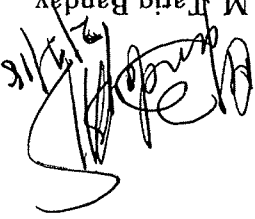
No. of Permanent Teachers Available in the Department: 5

Total Requirement of Teaching Assistants: 09

E) The teaching workload in Hours Per Teacher Per Week as per the attached time table is as given hereunder:

1. Dr. M. Tariq Bandy: 15 (Teaching Hours) + 4 (Project Hours) + 6 (Research Hours) = 25 Hours
2. Dr. Farooq A. Khanday: 19 (Teaching Hours) + 4 (Project Hours) + 4 (Research Hours) = 27 Hours
3. Dr. Shabir A. Parah: 14 (Teaching Hours) + 6 (Project Hours) + 4 (Research Hours) = 24 Hours
4. Dr. Javid A. Sheikh: 13 (Teaching Hours) + 6 (Project Hours) + 4 (Research Hours) = 23 Hours
5. Ms Farhat Ruhee: 7 (Teaching Hours) + 8 (Project Hours) = 15 Hours
6. Teaching Assistant 1: 12 (Teaching Hours) + 6 (Project Hours) = 18 Hours
7. Teaching Assistant 2: 13 (Teaching Hours) + 6 (Project Hours) = 19 Hours
8. Teaching Assistant 3: 13 (Teaching Hours) + 6 (Project Hours) = 19 Hours
9. Teaching Assistant 4: 11 (Teaching Hours) + 6 (Project Hours) = 17 Hours
10. Teaching Assistant 5: 11 (Teaching Hours) + 6 (Project Hours) = 17 Hours
11. Teaching Assistant 6: 11 (Teaching Hours) + 6 (Project Hours) = 17 Hours
12. Teaching Assistant 7: 14 (Teaching Hours) + 6 (Project Hours) = 20 Hours
13. Teaching Assistant 8: 11 (Teaching Hours) + 6 (Project Hours) = 17 Hours
14. Teaching Assistant 9: 14 (Teaching Hours) + 6 (Project Hours) = 20 Hours

Dr. M. Tariq Bandy
(Head of the Department)





UNIVERSITY OF KASHMIR, SRINAGAR

NOTIFICATION

It is notified for information of all the concerned that the Vice-Chancellor in anticipation of approval of the competent body has been pleased to authorize prescription of syllabus and courses of study (given in annexure) for M.Tech Programme in Embedded Systems and Solutions from the academic session 2016 and onwards.

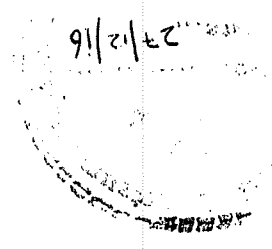
M. M. J. Assistant Registrar / ACADEMIC

No. F (Pres Syllabus - M.Tech Embedded System & solutions) Acad/R2/15
Dated: 24-12-2016

Copy to the:-

1. Dean, Academic Affairs, University of Kashmir, Srinagar;
2. Head, Department of Electronics and Instrumentation Technology KU;
3. Director, IT&SS, University of Kashmir, Srinagar;
4. Controller of Examinations, University of Kashmir, Srinagar;
5. Special Secretary to Vice-Chancellor for the information of the Vice-Chancellor;
6. Asstt. Controller, Secrecy/Tabulation/P.G. Examination Prof.
7. P. S. to Registrar for information of the Registrar;
8. File.

Handwritten notes and signatures at the top left, including dates like 27/12/16 and names like M. S. ...





PC Department of Electronics and Instrumentation Technology
University of Kashmir, Srinagar - 190006

M. Tech. in Embedded Systems and Solutions

Name of the Programme:

M. Tech. in Embedded Systems and Solutions at Department of Electronics and Instrumentation Technology, Main Campus, University of Kashmir, Srinagar.

Introduction:

Embedded Systems are application specific electronic sub-systems which are completely encapsulated by the main system it belongs to. The main system can range from household appliances, home automation, consumer electronics, ATMs, network routers, automobiles, aircrafts, IoT, etc. The M. Tech. programme in Embedded Systems and Solution (ESS) has been introduced in the Department to foster growth and entrepreneurship in Electronics System Design and Manufacturing (ESDM) and Design which is essential to support Electronics System Design and Manufacturing (ESDM), a much sort-after destination as endorsed in National Policy on Electronics by the Govt. of India.

