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Aditya Nagar, ADB Road, Surampalem - 533437, Near Kakinada, E.G.Dt., Ph:99498 76662

Program Name : B.Tech. in Petroleum Technology

Syllabus Revision for the Academic Year 2020-2021				
S.No	Semester	Course Code	Course Name	% of content revised for the existing year
1	I	201HS1T01	Communicative English	0
2	I	201BS1T01	Differential equations and Linear algebra	0
3	I	201BS1T02	Engineering Physics	0
4	I	201ES1T03	Essential Electrical and Electronics Engineering	0
5	I	201ES1T05	Engineering Graphics	80
6	I	201HS1L01	Communicative English Lab	0
7	I	201BS1L01	Engineering Physics Lab	0
8	I	201ES1L03	Essential Electrical and Electronics Engineering Lab	0
9	I	201MC1T01	Environmental Science	0
10	II	201BS2T05	Partial Differential Equations and Vector Calculus	0
11	II	201BS2T08	Chemistry of Materials	0
12	II	201ES2T06	Engineering Mechanics	0
13	II	201ES2T08	Programming for Problem Solving Using C	0
14	II	201ES2L07	Engineering Workshop	0
15	II	201ES2L12	Computer Aided Drafting Lab	100
16	II	201HS2L02	Professional Communications Skills Lab	0
17	II	201BS2L05	Engineering Chemistry Lab	0
18	II	201ES2L10	Programming for Problem Solving Using C Lab	0
19	II	201MC2T02	Constitution of India	0
20	III	191PT3T01	Petroleum Exploration	0
21	III	191PT3T02	Geology and Sedimentology	0
22	III	191PT3T03	Chemical Process Calculations	0
23	III	191PT3T04	Mechanical and Materials Science and Engineering	80
24	III	191PT3L01	Mechanical and Material Science Lab	0
25	III	191PT3L02	Geology Lab	100
26	III	191BS3T15	Numerical Methods and Integral Transforms	0
27	III	191MC3A03	Employability Skills – I	0
28	IV	191PT4T06	Momentum Transfer	0
29	IV	191PT4T07	Petroleum Geology	0

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S.No	Semester	Course Code	Course Name	% of content revised for the existing year
30	IV	191PT4T05	Process Heat Transfer	0
31	IV	191HS3T02	Managerial Economics and Financial Analysis	0
32	IV	191HS4T03	Management Science	0
33	IV	191ES4T15	Internet of Things	0
34	IV	191MC4A05	Employability Skills – II	0
35	IV	191BS4T19	Complex Variables and Statistical Methods	95
36	IV	191PT4L03	Process Heat Transfer Lab	0
37	IV	191PT4L04	Momentum Transfer Lab	0
38	V	171PT5T06	Process Dynamics and Control	0
39	V	171PT5T07	Petroleum Exploration	0
40	V	171PT5T08	Process Instrumentation	0
41	V	171PT5T09	Well Logging and Formation Evaluation	0
42	V	171PT5T10	Drilling Technology	0
43	V	171PT5E01	Well Engineering and Design	0
44	V	171PT5E02	Fundamentals of Liquefied Natural Gas	0
45	V	171PT5E03	Pipeline Engineering	0
46	V	171PT5L03	Instrumentation, Process Dynamics and Control Lab	0
47	V	171PT5L04	Drilling Fluids Lab	0
48	V	171HS5T06	Employability Skills - III	0
49	V	171PT5S01	MOOCs – I	0
50	VI	171PT6T11	Well Completions, Testing and Services	0
51	VI	171PT6T12	Petroleum Production Engineering	0
52	VI	171PT6T13	Petroleum Reservoir Engineering - I	0
53	VI	171PT6T14	Surface Production Operations	0
54	VI	171PT6E04	Petroleum Refining and Petrochemical Engineering	0
55	VI	171PT6E05	Storage and Transportation of Crude Oil and Natural Gas.	0
56	VI	171PT6E06	Reservoir Stimulation	0
57	VI	171PT6E07	Natural Gas Hydrates	0
58	VI	171PT6E08	Natural Gas Engineering	0
59	VI	171PT6E09	Horizontal Well Technology	0
60	VI	171PT6L05	Petroleum Analysis Lab	0
61	VI	171PT6L06	Petroleum Réservoir Simulation Lab	0
62	VI	171HS6T07	Employability skills - IV	0
63	VI	171PT5S02	MOOCs – II	0
64	VII	171PT7T15	Integrated Asset Management and Petroleum Economics	40
65	VII	171PT7T16	Petroleum Reservoir Engineering - II	0

