

1.2.2(B) Structure of the program clearly indicating courses, credits/Electives and Minutes of relevant Academic Council/BOS meetings highlighting the relevant documents to this metric

Department of Information Technology

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Department of Information Technology

Minimum Credits to be earned: 160 (for Regular Students)

127 (for Lateral Entry Students)

First Semester							
No	Course Code	Course	POs	Contact Hours			
				L	T*	P	C
1	21HSX01	Communicative English	1,9,10,11,12	2	-	-	2
2	21MAX01	Engineering Mathematics I	1,2,3,4,12	3	-	-	3
3	21PYX01	Engineering Physics /	1,2,12 /	3/3	-	-	3/3
	21CYX01	Engineering Chemistry	1,2,6,7,12				
4	21BEX01	Basics of Engineering / IT	1,3,6,7,9,11,12	3/-	-	-/3	3/1.5
	21BEX06	Workshop	/ 1,12				
5	21BEX02	Problem Solving and Programming Skills	1,2,3,12	3	-	-	3
6	21BEX03	Problem Solving and Programming Skills Lab	2,3,4,12	-	-	3	1.5
7	21BEX04/ 21BEX05	Engineering Drawing / Engineering Workshop	1,5,10,12 / 1,9,10,12	-	-	3/3	1.5/1.5
8	21PYX02/ 21CYX02	Engineering Physics Lab / Engineering Chemistry Lab	4,9,11 / 1,6,7,9,1,2	-	-	3/3	1.5/1.5
9	21HSX02/	Communicative English Lab /	1,9,10,11,12	-	-	3/-	1.5/-
		-					
				Total	14/11	0	12/12
							20/17
Second Semester							
1	-	Language Elective	1,9,10,11,12	2	-	-	2
2	21MAX02	Engineering Mathematics II	1,2,3,4,12	3	-	-	3
3	21CYX01/ 21PYX01	Engineering Chemistry / Engineering Physics	1,2,6,7,12 / 1,2,1,2	3/3	-	-	3/3
4	21BEX01/ 21BEX06	Basics of Engineering / IT Workshop	1,3,6,7,9,11,12 / 1,12	-/3	-	3/-	1.5/3
5	21BEX07	Python Programming	1,2,3,12	3	-	-	3
6	21BEX08	Python Programming Lab	2,3,4,5,12	-	-	3	1.5
7	21BEX05/ 21BEX04	Engineering Workshop / Engineering Drawing	1,9,10/1,5,10	-	-	3/3	1.5/1.5
8	21CYX02/ 21PYX02	Engineering Chemistry Lab / Engineering Physics Lab	1,6,7,9,12/4,9,1	-	-	3/3	1.5/1.5
9	/21HSX02	Communicative English Lab	-/10,12	-	-	-/3	-/1.5
				Total	11/14	0	12/12
							17/20
Third Semester							
1	21CS303	Data Structures	1,2,3,12,PS02	3	0	-	3
2	21CS304	Digital Logic Design	1,2,3,5	3	-	2	4
3	21CS305	Discrete Mathematical Structures	1,2,3,12,PS01	3	0	-	3
4	21IT304	Database Management Systems	1, 2, 3, 4,12, PS02	3	0	-	3
5	21IT305	Data Communication Systems	1, 2, 3,4,7, 12, PS01	3	0	-	3
6	21IT306	Object Oriented Programming through Java	1,2,3,4,5, 12, PS01, PS02	3	-	2	4
7	21CS307	Data Structures Laboratory	1,2,3,4,12	-	-	3	1.5
8	21IT308	Database Management Systems Laboratory	1, 2, 3, 4, 5, 9, PS02	-	-	3	1.5
9	21ESX01	Employability Skills I	1,2,5,8,10,12	-	-	2	-
10	21HSX11	CC & EC Activities I	6, 7, 9, 10	-	-	1	-
				Total	19	0	12
							23
Fourth Semester							
1	21MA405	Probability and Statistics	1,2	3	0	-	3
2	21CS403	Computer Organization and	1,2,12, PS01	3	0	-	3

* Hours suggested for tutorials

		Architecture				
3	21IT403	Operating Systems	1,2,3,4,7,12	3	0	- 3
4	21IT404	Computer Networking	1,2,4,5,12,PS01	3	0	- 3
5	21IT405	Web Technologies	1,2, 3, 5, PS01, PS02	3	-	2 4
6	21IT406	Computer Network Programming Laboratory	3,5,9	-	-	3 1.5
7	21IT407	Operating Systems Laboratory	1,2, 3, 5, 9	-	-	3 1.5
8	21ESX01	Employability Skills I	1,2,5,8,10,12	-	-	2 2
9	21HSX11	CC & EC Activities I	6, 7, 9, 10	-	-	1 1
			Total	16	0	10 22

Fifth Semester

1	21CS404	Design and Analysis of Algorithms	1,2,3,4,PS01	3	-	2 4
2	21IT502	Artificial Intelligence	1, 2, 3, 4, PS01, PS02	3	0	- 3
3	21IT503	Cloud Computing	1,2,3,4 5, 6, 7, 8, PS02	3	0	- 3
4	21IT504	Software Engineering Principles	1,2,3,4,5, PS02	3	-	2 4
5		Elective I(Professional Elective)		3	0	- 3
6		Elective II (Open Elective I)		3	0	- 3
7	21IT507	Cloud Computing Laboratory	1, 2, 3, 4, 5, 9, PS01	-	-	3 1.5
8	21TPX01	Term Paper	1, 4, 10, 12	-	-	3 1.5
9	21ESX02	Employability Skills II	1,2,5,8,10,12	-	-	2 -
10	21HSX12	CC & EC Activities II	6, 7, 9, 10	-	-	1 -
11	21SIX01	Summer Internship #I	1, 2, 8, 10, 12			1
			Total	19	0	12 24

