**BACHELOR OF TECHNOLOGY (AERONAUTICAL ENGINEERING) CREDIT BASED**

**KURUKSHETRA UNIVERSITY KURUKSHETRA**

**SCHEME OF STUDIES/EXAMINATION**

 **SEMESTER-IIIw.e.f. 2019-20 ONWARDS**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S. No.** | **Course Code** | **Course Title** | **Teaching Schedule** |  | **Examination Schedule (Marks)** | **Duration of Exam****(Hrs.)** |
| **L** | **T** | **P** | **Hours/Week** | **Credits** | **Major Test**  | **Minor Test** | **Practical** | **Total** |  |
| 1 | AER-201 | Elements of Aeronautics | 3 | 0 | 0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 2 | #BS-205A | Advance Engineering Mathematics | 3 | 0 | 0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 3 | #ES-203A | Basic Electronics Engineering | 3 | 0 | 0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 4 | AER-203 | Fluid Mechanics  | 3 | 1 | 0 | 4 | 4 | 75 | 25 | 0 | 100 | 3 |
| 5 | #MEC-203A | Mechanics of Solids-I  | 3 | 1 | 0 | 4 | 4 | 75 | 25 | 0 | 100 | 3 |
| 6 | #MEC-205A | Thermodynamics  | 3 | 1 | 0 | 4 | 4 | 75 | 25 | 0 | 100 | 3 |
| 7 | AER-205 | Fluid Mechanics Lab | 0 | 0 | 2 | 2 | 1 | 0 | 40 | 60 | 100 | 3 |
| 8 | #MEC-209LA | Mechanics of Solids Lab | 0 | 0 | 2 | 2 | 1 | 0 | 40 | 60 | 100 | 3 |
| 9 | \*AER-207 | Industrial Training – I | 2 | 0 | 0 | 2 | - | - |  100 | - | 100 |  |
| 10 | \*\*MC-901A | Environmental Sciences | 3 | 0 | 0 | 3 | - | 100 | - | - | 100 | 3 |
|  |  | **Total** | **23** | **3** | **4** | **30** | **23** | **450** | **230** | **120** | **800** |  |

***Note:***

*1. \*AER-207 is a mandatory non-credit course in which students will be evaluated for the industrial training undergone after 2nd semester and students will be required to get passing marks to qualify.*

2. \*\*MC-901A is mandatory credit-less course in which the students will be required to get passing marks in the major test.

3. # The coursesare common with B. Tech. (Mechanical Engineering).

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**KURUKSHETRA UNIVERSITY KURUKSHETRA**

**SCHEME OF STUDIES/EXAMINATION**

 **SEMESTER-IV *w.e.f.*2019-20 ONWARDS**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S. No.** | **Course Code** | **Course Title** | **Teaching Schedule** |  | **Examination Schedule (Marks)** | **Duration of Exam****(Hrs.)** |
| **L** | **T** | **P** | **Hours/Week** | **Credits** | **Major Test**  | **Minor Test** | **Practical** | **Total** |  |
| 1 | #ES-204A | Materials Engineering | 3 | 0 | 0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 2 | AER-202 | Aircraft Structure-I | 3 | 1 | 0 | 4 | 4 | 75 | 25 | 0 | 100 | 3 |
| 3 | AER-204 | Aerodynamics-I | 3 | 1 | 0 | 4 | 4 | 75 | 25 | 0 | 100 | 3 |
| 4 | #MEC-206A | Mechanics of Solids-II | 3 | 1 | 0 | 4 | 4 | 75 | 25 | 0 | 100 | 3 |
| 5 | AER-206 | Propulsion-I | 3 | 0 | 0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 6 | #ES-206LA | Materials Engineering Lab | 0 | 0 | 2 | 2 | 1 | 0 | 40 | 60 | 100 | 3 |
| 7 | AER-208 | Propulsion Lab | 0 | 0 | 2 | 2 |  1 | 0 | 40 | 60 | 100 | 3 |
| 8 | \*MC-902A | Constitution of India | 3 | 0 | 0 | 3 | - | 100 | - | - | 100 | 3 |
|  |  | **Total** | **18** | **3** | **4** | **25** | **20** | **375** | **205** | **120** | **700** |  |

***Note:***

1. *\*MC-902A is a mandatory credit-less course in which the students will be required to get passing marks in major test.*

*2. All the students have to undergo 4 to 6 weeks industrial training after 4th semester and it will be evaluated in 5th semester.*

3. #The coursesare common with B.Tech. (Mechanical Engineering).**BACHELOR OF TECHNOLOGY (AERONAUTICAL ENGINEERING) CREDIT BASED**