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S.No	Semester	Course Code	Course Name	% of content revised for the existing year
66	VII	171PT7T17	IOR and EOR Techniques	0
67	VII	171PT7T18	Oil and Gas Processing Plant Design	0
68	VII	171PT7E10	Coal Bed Methane	0
69	VII	171PT7E11	Offshore Engineering	0
70	VII	171PT7E12	Petroleum Corrosion Technology	100
71	VII	171PT7E13	Shale Gas Reservoir Engineering	0
72	VII	171PT7E14	Subsea Engineering	0
73	VII	171PT7E15	Reservoir Modeling and Simulation	0
74	VII	171PT7L07	Petroleum Equipment Design and Simulation Lab	0
75	VII	171PT7L08	Petroleum Reservoir Engineering Lab	0
76	VII	171HS7A04	Managerial Economics and Financial Analysis	0
77	VII	171PT7P01	Industry Oriented (Internship) Minor Project	0
78	VIII	171PT8E16	HSE and FE in Petroleum Industry	0
79	VIII	171PT8E17	Reliability and Risk Management in Petroleum Operations	100
80	VIII	171PT8E18	Deep Sea Production Systems	100
81	VIII	171PT8O01	Green Technologies	0
82	VIII	171PT8O02	Non-Conventional Sources of Energy	0
83	VIII	171PT8O03	Alternative Energy Sources for Automobiles	0
84	VIII	171PT8O04	Waste Water Treatment	0
85	VIII	171PT8O05	Computational Fluid Dynamics	0
86	VIII	171PT8O06	Process Intensification in Petroleum Industry	100
87	VIII	171EC8O02	Disaster Management	100
88	VIII	171PT8P02	Major Project	0

Total number of courses in the academic year 2020-2021	= 88
Number of courses having revision in syllabus content >/= 20% in the academic year 2020-2021	= 11
Percentage of syllabus revision carried out in the academic year 2020-2021 = (11/88)*100	= 13.63%

Program Coordinator

Head of the Department

Head of the Department
Department of Petroleum Technology
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Department of Petroleum Technology

Date: 13-10-2020

Minutes of the VI meeting of BOS scheduled on 10-10-2020

The VI meeting of the BOS of PT was held virtually on 10-10-2020 at 9.30 AM through Microsoft Teams. Prof R. Giri Prasad, Chairperson presided over the meeting.

Agenda 6.1: Welcome address by Chair Person.

Dr. R. Giri Prasad, BOS Chairperson invited the distinguished members of BOS to the VI BOS Meeting.

Agenda 6.2: Ratification of minutes of the previous Board of Studies meeting

The BOS members have ratified the points discussed in the previous Board of Studies meeting held on 07-12-2019

Agenda 6.3: Discussion and ratification of the Vision and Mission of the department and Program Educational Objectives (PEOs), Program Outcomes (POs) and Program Specific Outcomes (PSOs) of the Programs under the Department.

The BOS members have ratified the Vision and Mission of the department and Program Educational Objectives (PEOs), Program Outcomes (POs) and Program Specific Outcomes (PSOs) of the Programs under the Department.

Agenda 6.4: Discussion on proposed AR19 B. Tech (PT) IV& V semesters syllabus and finalization of the same.

The BOS members approved the following changes to the proposed AR19 B. Tech (PT) IV& V Semester after incorporating the following suggestions:

- Added a topic on Heat transfer in Porous media under Unit – III to Process Heat Transfer
- Reference text book is added in Process Heat Transfer that is Principles of Heat Transfer in Porous media by M. Kaviany Springer Publication, 1991.
- Interchanged the Unit – III to Unit – I & Unit – I to Unit – III in Petroleum Geology.
- Added a topic on frequency response controllers in Instrumentation and Process control in Unit – V.
- Changed the reference book as a main text book in Instrumentation and Process Control is Chemical Process Control by G. Stephanopoulos.
- Included Well Logging and Mud Logging differences in Unit – I

