GUDLAVALLERU ENGINEERING COLLEGE

(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)
Seshadri Rao Knowledge Village
Gudlavalleru – 521 356, Krishna District, Andhra Pradesh

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The **Fifth** Meeting of **Academic Council** of Gudlavalleru Engineering College (Autonomous), Seshadri Rao Knowledge Village, Gudlavalleru is held today i.e. 08-01-2016 (Friday) at 10-30 AM in the Management's Conference Hall of the college under the Chairmanship of Dr. P. Nageswara Reddy, Principal of the College.

MEMBERS PRESENT:

Sl. No.	Name of the Member	Designation	Signature
1	Dr. P. Nageswara Reddy Principal	Chairman	
2	Dr. P. Kodanda Rama Rao Professor & HoD of CE	Member	
3	Dr. M. Siva Kumar Professor & HoD of EEE	Member	
4	Dr. A. Jawahar Babu Professor & HoD of ME	Member	
5	Dr. M. Kama Raju Professor & HoD of ECE	Member	
6	Dr. M. Babu Rao Professor & HoD of CSE	Member	
7	Dr. M. V. L. N. Raja Rao Professor & HoD of IT	Member	
8	Dr. Ch. Nirmal Chand Professor & HoD of MBA	Member	
9	Dr. G. S. Bhaskara Rao Professor of Mathematics & HoD of BS&H	Member	
10	Dr. M. Vijaya Lakshmi Associate Professor & HoD of English	Member	
11	Dr. P. Ravindra Babu Professor of ME and Vice-Principal	Member	
12	Dr. A. V. N. Tilak Professor of ECE and Dean PG Studies, R&D and Consultancy	Member	
13	Dr. S. R. K. Reddy Professor of CE	Member	
14	Dr.(Mrs.) Ch. Kavitha Professor of CSE	Member	

(Contd……2)

15	Dr. D. V. L. N. Somayajulu Professor of CSE ~~and Dean Academic Affairs~~, NIT, Warrangal	Member	
16	Dr. B. G. Barki Professor of Education & Former Director of NITTTR, Chennai	Member	
17	Dr. Parimi S.R. Professor of Civil Engineering and Structural Engg. Consultant, Vijayawada	Member	
18	Er. D. Rama Krishna Managing Director, Efftronics Systems Pvt. Ltd. Vijayawada	Member	
19	Dr. N. S. Murthy, Professor of Electronics & Communication Engg., National Institute of Technology, Warangal	Member	8/1/16
20	Mr. Jaya Rama Krishna Nutulapati, Client Partner & Principal Consultant, Tata Consultancy Services, Hyderabad	Member	8/1/16
21	Prof. K. Padma Raju, Professor of Electronics & Communication Engg., Director, Academics & Planning, JNTUK, Kakinada	Member	
22	Prof. P. Subba Rao, Professor of Civil Engineering, Director of Evaluation, JNTUK, Kakinada	Member	8/1/16
23	Dr. M. Ramalinga Raju, Professor of Electrical & Electronics Engg., Director, Foreign Universities Relations, JNTUK, Kakinada	Member	
24	Dr. G. V. S. N. R. V. Prasad Professor of CSE & Dean Academic Affairs	Member Secretary	

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Minutes of the Fifth Meeting of the Academic Council held on 08-01-2016, Friday in the Management Conference Hall.

5.1 To present a report on various academic activities / examinations pertaining to the Autonomous batches of students.

The Principal has presented various academic activities initiated for the students admitted in 2014 and 2015 since the grant of Autonomous status by the University Grants Commission, New Delhi.

The Principal has also presented the pattern of examinations conducted and the performance of the students in internal and semester end examinations.

The members have appreciated the efforts of the institute in addressing the needs of the average and below average students and maintaining the required standards in conduct of examinations, valuation and declaration of results on time. However, some members have expressed their concern with regard to the number of examinations conducted and suggested to reduce the number of tests to avoid over burdening of the faculty members.

