

**B.Sc. (Aeronautics) Program**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**JAMIA MILLIA ISLAMIA, NEW DELHI - 110025**



**B.Sc. (Aeronautics)-Avionics**  
**Course Curriculum**

FIRST SEMESTER										
S.NO	COURSE CODE	COURSE NAME	TYPE	CREDIT	Periods Per week			Examination Scheme (Distribution of Marks)		
					L	T	P	SESS. MARKS	UNIV. EXAM MARKS	TOTAL MARKS
<b>THEORY</b>										
1	A108	Aerodynamics	CC	3	3	0	0	30	45	75
2	A107	Aircraft maintenance practices	CC	3	3	0	0	30	45	75
3	A110	Aviation Legislation	DSE	3	3	0	0	30	45	75
4	A109	Human Factor	DSE	3	3	0	0	30	45	75
5	A101	Physics	GE	3	3	0	0	30	45	75
<b>PRACTICAL</b>										
6	AP108	Aerodynamics	CP	1	0	0	2	5	20	25
7	AP107	Aircraft maintenance practices	CP	2	0	0	4	10	40	50
8	AP110	Aviation Legislation	DSEP	1	0	0	2	5	20	25
9	AP101	Physics	GEP	1	0	0	2	5	20	25
<b>Total</b>				<b>20</b>				<b>175</b>	<b>325</b>	<b>500</b>

SECOND SEMESTER										
S.NO	COURSE CODE	COURSE NAME	TYPE	CREDIT	Periods Per week			Examination Scheme (Distribution of Marks)		
					L	T	P	SESS. MARKS	UNIV. EXAM MARKS	TOTAL MARKS
<b>THEORY</b>										
1	A206	Aircraft materials and hardware	CC	3	3	0	0	30	45	75
2	A202	Corrosion & NDT Techniques	GE	3	3	0	0	30	45	75
3	A207	Aircraft maintenance Practices	CC	3	3	0	0	30	45	75
4	A201	English	AECC	3	3	0	0	30	45	75
5	A203	Physics	GE	3	3	0	0	30	45	75
6	A210	Aviation legislation	DSE	3	3	0	0	30	45	75
<b>PRACTICAL</b>										
7	AP206	Aircraft materials and hardware	CP	1	0	0	2	5	20	25
8	AP202	Corrosion & NDT Techniques	GEP	1	0	0	2	5	20	25
9	AP207	Aircraft maintenance Practices	CP	2	0	0	4	10	40	50
10	AP203	Physics	GEP	1	0	0	2	5	20	25
<b>Total</b>				<b>23</b>				<b>205</b>	<b>370</b>	<b>575</b>

### THIRD SEMESTER

S. NO	COURSE CODE	COURSE NAME	TYPE	CREDIT	Periods Per week			Examination Scheme (Distribution of Marks)		
					L	T	P	SESS. MARKS	UNIV. EXAM MARKS	TOTAL MARKS
<b>THEORY</b>										
1	A301	Mathematics	GE	3	3	0	0	30	45	75
2	A303	Electrical fundamentals	CC	3	3	0	0	30	45	75
3	A304	Electronic fundamentals	CC	3	3	0	0	30	45	75
4	A305	Digital techniques and electronics instrument system	CC	3	3	0	0	30	45	75
5	A313	Aircraft aerodynamics structure and system (AIRFRAME SYSTEM-I)	DSE	4	4	0	0	30	45	75
<b>PRACTICAL</b>										
6	AP303	Electrical fundamentals	CCP	1	0	0	2	5	20	25
7	AP304	Electronic fundamentals	CCP	1	0	0	2	5	20	25
8	AP305	Digital techniques and electronics instrument system	CCP	1	0	0	2	5	20	25
9	AP313	Aircraft aerodynamics structure and system (AIRFRAME SYSTEM-I)	DSEP	2	0	0	4	10	40	50
<b>Total</b>					<b>21</b>			<b>175</b>	<b>325</b>	<b>500</b>

### FOURTH SEMESTER

S.NO	COURSE CODE	COURSE NAME	TYPE	CREDIT	Periods Per week			Examination Scheme (Distribution of Marks)		
					L	T	P	SESS. MARKS	UNIV. EXAM MARKS	TOTAL MARKS
<b>THEORY</b>										
1	A401	Mathematics	GE	3	3	0	0	30	45	75
2	A403	Electrical fundamentals	CC	3	3	0	0	30	45	75
3	A405	Digital techniques and electronics instrument system	CC	3	3	0	0	30	45	75
4	A413	Aircraft aerodynamics structure and system (AVIONICS SYSTEM-I)	CC	4	4	0	0	30	45	75
5	A414	Propulsion	DSE	4	4	0	0	30	45	75
<b>PRACTICAL</b>										
6	AP403	Electrical fundamentals	CP	1	0	0	2	5	20	25
7	AP405	Digital techniques and electronics instrument system	CP	1	0	0	2	5	20	25
8	AP413	Aircraft aerodynamics structure and system (AVIONICS SYSTEM-I)	CP	2	0	0	4	10	40	50
9	AP414	Propulsion	DSEP	2	0	0	4	10	40	50
<b>Total</b>					<b>23</b>			<b>180</b>	<b>345</b>	<b>525</b>