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- Interchanged the Unit – IV as a Unit – I and named as a Mud logging basics.
- Added Unit – I the topic GTO in Drilling Technology.
- Added Drilling Fluid manuals as a reference book in Drilling Technology.
- Added topic virial equation of state application to Petroleum Fluids in Unit – V in Thermodynamics for Petroleum Engineers
- Text book was added equation of state and PVT analysis by Tarak Ahmed in Thermodynamics for Petroleum Engineers.
- Removed Mud logging methods from Unit – I in Well Engineering.
- Modified to route selection for onshore & offshore in Unit –I and in Unit – V safety and maintenance considerations added in Pipeline Engineering.
- Added text book in Natural Gas Engineering & Processing entitled as Gas Production Engineering by Sanjay Kumar, Gulf Publication, 1987.
- Added and elaborated the units of III, IV & V with Sub topics in Process Intensification.

Agenda 6.5: Discussion on proposed AR20 B. Tech (PT) First Year Program structure and ratification of the same.

The BOS members have ratified the AR20 B. Tech (PT) First Year Program structure.

Agenda 6.6: Discussion on proposed AR20 B. Tech (PT) Program – I & II semesters syllabus and ratification of the same.

The BOS members have ratified the AR20 B. Tech (PT) I & II semesters syllabus.

Agenda 6.7: Discussion on proposed AR19 M. Tech (PE) Program – III & IV semesters Program Structure and Finalization of the same.

The BOS members approved the AR19 M. Tech (PE) Program – III & IV semesters Program Structure.

Agenda 6.8 : Discussion on the courses having focus on employability/entrepreneurship/skill development in the programs of B. Tech (PT) and M. Tech (PE) ratification of the same.

The BOS members have ratified the courses having focus on employability/entrepreneurship/skill development in the programs of B. Tech (PT) and M. Tech (PE).

Agenda 6.9: Discussion on the new courses offered in the B. Tech (PT) and M. Tech (PE) programs and ratification of the same.

The BOS members have ratified the new courses offered in the B. Tech (PT) and M. Tech (PE) programs. The percentage of new courses introduced in the academic year 2020-2021 for B. Tech (PT) is 9.09 % and M. Tech (PE) is 9.23 %. The list of new courses is enclosed as Annexure-I.

Agenda 6.10: Discussion on the B. Tech (PT) and M. Tech (PE) programs in which Choice Based Credit System (CBCS)/elective course system is being implemented and ratification of the same.

The BOS members have ratified the B. Tech (PT) and M. Tech (PE) in which Choice Based Credit System (CBCS)/ elective course system.

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Agenda 6.11: Discussion on the value-added courses offered for students and ratification of the same.

The BOS members approved the list of value added courses offered to students.

Agenda 6.12: Discussion on the percentage of syllabus revision has done in the B. Tech (PT) and M. Tech (PE) program and ratification of the same

The BOS members approved the syllabus revision in B. Tech (PT) and M. Tech (PE) program based on the attainment and the feedback of the course exist survey. The percentage of courses revised in this academic year 2020-2021 for B. Tech (PT) is 13.63% and M. Tech (PE) is 52.3 %. The list of courses revised is enclosed as Annexure-II

Agenda 6.13: Analysis of Results

The BOS Chairperson presented the even and the odd semesters pass percentage for the A.Y.2020-2021 .The BOS members noted the same.

Agenda 6.14: Analysis of Students Feedback & Action Taken Report.

The BOS Chairperson expressed that the student feedback and action taken report process was initiated at end of each semester. The BOS members appreciated the faculty.

Agenda 6.15: Analysis of Stakeholder's Feedback on Curriculum.

The BOS chairperson presented the feedback on curriculum from stake holders. The BOS members noted the same and approved the feedback on curriculum. The Action Taken Report on Stakeholders Feedback is enclosed as Annexure-III.

Agenda 6.16: Any other item with the approval of Chair Person.

BOS members expressed that in VII semester of AR20 B. Tech (PT), the number of courses can be reduced so that, the student can prepare for the competitive exams and placement related activities. As per AR20 two courses maximum of 6 credits of VII semester can be completed by opting them as MOOCs in the earlier semesters in order to reduce the burden on the student in VII.

BOS members expressed that the web links provided at the end of every course must include the content of that particular link so that if the course link changes also people can identify by searching that content.

