

REPORT ON EXTRACT OF SYLLABUS CHANGE (2017-18 TO 2021-22)

DEPARTMENT OF HBS

For (CE, ME)

| % Change in syllabus from JNTUA R-15 to AK19 Autonomous Regulations | | | | |
|---|-------------|--|------------|--------------------------------|
| S. No | Course code | Name of the Course | Remarks | % of Syllabus content modified |
| 1. | 19ABS9905 | Engineering Chemistry | | 40% |
| 2. | 19ABS9910 | Engineering Chemistry Lab | | 20% |
| 3. | 19AHS9901 | Communicative English-1 | New Course | 90% |
| 4. | 19AHS9902 | Communicative English-1 Lab | New Course | 10% |
| 5. | 19ABS9901 | Algebra and Calculus | New Course | 60% |
| 6. | 19ABS9906 | Differential Equations and Vector Calculus | New Course | 100% |
| 7. | 19ABS9903 | Engineering Physics | | 60% |
| 8. | 19ABS9908 | Engineering Physics Lab | | 60% |
| 9. | | | | |
| 10. | | | | |

Engineering Chemistry- One new unit were incorporated 1.Surface Chemistry, two to three new topics were added in AK 19 which are relevant to engineering applications.

Communicative English- 1 Text book lesson content 100% changed, 80% Grammar and Vocabulary similar

Communicative English-1 Lab 90% syllabus similar and 10% additional topics included. Summarizing and Note making, Information transfer, Precise writing, Paragraph writing are added.

Mathematics:

19ABS9901: Name of the Course changed from Mathematics-1 to Algebra and Calculus, three new units were introduced 1.Matrix Operations and Solving system of Linear equations.2.Quadratic forms and Mean value theorems.5.Special Functions in AK19 which are basics useful for current engineering technologies.

19ABS9906: Name of the Course changed from Mathematics-II to Differential Equations and vector calculus, Five new units were introduced 1.Linear Differential Equations of Higher Order 2.Equations reducible to Linear Differential equations and applications.3.Partial Differential Equations of First and Higher order.4.Vector Differentiation.5.Vector Integration in AK19 which are incorporated according to basics of current industry needs

Engineering Physics (19ABS9903)

In engineering physics R15 regulation (15A56101) syllabus had to change 60% of AK19 regulation syllabus in Engineering physics.

Engineering Physics Lab (19ABS9908)

In engineering physics Lab R15 regulation (15A56102) syllabus had to change 60% of AK19 regulation syllabus in Engineering physics Lab.

| % Change in syllabus from AK19 to AK20 Autonomous Regulations | | | | |
|---|-------------|--|------------|--------------------------------|
| S. No | Course code | Name of the Course | Remarks | % of Syllabus content modified |
| 1 | 20ABS9905 | Engineering Chemistry | | 0% |
| 2 | 20ABS9910 | Engineering Chemistry Lab | | 0% |
| 3 | 20AHS9901 | Communicative English | New Course | 90% |
| 4 | 20AHS9902 | Communicative English Lab | New Course | 10% |
| 5 | 20ABS9901 | Algebra and Calculus | | 0% |
| 6 | 20ABS9906 | Differential Equations and Vector Calculus | | 0% |
| 7 | 20ABS9903 | Engineering Physics | | 0% |
| 8 | 20ABS9908 | Engineering Physics Lab | | 0% |
| | | | | |

Communicative English -80% Grammar and Vocabulary similar and additional Vocabulary included in every unit.

Communicative English Lab 90% syllabus is similar, 10% added , AK – 20 Ted talks, Vocabulary, Fun buzz are added activities.

REPORT ON EXTRACT OF SYLLABUS CHANGE (2017-18 TO 2021-22)