Sixth Semester

1	21HSX10	Engineering Economics and Project Management	1,10,11	3	0	- 3
2	21IT602	Automata and Compiler Design	1,2,3,4, 12	3	0	- 3
3	21IT603	Machine Learning	1, 2, 3, 4, PS01, PS02	3	0	- 3
4		Elective III (Professional Elective)		3	-	2 4
5		Elective IV (Open Elective II)		3	0	- 3
6	21IT606	Machine Learning Lab using Python	1,2,3,4,5,9 PS01, PS02,	-	-	3 1.5
7	21MPX01	Mini Project	All	-	-	3 1.5
8	21ESX02	Employability Skills II	1,2,5,8,10,12	-	-	2 2
9	21HSX12	CC & EC Activities II	6, 7, 9, 10	-	-	1 1
10	21ATX01	Environmental Studies	1, 6, 7, 12	-	-	- -
11	21ATX02	Professional Ethics and Human Values	-----	-	-	- -
12		Audit Course	----	-	-	- -
			Total	16	0	8 22

Seventh Semester

1		Elective V(Professional Elective)		3	0	- 3
2		Elective VI (Professional Elective)		3	0	- 3
3		Elective VII (Open Elective III)		3	0	- 3
4	21PWX01	Project	All	-	-	16 8
5	21SIX02	Summer Internship #II	1, 2, 5, 6, 10, 12	-	-	- 1
			Total	9	0	16 18

Eighth Semester

1		Elective VIII(Professional Elective)		-	-	- 3
2		Elective IX (Open Elective IV)		-	-	- 3
3	21FIX01	Full Semester Internship (FSI)	1, 2, 5, 8, 9,10, 11,PS01,PS02	-	-	- 8
			Total	-	-	14

List of Electives**Language Electives**

No.	Course Code	Course	POs	Contact Hours			
				L	T	P	
1	21HSX03	Advanced Communicative English	10,12	3	0	-	3
2	21HSX04	Communicative German		3	0	-	3
3	21HSX05	Communicative French		3	0	-	3
4	21HSX06	Communicative Japanese		3	0	-	3
5	21HSX07	Communicative Spanish		3	0	-	3
6	21HSX08	Communicative Korean		3	0	-	3
7	21HSX09	Communicative Hindi		3	0	-	3

Elective I**Career Path I, II, III and Other Core Electives**

1	21CSC11	Exploratory Data Analytics (AI&ML)	1,2,4,PSO2	3	0	-	3
2	21CSC21	Web Programming Languages (Full Stack Developer)	1, 2,3,5, PSO1,PSO2	3	0	-	3
3	21ITC31	Fundamentals of Security (Cyber Security)	1, 2, 5,PSO1,PSO2	3	0	-	3
4	21IT004	Computer Graphics and Multimedia	2, 3, 5	3	0	-	3
5	21IT005	Information Theory and Coding	1,2,3,6,8	3	0	-	3
6	21IT006	Data Warehousing and Data Mining	2, 3, 4, 5, PSO1	3	0	-	3
7		MOOCs	-	-	-	-	3

Commented [pp1]: Approved in 18th Academic Council Meeting Minutes

Elective III**Career Path I, II, III and Other Core Electives**

1	21CSC12	Deep Learning (AI&ML)	1,2,4, PSO1	3	-	2	4
2	21CSC22	Web Application Developments Framework (Full Stack Developer)	1, 3, 4	3	-	2	4
3	21ITC32	Cybernet Security (Cyber Security)	1,3,4,12,PSO1,PSO2	3	-	2	4
4	21IT007	The Internet of Things	1, 2, 3, 5, 10	3	-	2	4
5	21CS008	Cryptography and Network Security	3, 6, 8	3	-	2	4
6	21IT008	User Interface/ User Experience	1, 2, 3, 5, 10	3	-	2	4

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Elective V**Career Path I, II, III and Other Core Electives**

1	21CSC13	Natural Language Processing (AI & ML)	1,2,3,4,12,PSO2	3	0	-	3
2	21CSC23	Web Application Databases (Full Stack Developer)	1,3,5,PSO2	3	0	-	3
3	21ITC33	Cloud Security (Cyber Security)	1,2,4,5,	3	0	-	3
4	21EC602	Digital Signal Processing	1,2, PSO2	3	0	-	3
5	21IT010	Information Retrieval Systems	3,6,8	3	0	-	3
6	21CS005	Mobile Computing	1,3,8	3	0	-	3
7		MOOCs	-	-	-	-	3

Commented [pp3]: Approved in 18th Academic Council Meeting Minutes

Elective VI**Career Path I, II, III and Other Core Electives**

1	21IT017	Social Network Analysis	2,4,5,12	3	0	-	3
2	21IT011	Real Time Operating Systems	2,3,12	3	0	-	3
3	21IT012	Digital Image Processing	3,5,6	3	0	-	3
4	21IT014	Distributed Systems	2, 7, 12	3	0	-	3
5	21CS012	Wireless Ad hoc Networks	1,2,3,6,7,10	3	0	-	3
6	21CS015	Software Project Management	1,2,3,11,12, PSO2	3	0	-	3
7		MOOCs	-	-	-	-	3

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Elective VIII: Professional Elective

1	21CS014	Green Computing	2,3,6,7	-	-	-	3
1	21IT013	Design Patterns	2,3,5	-	-	-	3
3	21IT016	Professional Ethics	1, 6,8,12	-	-	-	3
4		MOOCs	-	-	-	-	3

Commented [pp5]: Approved in 18th Academic Council Meeting Minutes

Open Elective I, II, III, and IV (Elective II, IV, VII, and IX)

1	21CE001	Disaster Management	2,7	3	-	-	3
2	21EE001	Electrical Installation, Safety and Auditing	2,3,6,8	3	-	-	3
3	21ME001	Fundamentals of Optimization Techniques	1,2,5,3	3	-	-	3