The Principal has conceded with their point and informed the members that this is being taken care of in the proposed revised regulations to be effective from the academic year 2016-17.

The following suggestions are made by the members with regard to conduct of internal and semester end examinations:

i) Two mid-term examinations consisting of an objective examination and subjective examination besides two assignments in a semester. An assignment test shall be conducted from the assignment questions after submission of assignments by the students to test their preparedness.

ii) Four either or questions instead of four questions out of six in the semester end theory examination.

iii) Encrypting the soft copy of the question paper soon after receiving it from the paper setter and decrypting it on the day of examination an hour before.

iv) Valuing all the answer scripts question-wise, one question by one examiner.

v) Mapping of the questions given in internal and semester end examinations with course outcomes of the subject.

Resolution: It is resolved to address all the suggestions / concerns expressed by the members in the revised regulations and curriculum which will be effective from the academic year 2016-17.

5.2 To discuss the importance of revision of curriculum based on Choice Based Credit System (CBCS) as suggested by the University Grants Commission (UGC) and the affiliating university and to evolve a unique strategy of implementing CBCS at both UG & PG level to serve as guiding principle to various BoS in developing the new curriculum effective from the academic year 2016-17.

The Principal has presented the views of senior faculty members of the college on implementation of Choice Based Credit System (CBCS) in the form of model course structure prepared for B.Tech programs and highlighted the salient futures of it and the flexibility provided:

Salient features:

- Compulsory courses without choice at first year level with 24 Credits in each semester.
- Few first year courses can be different for Circuit and Non-circuit branches.
- Laboratory component shall be integrated with in the theory subjects wherever possible.
- A course integrated with a laboratory component shall have four credits with 3 lecture hours and 2 laboratory hours.
- A course not integrated with a laboratory component shall have 3 or 4 credits with 3 lecture hours or 3 lecture hours and 1 tutorial hour respectively.
- An independent laboratory course shall have 2 credits with 3 practical hours.
- Courses like Professional Ethics and Moral Sciences shall have 2 credits with 2 lecture hours.
- Electives / Open Electives shall have 3 credits with 3 lecture hours.
- A Self Study Course shall have 2 credits without any lecture hour.
- Industrial / Practical Training shall have 4 credits.
- Project Work shall have 9 credits with 9 contact hours.
- Besides the above, Non-Credit courses such as NSS and Sports & Games / Creative Arts shall be introduced at II & III Year levels with 2 practice hours.

Flexibility:

- A student must register for all courses at first year level, but from second year onwards he/she can register for 21 to 24 credits in each semester.
- A student has to register for a total of minimum of 174 credits (I year: 48, II Year : 42, III Year : 42 & IV Year : 42) to get the degree awarded.
- Students will have option to register for extra 3 credits (electives / open electives) in each semester from second year onwards, paving the way for horizontal mobility.
- A total of 10 electives and 4 open electives with 3 to 4 choices under each elective shall be offered.
- Open Electives offered by a department are open to all the students of all branches during that semester, except to the students of that branch. However, global electives shall be kept open for all branches of students.
- A Self Study Course including MOOCs with choices shall be offered at IV year first semester level.

- Core courses, laboratory courses, industrial / practical training and project work are compulsory courses without any choice and a student must register for all these courses and secure the required credits to get the degree awarded.
- Students are also permitted to register for the elective / self study courses offered at higher semesters to gain extra credits in a semester from third year onwards, paving the way for vertical mobility.

The Principal sought the opinion of the members on the model course structure and the flexibility given to the students and requested their valuable suggestions and corrections wherever required.