Agenda 6.17: Scheduling of next Board of Studies meeting.

The next BOS meeting is tentatively scheduled in the month of October 2021.

Agenda 6.18: Vote of Thanks

Dr. R. Giri Prasad, BOS Chairperson presented the Vote of thanks.

BOS Chairperson

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Annexure-I

List of New Courses in the Academic Year 2020-2021

S. No	Program	Semester	Course Code	Course Name
1.	B. Tech (PT)	II	201ES2L12	Computer Aided Drafting Lab
2.	B. Tech (PT)	III	191MC3A04	Essence of Indian Traditional Knowledge
3.	B. Tech (PT)	IV	191MC4A06	Biology for Engineers
4.	B. Tech (PT)	III	191PT3L02	Geology Lab
5.	B. Tech (PT)	VII	171PT7E12	Petroleum Corrosion Technology
6.	B. Tech (PT)	VIII	171PT8E17	Reliability & Risk Management in Petroleum Operations
7.	B. Tech (PT)	VIII	171PT8E18	Deep Sea Production Systems
8.	B. Tech (PT)	VIII	171PT8O06	Process Intensification in Petroleum Industry
9.	M. Tech (PE)	III	192PE3O01	Introduction to Petroleum Engineering
10.	M. Tech (PE)	III	192PE3O02	Process Intensification
11.	M. Tech (PE)	III	192PE3O03	Fundamentals of Liquefied Natural Gas
12.	M. Tech (PE)	III	192PE3O04	Subsea Engineering
13.	M. Tech (PE)	III	192PE3O05	Geology
14.	M. Tech (PE)	III	192PE3O06	HSE in Petroleum Industry

BOS Chairperson

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Annexure-II

List of Courses Revised in the Academic Year 2020-2021

S. No	Program	Semester	Course Code	Course Name
1.	B. Tech (PT)	I	201ES1T05	Engineering Graphics
2.	B. Tech (PT)	III	191PT3T04	Mechanical and Materials Science and Engineering
3.	B. Tech (PT)	IV	191BS4T19	Complex Variables and Statistical Methods
4.	B. Tech (PT)	VII	171PT7T15	Integrated Asset Management and Petroleum Economics

BOS Chairperson

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Annexure III

Action Taken Report on Stakeholders Feedback in the Academic Year 2020-2021

S. No	Agenda Item No.	Stakeholders Recommended	Action Taken
1.	6.14	Institution and Industry interaction is needed for the students.	As per discussions we have signed MoU's with Reliance industries to cater the students to aware of real time applications and recent trends in Industries.
2.	6.4	Include Emerging technologies in the syllabus.	As per discussions we have revised Syllabus, introduced all the emerging technologies are included in syllabus.
3.	6.8	Suggested that students are strong enough in employability skills	Employability skills-I, II, III, IV courses were restructured in the AR 20 Curriculum and simultaneously practicing.
4.	6.14	Suggested to Increase industrial training practically.	Internship is made mandatory and thereby the students should take the industry training and to implement a project as part of Internship.
5.	6.5	Suggested that if coding or programming related course is introduced in the early semesters so that by the end of the graduation the student will be industry ready.	Skill oriented courses, Python Programming are introduced in semesters.
6.	6.4	students need to have an insight in solving real world problems	As per discussions Environmental science and Biology for engineers is included in semesters which gives an introduction and insight to real world problems related to biomedical engineering, environmental sustainability.
7.	6.12	Revise mechanics and material science engineering	As per discussions both subjects revised and consider as one.
8.	6.6	Better to have computer drafting practically.	As per discussions lab was introduced
9.	6.8	Employer Incorporation of more industry oriented courses to improve the student employability and	As per suggestions and discussions introduction of new courses like

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		knowledge of current industrial trends	advanced well logging techniques implemented
10.	6.10	Better to keep Interdisciplinary elective courses in syllabus	Dean academics has noted and kept in syllabus
11.	6.14	It is better to Increase industrial training practically	Internship is made mandatory and thereby the students should take the industry training and to implement a project.
12.	6.10	It is better to introduce more advanced courses	As per suggestions and discussions with dean academics some courses implemented in elective courses.
13.	6.10	It is better to add additional skill oriented programmes to get core jobs.	As per suggestions received CBM and shale gas courses will be initiated

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