Commented [pp6]: Approved in 18th Academic Council Meeting Minutes

4	21EC001	Sensors for Engineering Applications	1,2	3	-	-	3
5	21CS001	Fundamentals of Artificial Intelligence	1,2,3	3	-	-	3
6	21CH001	Energy Conversion and Storage Devices	1,3,6,7	3	-	-	3
7	21IT001	Fundamentals of Multimedia	3,5,7	3	-	-	3
8	21BS001	Nano Materials and Technology	1,2	3	-	-	3
9	21DS001	Fundamentals of Data Science	1,2	3	-	-	3
10	21CE002	Air Pollution and Environmental Impact Assessment	6,7,12	3	-	-	3
11	21EE002	Renewable Energy Sources	2,7	3	-	-	3
12	21ME002	Principles of Entrepreneurship	1,5,8,11	3	-	-	3
13	21EC002	Electronics for Agriculture	1,2	3	-	-	3
14	21CS002	Fundamentals of Machine Learning	2,5	3	-	-	3
15	21CH002	Industrial Safety and Hazard Management	1,2,3,6,8	3	-	-	3
16	21IT002	Fundamentals of Cloud Computing	2,6,7,8,12	3	-	-	3
17	21BS002	Advanced Numerical Techniques	1,2	3	-	-	3
18	21BS003	Functional Materials and Applications	1,7	3	-	-	3
19	21CE003	Solid Waste Management	3,7,12	3	-	-	3
20	21EE003	Fundamentals of Electrical Vehicle Technology	2,3,12	3	-	-	3
21	21ME003	Industrial Engineering and Management	1,5,8	3	-	-	3
22	21CS003	Interfacing and Programming with Arduino	1,4	3	-	-	3
23	21DS003	Data Science for Engineering Applications	2,3,4	3	-	-	3
24	21CH003	Industrial Ecology for Sustainable Development	2,6,7	3	-	-	3
25	21IT003	Fundamentals of Mobile Computing	1,7	3	-	-	3
26	21BS004	Advanced Materials for Renewable Energy	1,2	3	-	-	3
27	21BS005	Applied Linear Algebra for Engineers	1,2	3	-	-	3
28	21CE019	Green Buildings	1,7,12	3	-	-	3
29	21EE017	Sustainable Energy	2,3,12	3	-	-	3
30	21ME019	Total Quality Management	1,2,5,8	3	-	-	3
31	21EC011	Communication Technologies	1,2	3	-	-	3
32	21CS020	Applications of Artificial Intelligence	2,3,6,7	3	-	-	3
33	21CH016	Green Technologies	2,6,7	3	-	-	3
34	21IT015	Human Computer Interaction	1,7	3	-	-	3
35	21BS006	Handling of Industrial waste and waste water	3,7	3	-	-	3
36	21OE001	Robotics and Automation	5,6,7	3	-	-	3
37	21OE002	Introduction to IoT	1,2	3	-	-	3
38	21OE003	Fundamentals of Image Processing	1,2	3	-	-	3
39	21OE004	Fundamentals of Data Acquisition Systems	1,2	3	-	-	3
40	21OE005	Airport Operations Management	2,4,11,12	3	-	-	3
41	21OE006	Fundamentals of Embedded Systems	1,2,10	3	-	-	3
42	21OE007	Remote Sensing and GIS	1,2,5,7,10	3	-	-	3
43	21OE008	Big Data Analytics	1,7	3	-	-	3
44	21OE009	Fundamentals of Cyber Security	3,6,8	3	-	-	3
45	21OE010	Smart Cities	1,7,12	3	-	-	3
46	21OE011	Nano Materials and Thin Film Technology	1,2	3	-	-	3
47	21CSMC1	Cloud Computing	1,2,3	3	-	-	3
48	21CSMC2	Ethical Hacking	1,2,3	3	-	-	3
49	21CSMC3	Fundamentals of Web Development	1,2,3	3	-	-	3
50	21OE012	Business Intelligence & Analytics	1,2	3	-	-	3
51	21OE013	Introduction to Industry 4.0 and Industrial IoT	2,3	3	-	-	3
52	21OE014	Natural Language Processing	2,3	3	-	-	3
53	21OE015	Affective Computing	1,2,3,4	3	-	-	3
54	21OE016	Principles of Data Science	1,2	3	-	-	3
Audit Course							
1	21AT001	Communication Etiquette in Workplaces					
2	21AT002	Contemporary India: Economy, Policy and Society					
3	21AT003	Design The Thinking					
4	21AT004	Ethics and Integrity					
5	21AT005	Indian Heritage and Culture					
6	21AT006	Intellectual Property Rights					

7	21AT007	Introduction to Journalism
8	21AT008	Mass Media Communication
9	21AT009	Science, Technology and Development
10	21AT010	Social Responsibility
11	21AT011	The Art of Photography and Film Making
12	21AT012	Gender Equality for Sustainability
13	21AT013	Women in Leadership
14	21AT014	Introduction to Research Methodology
15	21AT015	Climatic Change and Circular Economy

MINUTES OF THE 18th ACADEMIC COUNCIL MEETING

Media : Zoom (Online Meeting)
 Date : 13.07.2022 (Wednesday)
 Time : 03:00 PM – 05:00 PM

MEMBERS PRESENT

Dr. C. L. V. R. S. V. Prasad	- Chairman (Principal)
Dr. KVSG Murali Krishna	- Member
Dr. B. Bala Krishna	- Member
Dr. R.Rajeswara Rao	- Member
Dr. A.Venugopal	- Member
Dr. K. V. L. Subramaniam	- Member
Dr. P. Mallikarjuna Rao	- Member
Dr. P. K. Jain	- Member
Chair Person (BoS : Civil Engg.)	- Member
Chair Person (BoS : EEE)	- Member
Chair Person (BoS : Mech Engg.)	- Member
Chair Person (BoS : ECE)	- Member
Chair Person (BoS : CSE)	- Member
Chair Person (BoS : Chem Engg.)	- Member
Chair Person (BoS : IT)	- Member
Chair Person (BoS : BS&H)	- Member
Dr.S.N.Dash(CDC-Head)	- Member
Dr.G.Sasi Kumar(Asso.Dean-Student Affairs)	- Member
Dr.P.S.Venkata Narayana(Asso.Dean-R&D)	- Member
Dr.T.Prabhakar (Controller of Examinations)	- Member
Dr. L.Govinda Rao(IQAC Coordinator)	- Member
Dr. M.V.Nageswara Rao(Asso.Dean-Academics)	- Member Secretary

GRANT OF LEAVE OF ABSENCE

Mr. V. Paradesi Naidu - Member

Chairman welcomed all the members of the academic council and requested for the grant leave of absence for the above referred members. **(Item #1)**

Subsequently, the Chairman presented the action taken report for the 17th academic council meeting and received the confirmation for the minutes of 17th academic council meeting held on 11th Sep 2021 from all the esteemed members. **(Item #2&3)**.