Duration:

Regular TWO Years (FOUR Semesters) Degree Programme.

Eligibility:

B.E./B.Tech./B.Sc. Engineering in Electrical Sciences (Electronics, Electrical, Instrumentation, Communications, Computer Sciences), M. Sc. Electronics, M. Sc. Information Technology, M. Sc. Computer Sciences, MCA with 55% marks for general category and 50% marks for reserved categories in the qualifying examination from this University or from any other university as equivalent thereto by this University.

Mode of Selection:

Selection of candidates to the programme shall be made on the basis of a valid GATE Score.

Intake Capacity:

TWENTY-ONE (21) (for academic Year 2016-2017) to be filled up from (Open Merit and Reserved Categories as per the University Admission Policy).

Course Fee:

Total Fees: Rs. 1,46,750/= (Part A: Rs. 10,000/= per year; Part B: Rs. 31,250/= per semester; Part C: Rs. 1,750/= per year)

Course Structure and Syllabus of M. Tech. in Embedded Systems and Solutions (Program, M.Tech.)
PC Department of Electronics and Instrumentation Technology
University of Kashmir, Srinagar - 190006

Prof. R. K. Shrivastava
Chairman
NIT Wankhede

JK

The M.Tech. programme in Embedded Systems and Solutions (ESS) is a four semester programme. The first three semesters of the programme comprise of academic course work. During the fourth semester, a student has to take up an industry internship, and pursue academic research in the Department leading to M.Tech. thesis (*no grouping is permitted*). The programme also includes a unique 4-week period at the beginning of the programme called a "Preparatory Term". The preparatory term is intended to bring all the incoming students up to a uniform background that is considered essential to embark on M.Tech. degree in Embedded Systems and Solutions. This *Preparatory Term* covers a programming course and a course on electronic circuits and systems. After the 4-week preparatory term, the first semester of the M.Tech. programme consists of foundational courses in Embedded Systems that include the fundamentals of embedded systems, microcontrollers, digital system design and wireless communication and networks. The second semester includes an 8-week period called the "Winter Term" which is intended to build foundation of research aptitude and presentation skills in the students. In this term the students through self-study will learn various research methodologies and prepare seminar presentation on some contemporary topics in electronic system design. The second and third semesters includes advanced topics in embedded system design that include embedded programming languages, system design with ARM Cortex microcontrollers, VLSI architecture and design methodologies, digital signal processor and architecture and internet of things. Students shall have to choose four elective courses in their area of interest and specialization. The final semester is designated for industry **Internship** and a research **Thesis**.

Course Structure:

Term	Course Code	Course Title	Hours		Credits	Internal	End Term	Total
			Lecture	Tutorial				
Semester 1 <i>Preparatory Term (IITM)</i>	ESS-101P	Principles of Electronic Circuits, Systems and Devices	4	2	8	0	100	150
	ESS-102P	Programming and Problem Solving Techniques	4	2	8	0	100	150
Semester - 1 (Preparatory Term) Pass/Fail Nature. <i>No credit marks (marks given are only for evaluation purposes)</i>								
Semester I <i>(AEC - DEC)</i> <i>Course Work</i>	ESS-103C	Fundamentals of Embedded Systems	3	1	0	4	50	100
	ESS-104C	Microcontrollers for Embedded System Design	3	1	0	4	50	100
	ESS-105C	Advanced Digital System Design	3	1	0	4	50	100
	ESS-106C	Wireless Communication and Networks	3	1	0	4	50	100
	ESS-107L	Embedded System Design Lab	0	1	6	4	70	80
	ESS-108L	Advanced Digital System Design and Wireless Communication Lab	0	1	6	4	70	80
	Semester - 1 (Course Work) Total							
12								
6								
12								
24								
340								
360								
900								