FIFTH SEMESTER										
S.NO	COURSE CODE	COURSE NAME	TYPE	CREDIT	Periods Per week			Examination Scheme (Distribution of Marks)		
					L	T	P	SESS. MARKS	UNIV. EXAM MARKS	TOTAL MARKS
<b>THEORY</b>										
1	A512	Aircraft aerodynamics structure and system (AIRFRAME SYSTEM-II)	CC	4	4	0	0	40	60	100
2	A513	Aircraft aerodynamics structure and system (AIRFRAME SYSTEM-III)	CC	4	4	0	0	40	60	100
3	A514	Aircraft aerodynamics structure and system (AVIONICS SYSTEM-II)	CC	4	4	0	0	40	60	100
4	A517	Aircraft aerodynamics structure and system (AVIONICS SYSTEM-III)	CC	4	4	0	0	40	60	100
<b>PRACTICAL</b>										
5	AP512	Aircraft aerodynamics structure and system (AIRFRAME SYSTEM-II)	CCP	2	0	0	2	10	40	50
6	AP513	Aircraft aerodynamics structure and system (AIRFRAME SYSTEM-III)	CP	2	0	0	2	10	40	50
7	AP514	Aircraft aerodynamics structure and system (AVIONICS SYSTEM-II)	CP	2	0	0	2	10	40	50
8	AP517	Aircraft aerodynamics structure and system (AVIONICS SYSTEM-III)	CP	2	0	0	2	10	40	50
<b>Total</b>					24				400	600

SIXTH SEMESTER										
S.NO	COURSE CODE	COURSE NAME	TYPE	CREDIT	Periods Per week			Examination Scheme (Distribution of Marks)		
					L	T	P	SESS. MARKS	UNIV. EXAM MARKS	TOTAL MARKS
<b>THEORY</b>										
1	A602	Ground handling, safety and support system	CC	3	3	0	0	30	45	75
2	A603	Environmental Science	AEC C	3	3	0	0	30	45	75
3	A604	Typical Aircraft Maintenance – Avionics (Rotor-Wing light Aircraft - Glass Cockpit)	AEE C	4	4	0	0	40	60	100
4	A605	Aircraft Instruments Maintenance	AEE C	4	4	0	0	40	60	100
<b>PRACTICAL</b>										
5	AP602	Ground handling, safety and support system	CP	1	0	0	2	5	20	25
6	AP604	Typical Aircraft Maintenance – Avionics (Rotor-Wing light Aircraft - Glass Cockpit)	AEE CP	2	0	0	4	10	40	50
7	AP605	Aircraft Instruments Maintenance	AEE CP	2	0	0	4	10	40	50
<b>Total</b>					<b>19</b>				<b>310</b>	<b>475</b>

SEVEN SEMESTER										
S.NO	COURSE CODE	COURSE NAME	TYPE	CREDIT	Periods Per week			Examination Scheme (Distribution of Marks)		
					L	T	P	SESS. MARKS	UNIV. EXAM MARKS	TOTAL MARKS
<b>THEORY</b>										
1	A701	Aircraft Electrical Component Maintenance	AEEC	4	4	0	0	40	60	100
2	A702	Typical Aircraft Maintenance – Avionics (Rotor-Wing Complex Aircraft - Glass Cockpit)	AEEC	4	4	0	0	40	60	100
3	A703	Artificial Intelligence	SEC	4						100
4	A704 Project	Project-Avionics system 1	DSE	4						100
<b>PRACTICAL</b>										
6	AP701	Aircraft Electrical Component Maintenance	AEECP	2	0	0	4	10	40	50
7	AP702	Typical Aircraft Maintenance – Avionics (Rotor-Wing Complex Aircraft - Glass Cockpit)	AEECP	2	0	0	4	10	40	50
<b>Total</b>					<b>20</b>				<b>200</b>	<b>500</b>

EIGHTH SEMESTER										
S.NO	COURSE CODE	COURSE NAME	TYPE	CREDIT	Periods Per week			Examination Scheme (Distribution of Marks)		
					L	T	P	SESS. MARKS	UNIV. EXAM MARKS	TOTAL MARKS
<b>THEORY</b>										
1	A801	Aircraft communication and navigation system component maintenance	AEEC	4	4	0	0	40	60	100
2	A802	Typical Aircraft Maintenance – Avionics (Fixed wing Aircraft - Fly by wire)	AEEC	4	4	0	0	40	60	100
3	A803	Drones	SEC	4	4	0	0			100
4	A804 Project	Project- Avionics system 2	DSE	4	4	0	0			100
<b>PRACTICAL</b>										
6	A801	Aircraft communication and navigation system component maintenance	AEECP	2	0	0	2	10	40	50
7	A802	Typical Aircraft Maintenance – Avionics (Fixed wing Aircraft - Fly by wire)	AEECP	2	0	0	2	10	40	50
<b>Total</b>					20				200	500

<b>GRAND TOTAL</b>		<b>0</b>	<b>170</b>						<b>2475</b>	<b>4175</b>
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CC	Core Course	CCP	Core Course Practical
DSE	Discipline Specific Elective	DSEP	Discipline Specific Elective Practical
GE	Generic Elective	GEP	Generic Elective Practical
AECC	Ability Enhance compulsory Course		
AEEC	Ability Enhance Elective Course	AEECP	Ability Enhance Elective Course Practical

**NOTE :**

1. Students who opt to exit after completion of the first year will need to complete one month internship of 4 credits during the summer vacation of first year to get awarded a **UG Certificate (Exit 1)**.
2. Students who opt to exit after completion of the second year will need to complete one month internship of 4 credits during the summer vacation of first or second year to get awarded a **UG Diploma (Exit 2)**.