Chairman presented the details of the overall Operations and performance of the Institution (Academic-Operations, Ranking, Achievements, Placements and Research) **(Item #4)**.

Academic council members appreciated the efforts and initiatives taken up by the institute for the overall development and the ranking achieved. Congratulated the students who achieved credential in curricular and co-curricular activities.

ITEM No.: 5

Ratification of Semester end result for regular and supplementary examination for the academic year 2020-21(II, IV, VI semesters) and 2021-22 (I, III, VI, VII, VIII semesters) held during September 2021 to July 2022 for Students in B. Tech. Programs.

Chairman presented the results declared for the regular and supplementary examinations pertaining to semesters mentioned above for the students admitted during the different academic years under Academic Regulation AR16, AR19, AR20 and AR 21 and requested for the ratification of the results which were declared by the College academic committee in the presence of the JNTUK representative.

The members after the detailed review, ratified the results of all the regular and supply examinations declared by the college academic committee as per the **Annexure I**.

ITEM No.: 6

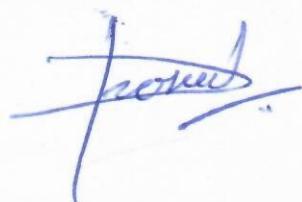
Ratification of results of 2nd phase semester end exams for all the COVID-19 infected students during 2021-22.

Chairman presented the list of students infected with COVID-19 and could not appear for the 7th semester examinations. These students were permitted to appear in the 2nd phase as per the university directions considering it as a first attempt.

The members after the detailed review, ratified the Class and CGPA declared by the college academic committee as per the **Annexure II**.

ITEM No.: 7

Ratification of the PC eligibility list of the students admitted during the Academic Year 2018-19 and earlier batches who have successfully acquired the graduation requirements for the award of B. Tech. Degree as per the respective academic regulations at the time of admission.



Chairman presented the (semester-wise & branch-wise) results of the 2018 admitted batch for all the semesters' i.e from 1st to 8th semesters under Academic Regulation AR16 and who have acquired the graduation requirements and eligible for the issue of Provisional certificate. Further, details of the students who have acquired graduation requirements and eligible for the issue of PCs pertaining to the batches admitted earlier to 2018 are presented.

The members reviewed the results (1st semester to 8th semester) of 2018 admitted batch students and approved the PC eligibility list of the student who will be getting graduated by July 2022 as per the academic regulations AR16. Apart from this, the PC eligible students from the earlier admitted students who have acquired graduation requirements were also approved as per the **Annexure III**.

ITEM No.: 8

Ratification of the AR21 regulations for UG and PG programs that are approved by circulation wide the circulars dated 15-11-2021, 30-12-2021 & 30-03-2022 (In compliance with the JNTUK common guidelines)

Chairman presented the Academic Regulations 2021 (AR21) and Curriculum recommended by the respective BoS and which are in line with JNTUK common guidelines majorly in the context of incorporating the changes relate to the marks division between internal and External marks (30+70), Absolute grading in the place of Hybrid grading and Award of Class of degree (Division/Class) for UG and PG programs.

The members after deliberation ratified the Academic Regulations 2021 (AR21), Curriculum for UG and PG programs as per **Annexure IV &V**.

ITEM NO.:9

Approval of course structure, 3rd & 4th semesters syllabus for the new programs B.Tech CSE(AIML) and B.Tech CSE(AIDS) as per Academic Regulations 2021.

Chairman presented the recommendations of the Board of Studies CSE(AIDS) and CSE (AIML) with regard to the course structure and detailed Syllabi for 3rd and 4th semesters as per AR21 for the B. Tech. (Regular), B. Tech. (Honors) and B. Tech (Minor) Programs for the ratification of Academic Council

Members after deliberation ratified the syllabi for the 3rd and 4th semesters as per the **Annexure VI & VII**.



ITEM NO.:10**Ratification of the syllabus for the 7th and 8th semesters as per AR19 and AR20 academic regulations**

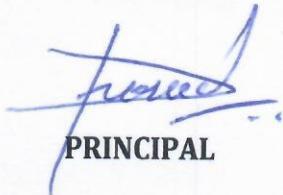
Chairman presented the recommendations of all the seven Board of Studies with regard to the detailed Syllabi for 7th and 8th semesters under the Academic Regulation AR 19 and AR 20 for the B. Tech. (Regular), B. Tech. (Honors) and B. Tech (Minor) Programs for the ratification of Academic Council

Members after deliberation ratified the syllabi for the 7th and 8th semesters as per the **Annexure VIII to XIV**

ITEM NO.:11**Ratification for readmitted students under transitory Regulations**

As per the transitory regulations, with regard to the students re-admitted under, AR19/AR20 moving from AR16/AR19, Board of Studies of the respective departments discussed the issues case to case and recommended the substitute courses balancing the credit requirements. The details of the students are presented by the chairman before the council for formal ratification

Members ratified the recommendations of the respective BoS as per the **Annexure XV**


PRINCIPAL

Encl. (a) Annexure A (b) Annexure B (c) Annexure C (d) Annexure D

Copy to:

- All Members of the Academic Council
- Autonomous Coordinator (Institute Level)
- Assoc.Dean(Academics)
- Controller of Examinations (CoE)
- File