**KURUKSHETRA UNIVERSITY KURUKSHETRA**

**SCHEME OF STUDIES/EXAMINATION**

**SEMESTER-V *w.e.f* 2020-21 ONWARDS**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S. No.** | **Course Code** | **Course Title** | **Teaching Schedule** |  | **Examination Schedule (Marks)** | **Duration of Exam****(Hrs.)** |
| **L** | **T** | **P** | **Hours/Week** | **Credit** | **Major Test**  | **Minor Test** | **Practical** | **Total** |
| 1 | #HM-905A | Entrepreneurship | 3 | 0 | 0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 2 | AER-301 | Aircraft Structure-II | 3 | 1 | 0 | 4 | 4 | 75 | 25 | 0 | 100 | 3 |
| 3 | AER-303 | Aerodynamics-II | 3 | 1 | 0 | 4 | 4 | 75 | 25 | 0 | 100 | 3 |
| 4 | AER-305 | Propulsion-II | 3 | 0 | 0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 5 | AER-307 | Aircraft Materialsand Manufacturing Processes | 3 | 0 | 0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 6 | AER-309 | Aircraft Structure Lab | 0 | 0 | 2 | 2 | 1 | 0 | 40 | 60 | 100 | 3 |
| 7 | AER-311 | Aerodynamics Lab | 0 | 0 | 2 | 2 | 1 | 0 | 40 | 60 | 100 | 3 |
| 8 | AER-313 | Project-I | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 100 | 100 | 3 |
| 9 | \*AER-315 | Industrial Training-II | 2 | 0 | 0 | 2 | - | 0 | 100 | 0 | 100 |  |
| 10 | \*\*MC-903A | Essence of Indian Traditional Knowledge | 3 | 0 | 0 | 3 | - | 100 | - | - | 100 | 3 |
|  |  | **Total** | **20** | **2** | **6** | **28** | **20** | **375** | **205** | **220** | **800** |  |

**Note:**

1. \*AER-315 is a mandatory non-credit course in which the students will be evaluated for the industrial training undergone after 4th semester and students will be

required to get passing marks to qualify.

2. \**\*MC-903A is mandatory credit-less course in which the students will be required to get passing marks in the major test.*

3. #The course is common with B.Tech. (Mechanical Engineering). **BACHELOR OF TECHNOLOGY (AERONAUTICAL ENGINEERING) CREDIT BASED**

**KURUKSHETRA UNIVERSITY KURUKSHETRA**

**SCHEME OF STUDIES/EXAMINATION**

 **SEMESTER-VI *w.e.f.*2020-21 ONWARDS**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S. No.** | **Course Code** | **Course Title** | **Teaching Schedule** |  | **Examination Schedule (Marks)** | **Duration of Exam****(Hrs.)** |
| **L** | **T** | **P** | **Hours/Week** | **Credit** | **Major Test** | **Minor Test** | **Practical** | **Total** |
| 1 | #HM-901A | Organizational Behaviour | 3 | 0 | 0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 2 | AER-302 | Aircraft Design | 3 | 0 | 0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 3 | AER-304 | Aircraft Stability and Control | 3 | 0 | 0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 4 | AER-306 | Aircraft Design Lab | 0 | 0 | 2 | 2 | 1 | 0 | 40 | 60 | 100 | 3 |
| 5 | AER-308 | Aircraft Structure Repair Lab | 0 | 0 | 2 | 2 | 1 | 0 | 40 | 60 | 100 | 3 |
| 6 | AER-310 | Project-II | 0 | 0 | 6 | 6 | 3 | 0 | 0 | 100 | 100 | 3 |
| 7 | AEP\* | Program Elective-I | 3 | 1 | 0 | 4 | 4 | 75 | 25 | 0 | 100 | 3 |
| 8 | AEP\* | Program Elective-II | 3 | 0 | 0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
|  |  | **Total** | **15** | **1** | **10** | **26** | **21** | **375** | **205** | **220** | **800** |  |

|  |  |  |
| --- | --- | --- |
| **Program Elective-I** |  | **Program Elective-II** |
| **Course Code** | **Course Title** |  | **Course Code** | **Course Title** |
| AEP-302 | Aeroelasticity |  | AEP-308 | Aircraft Systems |
| AEP-304 | Aircraft Composite Materials |  | AEP-310 | Aircraft Engineering Practices |
| AEP-306 | Aerospace Heat Transfer |  | AEP-312 | Airplane Performance |

***Note:***

1. \**The course of Program Elective will be offered at 1/3rd strength or 20 students (whichever is smaller) of the section.*

*2. All the students have to undergo 4 to 6 weeks industrial training after 6th semester and it will be evaluated in 7th semester.*

3. #The course is common with B.Tech. (Mechanical Engineering).