DEPARTMENT OF MECHANICAL ENGINEERING

| % Change in syllabus from JNTUA R-15 to AK19 Autonomous Regulations | | | | |
|---|-------------|---|------------|--------------------------------|
| S. No | Course code | Name of the Course | Remarks | % of Syllabus content modified |
| 1 | 19ABS9901 | Algebra and Calculus | New course | 100 |
| 2 | 19ABS9905 | Engineering Chemistry | | 60 |
| 3 | 19AES0501 | Problem Solving and Programming | New course | 100 |
| 4 | 19ALC0301 | Engineering Workshop Practice | New course | 100 |
| 5 | 19AES0301 | Engineering Graphics Lab | New course | 100 |
| 6 | 19ABS9910 | Engineering Chemistry Lab | | 20 |
| 7 | 19AES0503 | Problem Solving and Programming Lab | New course | 100 |
| 8 | 19ABS9906 | Differential Equations and Vector Calculus | New course | 100 |
| 9 | 19AES0502 | Data Structures | New course | 100 |
| 10 | 19AHS9901 | Communicative English- I | New course | 100 |
| 11 | 19AHS9902 | Communicative English – I Lab | New course | 100 |
| 12 | 19ALC0302 | Mechanical Engineering Workshop | New course | 100 |
| 13 | 19AES0504 | Data Structures Lab | New course | 100 |
| 14 | 19ABS9913 | Probability & Statistics, PDE and Complex Variables | New course | 100 |
| 15 | 19AHS9903 | Communicative English II | New course | 100 |
| 16 | 19AES0302 | Design Thinking & Product Innovation | New course | 100 |
| 17 | 19APC0301 | Engineering Mechanics | | 20 |
| 18 | 19AHS9904 | Communicative English II Lab | New course | 100 |
| 19 | 19AES0303 | Design Thinking & Product Innovation Lab | New course | 100 |
| 20 | 19APC0307 | Material Science and Engineering Lab | | 20 |
| 21 | 19ALC0303 | Computer Aided Machine Drawing Lab | New course | 100 |
| 22 | 19ABS9915 | Transform Techniques and Numerical Methods | New course | 100 |
| 23 | 19AES0505 | Internet of Things (IoT) | New course | 100 |
| 24 | 19APC0302 | Mechanics of Materials | New course | 100 |
| 25 | 19AMC9901 | Biology for Engineers | New course | 100 |
| 26 | 19APR0301 | Socially Relevant Project (15 Hrs/Sem) | New course | 100 |
| 27 | 19AES0506 | Internet of Things (IoT) Lab | New course | 100 |
| 28 | 19APC0303 | Mechanics of Materials Lab | New course | 100 |
| 29 | 19APE0306 | Renewable Energy Technologies | New course | 100 |
| 30 | 19APE0501 | Artificial Intelligence | New course | 100 |
| 31 | 19APE0416 | Sensor Networks | New course | 100 |
| 32 | 19AMC9902 | Constitution of India | New course | 100 |
| 33 | 19APR0302 | Socially Relevant Projects (15 Hrs /Sem) | New course | 100 |
| 34 | 19APC0315 | Computer Aided Drafting Lab | New course | 100 |
| 35 | 19APE0317 | Optimization Techniques | New course | 100 |
| 36 | 19APE0318 | Introduction to CAD/CAM | New course | 100 |
| 37 | 19APC0513 | Machine Learning | New course | 100 |
| 38 | 19APC0216 | Neural Networks & Fuzzy Logics | New course | 100 |
| 39 | 19AOE0101 | Structural Health Monitoring | New course | 100 |

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|----|-----------|--|---------------|-----|
| 40 | 19AHE9902 | Principles of Effective Public Speaking | New course | 100 |
| 41 | 19AHE9904 | Advanced Numerical Methods | New course | 100 |
| 42 | 19AHE9908 | Electromagnetic Theory | New course | 100 |
| 43 | 19AMC9904 | Professional Ethics and Human Values | New course | 100 |
| 44 | 19APR0303 | Socially Relevant Projects (15 Hrs / Sem) | New course | 100 |
| 45 | 19APC0320 | Design & Simulation Lab | New course | 100 |
| 46 | 19APE0308 | Finite Element Analysis | New course | 100 |
| 47 | 19APE0311 | Simulation Modelling for Manufacturing Systems | New course | 100 |
| 48 | 19APE0312 | Advanced Mechanics | New course | 100 |
| 49 | 19AHE9906 | Effective Technical Communication | New course | 100 |
| 50 | 19AHE9901 | Technical Writing | New course | 100 |
| 51 | 19AHSMB03 | Organizational Behaviour | New course | 100 |
| 52 | 19APR0305 | Socially Relevant Project (15 hr/sem) | New course | 100 |
| 53 | 19APE0121 | Air pollution and control | New course | 100 |
| 54 | 19AOE0516 | R Programming | New course | 100 |
| 55 | 19APE0208 | Electricity and Safety Measures | New course | 100 |
| 56 | 19APE0313 | Rapid Manufacturing | New course | 100 |
| 57 | 19APE0314 | Laser Based Manufacturing | New course | 100 |
| 58 | 19APE0315 | Energy Conservation and Waste Heat Recovery | New course | 100 |
| | | Total no. of subjects in R15 of JNTUA syllabus | 70 | |
| | | No. of subjects with $\geq 20\%$ change in AK19 syllabus | 58 | |
| | | % of subjects with change in contents | 82.85% | |