MINUTES OF THE 18th ACADEMIC COUNCIL MEETING

Annexure IV:

http://www.gmrit.org/Autonomy_Regulations_UGPrograms_2021.pdf

Annexure V:

http://www.gmrit.org/Autonomy_Regulations_PGPrograms_2021.pdf

Annexure VI:

http://www.gmrit.org/resources/CSE-AI&DS_Course_Structure.pdf

Annexure VII:

http://www.gmrit.org/resources/CSE-AI&ML_Course_structure.pdf

Annexure VIII: CIVIL Engineering

http://www.gmrit.org/resources/B.Tech_Civil_Syllabus_AR19.pdf

http://www.gmrit.org/resources/B.Tech_Civil_Syllabus_AR20.pdf

Annexure IX: CHEMIAL Engineering

http://www.gmrit.org/resources/B.Tech_Chem_Syllabus_AR20.pdf

http://www.gmrit.org/resources/B.Tech_Chem_Syllabus_AR19.pdf

Annexure X: Computer Science Engineering

http://www.gmrit.org/resources/B.Tech_CSE_Syllabus_AR20.pdf

http://www.gmrit.org/resources/B.Tech_CSE_Syllabus_AR19.pdf

Annexure XI: Information Technology

http://www.gmrit.org/resources/B.Tech_IT_Syllabus_AR20.pdf

http://www.gmrit.org/resources/B.Tech_IT_Syllabus_AR19.pdf

Annexure XII: Electronics and Communication Engineering

http://www.gmrit.org/resources/B.Tech_ECE_Syllabus_AR20.pdf

http://www.gmrit.org/resources/B.Tech_ECE_Syllabus_AR19.pdf

Annexure XIII: Electrical and Electronics Engineering

http://www.gmrit.org/resources/B.Tech_EEE_Syllabus_AR20.pdf

http://www.gmrit.org/resources/B.Tech_EEE_Syllabus_AR19.pdf

Annexure XIV: Electrical and Electronics Engineering

http://www.gmrit.org/resources/B.Tech_Mech_Syllabus_AR20.pdf

http://www.gmrit.org/resources/B.Tech_Mech_Syllabus_AR19.pdf



Department of Information Technology

Minimum Credits to be earned: 160 (for Regular Students)
127 (for Lateral Entry Students)

First Semester(Pattern-I/Pattern-II)

No	Course Code	Course	POs	Contact Hours			
				L	T	P	C
1	23PYX01/ 23CYX01	Engineering Physics/Chemistry	1,2,7,10,12/1, 2,6,7,12	3/3	0	0	3/3
2	23MAX01/ 23MAX02	Linear Algebra & Calculus/Differential Equations and Vector calculus	1,2,3,4,12/1,2 , 3,4,12	3/3	0	0	3/3
3	23BEX01/ 23BEX02	Basic Electrical and Electronics Engineering/ Basic Civil & Mechanical Engineering	1,3,6,7,9,12/1 ,2,3,6,7,8,12	3/3	0	0	3/3
4	23BEX03	Introduction to Programming	1,2,3,12	3	0	0	3
5	23BEX04/ 23HSX01	Engineering Graphics/Communicative English	1,5,10,12/1,9, 10,11	2/2	0	2/0	3/2
6	23PYX02/ 23CYX03	Engineering Physics Lab/Chemistry	4,6,9,11/1,2,6 ,7,9,12	0	0	2/2	1
7	23BEX05/ 23BEX06	Electrical & Electronics Engineering workshop/Engineering Workshop	4,5,6,9/12/1, 9,12	0	0	3/3	1.5/1.5
8	23BEX07	Computer Programming Lab	2,3,4,12	0	0	3	1.5
9	23HSX11	-/ECA (Yoga / Sports)	-	-	-	-/1	-/0.5
10	23HSX12	-/CCA (NSS/NCC/Community)	-	-	-	-/1	-/0.5
11	23BEX08	IT Workshop/-	1,2,3,4,9,12	0	0	2/-	1/-
12	23HSX02	-/Communicative English Lab	1,9,10,11,12	0	0	-/2	-/1
Total				14/14	0	12/12	20/20

Second Semester(Pattern-I/Pattern-II)

1	23HSX01/ 23BEX04	Communicative English/Engineering Graphics	10,12/1,5,10	2/2	0	0/2	2/3
2	23MAX02/ 23MAX01	Differential Equations and Vector calculus/Linear Algebra & Calculus	1,2,3,4/12/1, 2, 3,4,12	3/3	0	0	3/3
3	23CYX01/ 23PYX01	Chemistry/Engineering Physics	1,2,6,7/12/1, 7,10,12	3/3	0	0	3/3
4	23BEX02/ 23BEX01	Basic Civil & Mechanical Engineering/Basic Electrical and Electronics Engineering	1,2,3,6,7,8/12 /1,3,6,7,9,12	3/3	0	0	3/3
5	23CS201	Data Structures (CSE, CSE-AI&DS, CSE-AI&ML, IT)	1,2,3,12, PSO1	3/3	0	0	3/3
6	23CYX03/ 23PYX02	Chemistry Lab/Engineering Physics Lab	1,6,7,9/12/4, 6, 9,11,12	0	0	2/2	1/1
7	23BEX06/ 23BEX05	Engineering Workshop/Electrical & Electronics Engineering workshop	9,12/1,4,5	0	0	3/3	1.5/1.5
8	23BEX08	IT Workshop/-	1,2,3,4,9,12	0	0	2/-	1/-
9	23BEX02	Communicative English Lab/-	1,9,10,11,12	0	0	2/-	1/-
10	23CS202	Data Structures Lab (CSE, CSE-AI&DS, CSE-AI&ML, IT)	2,3,4,12,PSO1	0	0	3/3	1.5/1.5
11	23HSX11	-/ECA (Yoga / Sports)	-	-	-	-/1	-/0.5
12	23HSX12	-/CCA (NSS/NCC/Community Service)	-	-	-	-/1	-/0.5
Total				14/14	0	12/12	20/20