The following suggestions are made by the members with regard to the course structure, minimum number of credits and elective courses:

i) Defining the Program Educational Objectives (PEOs) and Program Outcomes (POs) properly for each program and designing the curriculum by the BoS concerned to address the PEOs and POs.

ii) Restricting the minimum number of credits to be acquired to get B.Tech degree awarded to 170 and giving the provision for registering for extra 3 credits in every semester from second year onwards.

iii) Number of credits to be secured at first year level may be reduced to 22 from 24 in each semester.

iv) Confining the number of subjects with integrated laboratory component to a maximum of 5 or 6 courses throughout the program.

v) Offering open electives at second and third year level instead of at third and fourth year level.

vi) Reducing the number of electives to 8 instead of 10 and offering from third year onwards, 2 electives in each semester.

vii) The foundation, core and elective courses offered and the number of credits given to each should satisfy the norms prescribed by UGC / AICTE.

viii) Introducing advanced / industry oriented subjects in the form of electives and arranging the electives in sequence by fitting them in a stream so that a student will get specialized in a particular area of his / her interest besides pursuing the compulsory courses mandatory for getting the degree awarded.

ix) Since Internet of Things is expected to be dominant by 2020, domain subjects must be given higher priority in the design of curriculum and subjects like 3D Printing must be included in the curriculum.

x) Subjects like Big Data Analytics may be offered at final year level to all the students in the form of electives.

xi) MOOCs offered by various premier institutes shall be included under Self Study courses.

xii) A self study course may be given more weightage with 3 credits instead of 2 credits.

xiii) The number of credits given to Industrial / Practical Training may be reduced to 3.

xiv) A seminar course may be offered as a one credit course at third year second semester level.

Resolution: It is resolved to prepare the course structure and curriculum of each program by following the suggestions outlined above and also meeting the curricular components (Appendix – A) prescribed by UGC and the same may be taken

as the guiding principles by the Boards of Studies (BoS) in developing the curriculum based on CBCS. A typical model course structure of B.Tech – Mechanical Engineering is given in Appendix – B for the reference.

5.3 Any other matter with the permission of the chair.

i) Moderation of marks up to 8 (1% of total marks) in two subjects in each semester depending on the overall results was discussed but decided to take the final call on it in the next academic council meeting.

ii) The University officials have suggested 30% weightage in internals in place of the present practice of 40% weightage. However, majority of the members opined that the present practice of 40% weightage in internals shall be continued. However, academic audit shall be undertaken every year to verify the marks awarded in internal and semester end examinations in each subject to draw the correlation between internal and external marks and initiate the required measures.

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Appendix – A

Curricular Components of UG B.Tech Programs prescribed by UGC

Sl. No.	Group	Range
1	Humanities and Social Sciences (HSS)	10 – 15
2	Basic Sciences (BS)	15 – 20
3	Engineering Sciences (ES)	10 – 20
4	Professional Subjects Core (PSC)	30 – 40
5	Professional Subjects Electives (PSE)	8 – 12
6	Open Subjects Electives (OSE)	5 – 10
7	Project / Seminar / Industry	8 – 10
8	Non Credit Courses	2 – 6

Appendix – B

Model Course Structure

B.Tech – Mechanical Engineering

I Year 1st Semester

Sl. No.	Name of the Course / Laboratory	No.of Hours per week			No. of Credits
		L	T	P	
1	Professional Communication – I	3	-	2	4
2	Mathematics – I	2	1	-	3
3	Engineering Physics	3	-	2	4
4	Environmental Studies	3	-	-	3
5	Problem Solving Using C	3	-	2	4
6	Engineering Graphics	-	-	6	3
7	Engineering Workshop	-	-	2	1
	Total :	**14**	**1**	**14**	**22**

L: Lecture T: Tutorial P: Practical / Practice

I Year 2nd Semester

Sl. No.	Name of the Course / Laboratory	No.of Hours per week			No. of Credits
		L	T	P	
1	Professional Communication – II	3	-	2	4
2	Mathematics–II	2	1	-	3
3	Engineering Chemistry	3	-	2	4
4	Mathematical Methods with Computer Applications	2	-	2	3
5	Engineering Mechanics	2	1	-	3
6	Computer Aided Engineering Drawing	-	-	6	3
7	Professional Ethics and Moral Sciences	2	-	-	2
	Total :	**14**	**2**	**12**	**22**

II Year 1st Semester (Minimum 21 Credits)