Handwritten initials/signature

32

Term	Course Code	Course Title	Hours			Credits	Internal	End Term	Total	Marks
			Lecture	Tutorial	Practical					
Semester III Course Work (JUL - DEC)	ESS-301C	Digital Signal Processor and Architecture	3	1	0	4	50	100	150	
	ESS-302C	Internet of Things	3	1	0	4	50	100	150	
	ESS-303E1	Embedded System Security and Forensics	3	1	0	4	50	100	150	
	ESS-303E2	Network on Chip	3	1	0	4	50	100	150	
	ESS-303E3	Adhoc and Wireless Sensor Networks	3	1	0	4	50	100	150	
	ESS-303E4	Embedded Networks and Protocols	3	1	0	4	50	100	150	
	ESS-304E1	Mixed Signal Embedded Systems	3	1	0	4	50	100	150	
	ESS-304E2	CPLD/FPGA Architectures and Applications through HDL	3	1	0	4	50	100	150	
	ESS-304E3	RF Microelectronics	3	1	0	4	50	100	150	
	ESS-304E4	Industrial Robotics	3	1	0	4	50	100	150	
	ESS-305E1	Soft Computing Techniques	3	1	0	4	50	100	150	
	ESS-305E2	Digital Communication Techniques	3	1	0	4	50	100	150	
	ESS-305E3	Autonomous Embedded Electronics	3	1	0	4	50	100	150	
	ESS-305E4	RF Engineering	3	1	0	4	50	100	150	
	ESS-306L	IoT and DSP Systems Lab	0	1	6	4	70	80	150	
ESS-307P	Pre Project	0	1	6	4	70	80	150		
Semester - II (Course Work) Total										
			15	7	12	28	390	660	1050	

Semester - III (JAN - DEC)

Term	Course Code	Course Title	Hours			Credits	Internal	End Term	Total	Marks
			Lecture	Tutorial	Practical					
Semester II Course Work (MAR - JUN)	ESS-203C	Advanced Embedded Programming Languages	3	1	0	4	50	100	150	
	ESS-204C	VLSI Architecture and Design Methodologies	3	1	0	4	50	100	150	
	ESS-205C	Embedded System Design with ARM Cortex Microcontrollers	3	1	0	4	50	100	150	
	ESS-206E1	Statistical Signal Processing	3	1	0	4	50	100	150	
	ESS-206E2	Sensors and Actuators	3	1	0	4	50	100	150	
	ESS-206E3	System on Chip Architecture	3	1	0	4	50	100	150	
	ESS-206F4	Multimedia and Signal Coding	3	1	0	4	50	100	150	
	ESS-207L	ARM Cortex Microcontroller Lab	0	1	6	4	70	80	150	
	ESS-208L	VLSI Architecture Lab	0	1	6	4	70	80	150	
	Semester - II (Winter Term) Total									
			0	0	0	4	100	50	150	
Semester II Winter Term (JAN-FEB)	ESS-201R	Research Methodology (Self Study)	0	0	0	2	25	50	75	
	ESS-202S	Seminar	0	0	0	2	25	50	75	
Semester - II (JAN - JUN)										
			12	6	12	28	340	560	900	

Semester - II (JAN - JUN)



BC

Course Structure and Syllabus for M.Tech. in Embedded Systems and Solutions (Kecan, 2016)
 P.S. Department of Electronics and Instrumentation Technology
 (A branch of Institute of Technology)

Percentage of Marks Secured	Letter Grade	Grade Points
80% and above	O	10
(≥80% but ≤100%)	A+	9
Below 80% but not less than 70%	A	8
(≥70% but < 80%)	A	8
Below 70% but not less than 60%	B+	7
(≥60% but < 70%)	B+	7
Below 60% but not less than 55%	B	6
(≥55% but < 60%)	B	6
Below 55% but not less than 50%	B	6
(≥50% but < 55%)	B	6
Below 50%	F	0
(<50%)	F	0
ABSENT	AB	0
	(Absent)	0

Assessment and Grades:

- a) Preparatory Term Examination: on 1st and 2nd working days of August; Students who do not qualify the Preparatory Term shall have to qualify it before appearing in Course work examination of 1st semester. This term is of Pass/Fail Nature and therefore, students will not secure any credit or marks in this term.
- b) Course Work Examination: Commences in 2nd Week of December. Semester - II.
- a) Winter Term Examination: 1st Week of March; Students who do not qualify the Winter Term shall have to qualify it before appearing in Course work examination of 2nd semester.
- b) Course Work Examination: Commences in 2nd Week of June. Semester - III.
- a) Course Work Examination: Commences in 2nd Week of December. Semester - IV.
- a) Internship and Thesis Examination: Commences in 2nd Week of July.