Third Semester

1	23IT301	Python Programming and Applications	1,2,3,4,5,12, PSO1, PSO2	3	0	-	3
2	23CS304	Digital Logic Design	1,2,3,5	3	-	2	4
3	23CS305	Discrete Mathematical Structures	1,2,3,12, PSO1	3	0	-	3
4	23IT304	Database Management Systems	1, 2, 3, 4,12, PSO2	3	0	-	3
5	23IT305	Data Communication Systems	1, 2, 3,4,7, 12, PSO1	3	0	-	3
6	23IT306	Object Oriented Programming through Java	1,2,3,4,5, 12, PSO1, PSO2	3	-	2	4
7	23IT307	Python Programming and Applications Laboratory	1,2,3,4,5,9,12, PSO1, PSO2	-	-	3	1.5
8	23IT308	Database Management Systems Laboratory	1, 2, 3, 4, 5, 9, PSO2	-	-	3	1.5
9	23ESX01	Employability Skills I	1,2,5,8,10,12	-	-	2	-
Total				19	0	12	23

Fourth Semester

1	23MA405	Probability and Statistics	1,2	3	0	-	3
2	23CS403	Computer Organization and Architecture	1,2,12, PSO1	3	0	-	3
3	23IT403	Operating Systems	1,2,3,4, 7,12	3	0	-	3
4	23CS303	Design and Analysis of Algorithms	1,2,3,PSO1	3	-	-	3
5	23IT405	Web Technologies	1,2, 3, 5, PSO1, PSO2	3	-	2	4
6	23CS307	Design and Analysis of Algorithms Lab	2,3,4,12,PSO1	-	-	3	1.5
7	23IT407	Operating Systems Laboratory	1,2, 3, 5, 9	-	-	3	1.5
8	23ESX01	Employability Skills I	1,2,5,8,10,12	-	-	2	2
Total				15	0	10	21

Fifth Semester

1	23IT501	Computer Networking	1,2,4, 5, 12, PSO1	3	-	2	4
2	23IT502	Artificial Intelligence	1, 2,3,4, PSO1, PSO2	3	0	-	3
3	23IT503	Cloud Computing	1,2,3,4 5, 6, 7, 8, PSO2	3	0	-	3
4	23IT504	Software Engineering Principles	1,2,3,4,5, PSO2	3	-	2	4
5		Elective I(Professional Elective)		3	0	-	3
6		Elective II (Open Elective I)		3	0	-	3
7	23IT507	Cloud Computing Lab	1, 2,3, 4, 5, 9, PSO1	-	-	3	1.5
8	23TPX01	Term Paper	1, 4, 10, 12	-	-	3	1.5
9	23ESX02	Employability Skills II	1,2,5,8,10,12	-	-	2	-
10	23SIX01	Summer Internship #I	1, 2, 8, 10, 12				1
Total				19	0	12	24

Sixth Semester

1	23HSX10	Engineering Economics and Project Management	1,10,11	3	0	-	3
2	23IT602	Automata and Compiler Design	1,2,3,4, 12	3	0	-	3
3	23IT603	Machine Learning	1, 2,3,4, PSO1, PSO2	3	0	-	3
4		Elective III (Professional Elective)		3	-	2	4
5		Elective IV (Open Elective II)		3	0	-	3

6	23IT606	Machine Learning Lab using Python	1,2,3,4,5,9 PSO1, PSO2,	-	-	3	1.5
7	23MPX01	Mini Project	All	-	-	3	1.5
8	23ESX02	Employability Skills II	1,2,5,8,10,12	-	-	2	2
9	23ATX01	Environmental Studies	1, 6, 7, 12	-	-	-	-
10	23ATX02	Professional Ethics and Human Values	-----	-	-	-	-
11		Audit Course	----	-	-	-	-
				Total	15	0	8
							21

Seventh Semester

1		Elective V(Professional Elective)		3	0	-	3
2		Elective VI (Professional Elective)		3	0	-	3
3		Elective VII (Open Elective III)		3	0	-	3
4	23PWX01	Project	All	-	-	16	8
5	23SIX02	Summer Internship #II	1, 2, 5, 6, 10, 12	-	-	-	1
				Total	9	0	16
							18

Eighth Semester

1		Elective VIII (Professional Elective)		-	-	-	3
2		Elective IX (Open Elective IV)		-	-	-	2
3	23FIX01	Full Semester Internship (FSI)	1, 2, 5, 8, 9,10, PSO1,PSO2	-	-	-	8
				Total	-	-	13

List of Electives**Elective I****Career Path I, II, III and Other Core Electives**

1	23CSC11	Artificial Neural Networks(AI&ML)	1, 2, 3, 5, 12	3	0	-	3
2	23CSC21	Backend Programming Languages (Full Stack Developer)	1,2,3,5,PSO1,PSO2	3	0	-	3
3	23ITC31	Fundamentals of Security (Cyber Security)	1,2,3,4, PSO1, PSO2	3	0	-	3
4	23IT004	Computer Graphics and Multimedia	2, 3, 5	3	0	-	3
5	23IT005	Information Theory and Coding	1,2,3,6,8	3	0	-	3
6	23IT006	Data Warehousing and Data Mining	2, 3, 4, 5, PSO1	3	0	-	3
7		MOOCs		-	-	-	3

Commented [pp1]: Approved in 20th Academic Council Meeting Minutes

Elective III**Career Path I, II, III and Other Core Electives**

1	23CSC12	Deep Learning (AI&ML)	1,2,3,4,5,PSO1	3	-	2	4
2	23CSC22	Web Application Frameworks (Full Stack Developer)	1,2,3,5,PSO1,PSO2	3	-	2	4
3	23ITC32	Cybernet Security (Cyber Security)	1,3,4,12,PSO1, PSO2	3	-	2	4
4	23IT007	The Internet of Things	1, 2, 3, 5, 10	3	-	2	4
5	23CS008	Cryptography and Network Security	5, 6, 8	3	-	2	4
6	23IT009	User Interface/ User Experience	1, 2, 3, 5, 10	3	-	2	4