Sl. No.	Name of the Course / Laboratory	No.of Hours per week			No. of Credits
		L	T	P	
1	Engineering Thermodynamics	3	1	-	4
2	Mechanics of Solids	2	1	-	3
3	Mechanics of Fluids	2	1	-	3
4	Electrical & Electronics Engineering	4	-	-	4
5	Material Science and Metallurgy	3	-	-	3
6	Open Elective – I	3	-	-	3
7	Mechanics of Solids and Fluids Lab	-	-	3	2
8	Electrical & Electronics Engineering Lab	-	-	3	2
	Total :	**17**	**3**	**6**	**24**
9	**NSS (Mandatory Non-Credit Course)**	**-**	**-**	**2**	**-**

II Year 2nd Semester (Minimum 21 Credits)

Sl. No.	Name of the Course / Laboratory	No.of Hours per week			No. of Credits
		L	T	P	
1	Thermal Engineering – I	3	1	-	4
2	Manufacturing Processes	3	-	-	3
3	Hydraulic Machines and Systems	2	1	-	3
4	Kinematics of Machines	2	1	-	3
5	Machine Drawing	-	-	6	3
6	Managerial Economics and Financial Analysis	3	-	-	3
7	Open Elective – II	3	-	-	3
8	Manufacturing Processes & Metallurgy Lab	-	-	3	2
	Total :	**16**	**3**	**9**	**24**

III Year 1st Semester (Minimum 21 Credits)

Sl. No.	Name of the Course / Laboratory	No.of Hours per week			No. of Credits
		L	T	P	
1	Thermal Engineering – II	3	1	-	4
2	Machine Tools	3	-	-	3
3	Dynamics of Machines	3	1	-	4
4	Elective – I a) b) c)	3	-	-	3
5	Elective – II a) b) c)	3	-	-	3
6	Open Elective – III	3	-	-	3
7	Thermal Engineering Lab	-	-	3	2
8	Machine Tools Lab	-	-	3	2
	Total :	**18**	**2**	**6**	**24**
9	**Sports & Games / Creative Arts (Mandatory Non-Credit Course)**	**-**	**-**	**2**	**-**

III Year 2nd Semester (Minimum 21 Credits)

Sl. No.	Name of the Course / Laboratory	No.of Hours per week			No. of Credits
		L	T	P	
1	Industrial Engineering	3	-	-	3
2	Design of Mechanical Components	3	1	-	4
3	Metrology and Instrumentation	3	-	-	3
4	Elective – III a) b) c)	3	-	-	3
5	Elective – IV a) b) c)	3	-	-	3
6	Open Elective – IV	3	-	-	3
7	Hydraulic Machines and Turbo Machinery Lab	-	-	3	2
8	Metrology and Instrumentation Lab	-	-	3	2
9	Seminar	-	-	-	1
	Total :	**18**	**1**	**6**	**24**

IV Year 1st Semester (Minimum 21 Credits)

Sl. No.	Name of the Course / Laboratory	No.of Hours per week			No. of Credits
		L	T	P	
1	Finite Element Method	3	1	-	4
2	CAD / CAM	3	1	-	4
3	Heat Transfer	2	1	-	3
4	Operations Research	2	1	-	3
5	Elective – V a) b) c)	3	-	-	3
6	Elective – VI a) b) c)	3	-	-	3
7	CAD / CAM Lab	-	-	3	2
8	Heat Transfer Lab	-	-	3	2
	Total :	**16**	**4**	**6**	**24**

IV Year 2nd Semester

Sl. No.	Name of the Course / Laboratory	No.of Hours per week			No. of Credits
		L	T	P	
1	Design of Refrigeration and Air Conditioning Systems	2	1	-	3
2	Elective – VII a) b) c)	3	-	-	3
3	Elective – VIII a) b) c)	3	-	-	3
4	Self Study Course	-	-	-	3
5	Industrial / Practical Training	-	-	-	3
6	Project Work – Thesis and Viva-Voce	-	-	9	9
	Total :	**8**	**1**	**9**	**24**