Examinations:

Term	Course Code	Course Title	Hours					Credits	Marks		
			Lecture	Tutorial	Practical	Internal	End Term		Total		
Semester IV	EES-4011	Internship	0	0	0	8	300	0	300		
Semester IV	EES-402T	Project and Thesis	0	0	32	16	200	400	600		
Semester - IV (Internship/Thesis) Total			0	0	32	24	500	400	900		

Semester - IV (AN-LEN)



PK

Students entering the M. Tech in Embedded Systems and Solutions programme are expected to come with prior knowledge of programming and electronic system design. While we do not wish to conduct full-fledged programming courses at the Masters level, we will provide an opportunity for the students to hone up their programming skills in a structured way as part of the preparatory term. The preparatory term has one course in programming (covering essentials of programming languages in general). The other course on electronic systems and simulation tools. The two courses will not carry any credits. However, they are mandatory courses with a PASS/FAIL grade. The programme and Electronic Circuits and Systems will be taught with emphasis on hands-on activities.

Preparatory Term Courses:

Winter Term Courses:

Students admitted to the second semester of the M. Tech programme in Embedded Systems and Solutions are required to qualify a non-technical course on Research Methodology which is expected to be completed by the student through self-study and a seminar on some contemporary topic in the discipline of electronic system design. These two courses in the second semester will carry two credits each.

Internship:

Internship shall be of two months (8 weeks) duration and a student can accumulate 8 credits on successful completion of internship.

Internships shall be considered as two months (not less than four weeks) of supervised learning carried out in industry or some academic institution of excellence. Students are encouraged to apply for internship in 3rd semester to companies or academic institutions so that its commencement is ensured at the beginning of 4th semester.

The Internship committee comprising of head, and two more faculty members constituted for the purpose will ensure that a mid-term feedback is collected to ensure smooth progress towards its completion.

At the time of completion of the internship, the Internship committee will also collect the certificate (satisfactory/unsatisfactory) and marks from concerned person of the organization. If the certificate is unsatisfactory then the Internship committee will review the matter and if they agree with the certificate given, and then the student has to carry on the internship again at same or different place. If the certificate is satisfactory then the student fulfills the requirement of internship and the marks are awarded with or without any change by the internship committee.

45

Project and Thesis shall be of four months (16 weeks) duration and a student can accumulate 16 credits on successful completion of Project. This is in addition to pre-project work in 3rd semester wherein students shall choose a specific topic/area for their project and undertake its study.

A supervisor will be assigned to each student pursuing academic research in the Department during fourth semester. F15

A thesis committee comprising of the head, supervisor and at least two more faculty members will serve thesis and oral examiners for each student pursuing thesis.

A soft copy of the thesis in .pdf format (in specific style) should be sent to thesis committee, before its final submission. The Thesis committee shall examine it for suitability of publication (including any possible plagiarism) before the thesis goes in print and for binding.

Students are encouraged to submit their work in reputed conferences and journals during the period they work on thesis.

Pre-Project, Project and Thesis:





PC Department of Electronics and Instrumentation Technology

University of Kashmir, Srinagar - 190006

M. Tech. in Embedded Systems and Solutions

Name of the Programme:

M. Tech. in Embedded Systems and Solutions at Department of Electronics and Instrumentation Technology, Main Campus, University of Kashmir, Srinagar.

Introduction:

Embedded Systems are application specific electronic sub-systems which are completely encapsulated by the main system it belongs to. The main system can range from household appliances, home automation, consumer electronics, ATMs, network routers, automobiles, aircrafts, IoT, etc. The M. Tech. programme in Embedded Systems and Solution (ESS) has been introduced in the Department to foster growth and entrepreneurship in Electronics System Design and Manufacturing (ESDA) and to help meet growing demand of highly skilled manpower in various domains of Embedded System Design which is essential to support Electronics System Design and Manufacturing (ESDM), a much sort-after destination as endorsed in National Policy on Electronics by the Govt. of India.