Commented [pp2]: Approved in 20th Academic Council Meeting Minutes

Elective V**Career Path I, II, III and Other Core Electives**

1	23CSC13	Natural Language Processing (AI & ML)	2,3,4,12,PSO1	3	0	-	3
2	23CSC23	Web Application Databases (Full Stack Developer)	1,3,5,PSO1	3	0	-	3
3	23ITC33	Cloud Security (Cyber Security)	1,2,4,8,12,PSO2	3	0	-	3
4	23EC602	Digital Signal Processing	1,2, PSO2	3	0	-	3
5	23IT010	Information Retrieval Systems	3,6,8	3	0	-	3
6	23CS005	Mobile Computing	1,3,8	3	0	-	3
7		MOOCs		-	-	-	3

Commented [pp3]: Approved in 20th Academic Council Meeting Minutes

Elective VI						
1	23IT017	Social Network Analysis	2,4,5,12	3	0	- 3
2	23IT011	Real Time Operating Systems	2,3,12	3	0	- 3
3	23IT012	Digital Image Processing	3,5,6	3	0	- 3
4	23IT014	Distributed Systems	2, 7, 12	3	0	- 3
5	23CS012	Wireless Ad hoc Networks	1,2,3,6,7,10	3	0	- 3
6	23CS015	Software Project Management	1,2,3,11,12, PS02	3	0	- 3
7		MOOCs	-	-	-	3
8	23BS004	Advanced Materials of Renewable Energy	1,7	3	0	- 3
9	23BS005	Applied Linear Algebra for Engineers	1,12	3	0	- 3

Commented [pp4]: Approved in 20th Academic Council Meeting Minutes

Elective VIII: Professional Elective						
1	23CS014	Green Computing	2,3,6,7	-	-	- 3
1	23IT013	Design Patterns	2,3,5	-	-	- 3
3	23IT016	Professional Ethics	1, 6, 8,12	-	-	- 3
4		MOOCs	-	-	-	3

Commented [pp5]: Approved in 20th Academic Council Meeting Minutes

Audit Course						
1	23AT001	Communication Etiquette in Workplaces				
2	23AT002	Contemporary India: Economy, Policy and Society				
3	23AT003	Design The Thinking				
4	23AT004	Ethics and Integrity				
5	23AT005	Indian Heritage and Culture				
6	23AT006	Intellectual Property Rights				
7	23AT007	Introduction to Journalism				
8	23AT008	Mass Media Communication				
9	23AT009	Science, Technology and Development				
10	23AT010	Social Responsibility				
11	23AT011	The Art of Photography and Film Making				
12	23AT012	Gender Equality for Sustainability				
13	23AT013	Women in Leadership				
14	23AT014	Introduction to Research Methodology				
15	23AT015	Climatic Change and Circular Economy				

MINUTES OF THE 20th ACADEMIC COUNCIL MEETING

Media : Zoom (Online Meeting)
 Date : 15.06.2024 (Saturday)
 Time : 03:00 PM – 05:00 PM

MEMBERS PRESENT

Dr. C. L. V. R. S. V. Prasad	- Chairman (Principal)
Dr. D. Rajya Lakshmi	- Member
Mr.B.Chandra Bhushana Rao	- Member
Dr. G. Jayasuma	- Member
Dr. A. Venu Gopal	- Member
Dr. P. Mallikarjuna Rao	- Member
Dr. P. K. Jain	- Member
Chair Person (BoS : Civil Engg.)	- Member
Chair Person (BoS : EEE)	- Member
Chair Person (BoS : Chem & Mech Engg.)	- Member
Chair Person (BoS : ECE)	- Member
Chair Person (BoS : CSE)	- Member
Chair Person (BoS : IT)	- Member
Chair Person (BoS : BS&H)	- Member
Chair Person (BoS : AIML,AIDS)	- Member
Dr.S.N.Dash(CDC-Head)	- Member
Dr.V.Rambabu (Asso.Dean-Student Affairs)	- Member
Dr. K.Ravindranadh (Asso.Dean-R&D)	- Member
Dr.T.Prabhakar (Controller of Examinations)	- Member
Dr.P.N.L.Pavani (Head -IQAC)	- Member
Dr. M.V.Nageswara Rao(Asso.Dean-Academics)	- Member Secretary

GRANT OF LEAVE OF ABSENCE

Dr. K. V. L. Subramaniam	- Member
Mr. V. Paradesi Naidu	- Member

Chairman welcomed all the members of the academic council and requested for the grant leave of absence for the above referred members. **(Item #1)**.

Member Secretary presented the action taken report for the 19th academic council meeting and received the confirmation for the minutes of 19th academic council meeting held on 06th June 2023 from all the esteemed members.

Also presented the action taken report for the approvals taken by circulation on 20.11.2023 and received the confirmation from all the esteemed members. **(Item #2 &3).**

Member Secretary presented the details of the overall Operations and performance of the Institution (Academic-Operations, Ranking, Achievements, Placements and Research) **(Item #4).**

Academic council members appreciated the efforts and initiatives taken up by the institute for the overall development and the ranking achieved. Congratulated the students who achieved credential in curricular and co-curricular activities.

ITEM No.: 5

Ratification of Semester end result for regular and supplementary examination for the academic year 2023-24 (II, IV, VI, VIII semesters) and 2023-24 (I, III, V, VII semesters) held during June 2023 to June 2024 for Students in B. Tech. and M.Tech Programs.

Member Secretary presented the results declared for the regular and supplementary examinations pertaining to semesters mentioned above for the students admitted during the different academic years under Academic Regulation AR16, AR19, AR20, AR21 and AR 23 and requested for the ratification of the results which were declared by the College academic committee in the presence of the JNTUGV representative.