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| % Change in syllabus from AK19 to AK20 Autonomous Regulations | | | | |
|---|-------------|---|---------------|--------------------------------|
| S. No | Course code | Name of the Course | Remarks | % of Syllabus content modified |
| 1 | 20AES0301 | Engineering Graphics | New course | 100 |
| 2 | 20AES0509 | Basics of Python Programming | New course | 100 |
| 3 | 20AES0510 | Basics of Python Programming Lab | New course | 100 |
| 4 | 20ABS9913 | Probability & Statistics, PDE | New course | 100 |
| 5 | 20APC0303 | Machine Drawing | New course | 100 |
| 6 | 20APC0313 | Mechanical Engineering Workshop Practice | New course | 100 |
| 7 | 20APC0324 | CAD Lab | New course | 100 |
| 8 | 20ASC0301 | CATIA Lab | New course | 100 |
| 9 | 20AES0324 | Thermal Engineering | New course | 100 |
| 10 | 20AHS9905 | Universal Human Values | New course | 100 |
| 11 | 20AOEMB02 | Entrepreneurship Development | New course | 100 |
| 12 | 20APE0306 | Renewable Energy Technologies | New course | 100 |
| 13 | 20ASA0502 | Soft skills | New course | 100 |
| 14 | 20CSP0301 | Community Service Project | New course | 100 |
| 15 | 20APC0316 | Design of Machine Elements | New course | 100 |
| 16 | 20AOE0515 | The joy of computing using Python | New course | 100 |
| 17 | 20AOEMB01 | Principles of Management | New course | 100 |
| 18 | 20AOE0518 | An Introduction to Artificial Intelligence | New course | 100 |
| 19 | 20APC0328 | CAM Lab | New course | 20 |
| 20 | 20APC0330 | Machine Tools – 2 Lab | New course | 20 |
| 21 | 20ASC0303 | Crystal structure Analysis Lab | New course | 100 |
| 22 | 20APC0312 | Manufacturing Technology | | 20 |
| | | Total no. of subjects in AK19 Autonomous | 70 | |
| | | No. of subjects with >= 20% change in AK20 syllabus | 22 | |
| | | % of subjects with change in contents | 31.42% | |

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| % Change in syllabus from R17 JNTUA to AK19 Autonomous Regulations | | | | |
|--|-------------|--|---------------|--------------------------------|
| S. No | Course code | Name of the Course | Remarks | % of Syllabus content modified |
| 1 | 19DBS9901 | Advanced Mathematics for Engineers | New course | 100 |
| 2 | 19DPC0303 | Advanced Material Science & Metallurgy | New course | 100 |
| 3 | 19DMC0101 | Disaster Management | New course | 100 |
| 4 | 19DMC9901 | English for Research Paper Writing | New course | 100 |
| 5 | 19DMC9902 | Sanskrit for Technical Knowledge | New course | 100 |
| 6 | 19DMC9903 | Value Education | New course | 100 |
| 7 | 19DPC0302 | Mechanical Vibrations Lab | New course | 100 |
| 8 | 19DPC0309 | Mechanisms and Robotics (Virtual) Lab | New course | 100 |
| 9 | 19DPE9005 | Advanced Mechanics of Solids | New course | 100 |
| 10 | 19DPE9006 | Tribology in Design | New course | 100 |
| 11 | 19DMC5801 | Pedagogy Studies | New course | 100 |
| 12 | 19DMC9904 | Constitution of India | New course | 100 |
| 13 | 19DMC9905 | Stress Management by Yoga | New course | 100 |
| 14 | 19DMC9906 | Personality Development through Life Enlightenment Skills | New course | 100 |
| 15 | 19DPE9008 | Product Design and Development | New course | 100 |
| 16 | 19DPE9009 | Engineering Fracture Mechanics | New course | 100 |
| 17 | 19DOE5801 | Business Analytics | New course | 100 |
| 18 | 19DOE9001 | Industrial Safety | New course | 100 |
| 19 | 19DOE9002 | Operations Research | New course | 100 |
| 20 | 19DOE2002 | Project Management | New course | 100 |
| 21 | 19DOE9004 | Composite Material | New course | 100 |
| 22 | 19DOE2001 | Waste to Energy | New course | 100 |
| | | Total no. of subjects in AK19 Autonomous | 26 | |
| | | No. of subjects with $\geq 20\%$ change in AK20 syllabus | 22 | |
| | | % of subjects with change in contents | 84.61% | |

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