 **BACHELOR OF TECHNOLOGY (AERONAUTICAL ENGINEERING) CREDIT BASED**

**KURUKSHETRA UNIVERSITY KURUKSHETRA**

**SCHEME OF STUDIES/EXAMINATION**

 **SEMESTER-VII *w.e.f.*2021-22 ONWARDS**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S. No.** | **Course Code** | **Course Title** | **Teaching Schedule** |  | **Examination Schedule (Marks)** | **Duration of Exam****(Hrs.)** |
| **L** | **T** | **P** | **Hours/Week** | **Credit** | **Major Test**  | **Minor Test** | **Practical** | **Total** |  |
| 1 | AEO\* | Open Elective-I | 3 | 0 | 0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 2 | AER-401 | Avionics | 3 | 0 | 0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 3 | AER-403 | Avionics Lab | 0 | 0 | 2 | 2 | 1 | 0 | 40 | 60 | 100 | 3 |
| 4 | AER-405 |  Project-III | 0 | 0 | 10 | 10 | 5 | 0 | 100 | 100 | 200 | 3 |
| 5 | AEP\* | Program Elective – III | 3 | 0 | 0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 6 | AEP\* | Program Elective-IV | 3 | 0 | 0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 7 | \*\*AER-407 | Industrial Training-III | 2 | 0 | 0 | 2 | - | 0 | 100 | 0 | 100 |  |
|  |  | **Total** | **14** | **0** | **12** | **26** | **18** | **300** | **240** | **160** | **700** |  |

|  |  |  |
| --- | --- | --- |
| **Program Elective-III** | **Program Elective-IV** | **Open Elective-I** |
| **Course Code** | **Course Title** | **Course Code** | **Course Title** | **Course Code** | **Course Title** |
| AEP-401 | Principles of Helicopter Engineering | AEP-409 | Computational Fluid Dynamics | AEO-401 | Flight Dynamics |
| AEP-403 | Boundary Layer Theory | AEP-411 | Finite Element Methods | AEO-403 | Aircraft Communication and Navigation Systems |
| AEP-405 | Aircraft Maintenance of Power Plant and Systems | AEP-413 | Aircraft Maintenance of Airframe and Systems | AEO-405 | Experimental Aerodynamics |
| AEP-407 | Fuels and Propellant Technology | AEP-415 | Ergonomics in Aerospace | AEO-407 | Microprocessor and Interfacing |

***Note:***

1. \**The course of both Program Elective and Open Elective will be offered at 1/3rd strength or 20 students (whichever is smaller) of the section.*

2. \*\*AER-407 is a mandatory non-credit course in which the students will be evaluated for the industrial training undergone after 6th semester and students will be

required to get passing marks to qualify.

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**KURUKSHETRA UNIVERSITY KURUKSHETRA**

**SCHEME OF STUDIES/EXAMINATION**

 **SEMESTER-VIII *w.e.f.*2021-22 ONWARDS**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S. No.** | **Course Code** | **Course Title** | **Teaching Schedule** |  | **Examination Schedule (Marks)** | **Duration of Exam(Hrs.)** |
| **L** | **T** | **P** | **Hours/Week** | **Credit** | **Major Test**  | **Minor Test** | **Practical** | **Total** |  |
| 1 | AER-402 | Project-IV | 0 | 0 | 10 | 10 | 5 | 0 | 100 | 100 | 200 | 3 |
| 2 | AEO\* | Open Elective-II | 3 | 0 | 0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 3 | AEO\* | Open Elective-III | 3 | 0 | 0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 4 | AEP\* | Program Elective-V | 3 | 0 | 0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
| 5 | AEP\* | Program Elective-VI | 3 | 0 | 0 | 3 | 3 | 75 | 25 | 0 | 100 | 3 |
|  |  | **Total** | **12** | **0** | **10** | **22** | **17** | **300** | **200** | **100** | **600** |  |

|  |  |
| --- | --- |
| **Open Elective-II** | **Open Elective-III** |
| **Course Code** | **Course Title**  | **Course Code** | **Course Title** |
| AEO-402 | Wind Tunnel Techniques | AEO-410 | Rockets and Missiles |
| AEO-404 | Robotics and Automation | AEO-412 | Introduction to Automatic Flight Control |
| AEO-406 | Computer Aided Design | AEO-414 | Aerospace Power Electronics |
| AEO-408 | Product Design and Manufacturing | AEO-416 | Non-Destructive Testing |

|  |  |
| --- | --- |
| **Program Elective-V** | **Program Elective-VI** |
| **Course Code** | **Course Title**  | **Course Code** | **Course Title**  |
| AEP-402 | Space Dynamics | AEP-410 | Air Transportation and Aircraft Maintenance Management |
| AEP-404 | Aircraft Quality Control, Quality Assurance and Certification | AEP-412 | Aircraft Modeling and Simulation |
| AEP-406 | Aircraft Systemsand Instrumentation | AEP-414 | Control Theory and Practices |
| AEP-408 | Theory of Vibrations | AEP-416 | Mechatronics |

***Note:****1.*\**The course of both Program Elective and Open Elective will be offered at 1/3rd strength or 20 students (whichever is smaller) of the section.*