- The members, after the detailed review, ratified the results of all the regular and supply examinations declared by the college academic committee as per the **Annexure I.**

ITEM No.: 6

Ratification of the PC eligibility list of the UG students admitted during the Academic Year 2020-21 & earlier batches who have successfully acquired the graduation requirements for the award of B. Tech. Degree with Honours , B.Tech. Degree with Minors in Computer Science and Engineering , and B.Tech. Degree as per the respective academic regulations at the time of admission.

Ratification of the PC eligibility list of the PG students admitted during the Academic Year 2021-2022 who have successfully acquired the graduation requirements for the award of M.Tech. Degree as per the respective academic regulations at the time of admission.

Member Secretary presented the (semester-wise & branch-wise) UG results of the 2020 admitted batch for all the semesters i.e from 1st to 8th semesters under Academic Regulation AR20 and who have acquired the graduation requirements and eligible for the issue of Provisional certificate.

Further, details of the students who have acquired graduation requirements and eligible for the issue of PCs pertaining to the batches admitted earlier to 2020 are presented.

The members reviewed the results (1st semester to 8th semester) of 2020 admitted batch students and approved the PC eligibility list of the student who will be graduating by June 2024 as per the academic regulations AR20. Apart from this, the PC eligible students from the earlier admitted students who have acquired graduation requirements were also approved as per the **Annexure II**.

Member Secretary also presented the (semester-wise & Specialisation-wise) results PG students admitted in the academic year 2021-22 for all the semesters' i.e from 1st to 4th semesters and who have fulfilled the M.Tech requirements and eligible for the issue of Provisional certificate.

The members reviewed the results (1st semester to 4th semester) of 2021 admitted batch PG students and approved the PC eligibility list of the students who will be graduating by June 2024 as per the **Annexure II**.

ITEM NO.:7

Ratification of the syllabus for the 7th & 8th semesters of CSE-AIML & CSE-AIDS as per AR21 academic regulations

HOD-CSE presented the recommendations of the Board of Studies (meeting held on 16th March 2024) of CSE-(Artificial Intelligence and Machine Learning) and CSE-(Artificial Intelligence and Data Science) regarding the detailed Syllabi for 7th & 8th semesters for AR21 regulations B. Tech. (Regular), B. Tech. (Honors) and B. Tech (Minor) Programs requesting for the ratification from the members of Academic Council

Members after deliberation ratified the syllabi for the 7th and 8th semesters as per the **Annexure III**.

ITEM NO.:08

Approval of the AR-23 Academic Regulations for 3rd, 4th, 5th, 6th, 7th and 8th semesters.

The member secretary presented the detailed course structure and syllabus from III to VIII semesters of AR23 regulations. The syllabus and course structure of I and II semesters are in line with the common guidelines suggested by JNTUGV.

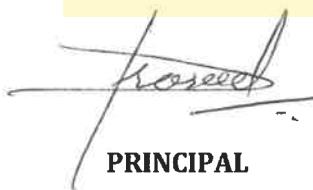
However, keeping in view the following points related the JNTUGV suggested course structure:

1. More academic load during 7th semester (21 credits)
2. Mandated FSI during 8th semester for all the students
3. No clear separation of credits for project work and FSI in 8th semester
4. Suggested FSI through online/virtual mode

All the respective BoS have recommended implementing the course structure of III to VIII semesters of AR21 which was Approved and ratified by AC during the meeting dated 13th July 2022 with the following changes to have credit balance.

- CC&EC activities which were available from III to VI semesters are removed as CC&EC activities were already pursued in the I and II semesters.
- One credit is reduced in the Open Elective of VIII semester
- Minor modifications in the syllabus in a few courses.

Members deliberated and ratified the course structure and syllabus for AR23 regulations as recommended by the respective BoS for all the eight UG programs. Details are attached in **Annexure-IV**



PRINCIPAL



Encl. Annexure I to IV

Copy to:

- All Members of the Academic Council
- Assoc.Dean(Academics)
- Controller of Examinations (CoE)
- File

**PC Eligibility for
B.Tech Degree with Minors in Computer Science and Engineering**

S.No	Department	Registered	Eligible for B.Tech Degree with Minors in Computer Science and Engineering
1	Civil Engineering	13	9
2	Electrical and Electronics Engineering	10	10
3	Mechanical Engineering	9	9
4	Electronics and Communication Engineering	30	26
5	Chemical Engineering	3	2
Total		65	56

PC Eligibility - PG Students 2021 Admitted Batch

S.No.	Admitted Batch	PC Eligible Students	Eligibility Academic Year
1	2021 Admitted Batch	08	2023-24

Annexure - III

Syllabus for 7th & 8th semesters of CSE-AIML & CSE-AIDS

https://gmrit.edu.in/PDFs/curriculum/B.Tech_AIDS_Syllabus_AR21.pdf

https://gmrit.edu.in/PDFs/curriculum/B.Tech_AIML_Syllabus_AR21.pdf

Annexure - III

Academic Regulations (AR-23) for 3rd, 4th, 5th, 6th, 7th and 8th semesters

https://gmrit.edu.in/PDFs/curriculum/B.Tech_AIDS_Syllabus_AR23.pdf

https://gmrit.edu.in/PDFs/curriculum/B.Tech_AIML_Syllabus_AR23.pdf

https://gmrit.edu.in/PDFs/curriculum/B.Tech_Civil_Syllabus_AR23.pdf

https://gmrit.edu.in/PDFs/curriculum/B.Tech_EEE_Syllabus_AR23.pdf

https://gmrit.edu.in/PDFs/curriculum/B.Tech_CSE_Syllabus_AR23.pdf

https://gmrit.edu.in/PDFs/curriculum/B.Tech_ECE_Syllabus_AR23.pdf

https://gmrit.edu.in/PDFs/curriculum/B.Tech_Mech_Syllabus_AR23.pdf

https://gmrit.edu.in/PDFs/curriculum/B.Tech_IT_Syllabus_AR23.pdf