Duration:

Regular TWO Years (FOUR Semesters) Degree Programme.

Eligibility:

B.E./B. Tech./B.Sc. Engineering in Electrical Sciences (Electronics, Electrical, Instrumentation, Communications, Computer Sciences), M. Sc. Electronics, M. Sc. Information Technology, M. Sc. Computer Sciences, MCA with 55% marks for general category and 50% marks for reserved categories in the qualifying examination from this University or from any other university as equivalent thereto by this University.

Mode of Selection:

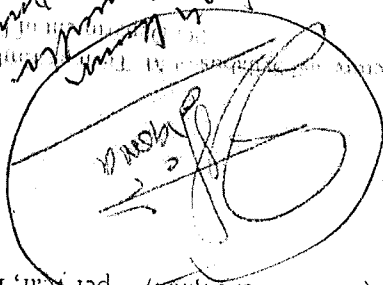
Selection of candidates to the programme shall be made on the basis of a valid GATE Score.

Intake Capacity:

TWENTY-ONE (21) (for academic Year 2016-2017) to be filled up from Open Merit and Reserved Categories as per the University Admission Policy.

Course Fee:

Total Fees: Rs. 1,46,750/= (Part A: Rs. 10,000/- per year; Part B: Rs. 31,250/= per semester; Part C: Rs. 1,750/= per year)



Dr. Binu Choudhury
UoK
UoK - Main Campus
UoK - Srinagar

Course Structure and Syllabus of M. Tech. in Embedded Systems and Solutions at Department of Electronics and Instrumentation Technology

Course Structure:

The M. Tech. programme in Embedded Systems and Solutions (ESS) is a four semester programme. The first three semesters of the programme comprise of academic course work. During the fourth semester, a student has to take up an industry internship, and pursue academic research in the Department leading to M. Tech. thesis (no grouping is permitted). The programme also includes a unique 4-week period at the beginning of the programme called a "Preparatory Term". The preparatory term is intended to bring all the incoming students up to a uniform background that is considered essential to embark on M. Tech. degree in Embedded Systems and Solutions. This Preparatory Term covers a programming course and a course on electronic circuits and systems. After the 4-week preparatory term, the first semester of the M. Tech. programme consists of foundational courses in Embedded Systems that include the fundamentals of embedded systems, microcontrollers, digital system design and wireless communication and networks. The second semester includes an 8-week period called the "Winter Term" which is intended to build foundation of research aptitude and presentation skills in the students. In this term the students through self-study will learn various research methodologies and prepare seminar presentation on some contemporary topic in electronic system design. The second and third semesters includes advanced topics in embedded system design that include embedded programming languages, system design, with ARM Cortex microcontrollers, VLSI architecture and design methodologies, digital signal processor and architecture and internet of things. Students shall have to choose four elective courses in their area of interest and specialization. The final semester is designated for industry Internship and a research Thesis.

Term	Course Code	Course Title	Hours		Credits	Practical	Project	Seminar	Thesis	Total
			Lecture	Tutorial						
Semester I Preparatory Term (U.Y.)	ESS-101P	Principles of Electronic Circuits, Systems and Devices	4	2	8	0	100	20		150
	ESS-102P	Programming and Problem Solving Techniques	4	2	8	0	100	50		150
Semester I Course Work (AUG - DEC)	ESS-103C	Fundamentals of Embedded Systems	3	1	4	0	50	100		150
	ESS-104C	Microcontrollers for Embedded System Design	3	1	4	0	50	100		150
	ESS-105C	Advanced Digital System Design	3	1	4	0	50	100		150
	ESS-106C	Wireless Communication and Networks	3	1	4	0	50	100		150
	ESS-107L	Embedded System Design Lab	0	1	6	4	70	80		150
	ESS-108L	Advanced Digital System Design and Wireless Communication Lab	0	1	6	4	70	80		150
Semester - I (Course Work) Total										700
Semester - I (Preparatory Term) Pass/Fail Score										

M. Tech. - Embedded Systems and Solutions
 Department of Electronics and Instrumentation Engineering
 Course Structure
