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EDEXCEL



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Course Name	Physics
Standard	Edexcel AS level
Semester:	2021

INSTRUCTOR INFORMATION

1. Instructor Name:	Adnan Ali
2. Course description	Core requisite for many disciplines
3. Class Timing:	[REDACTED]
4. Instructor Phone:	[REDACTED]
5. Email Address:	adnan_s_ali@outlook.com
6. Department:	Physics
7. Links:	

LEARNING RESOURCES AND TEXTBOOK(S)

Text Book(s)

Author	Title	Edition & Year	Publisher	ISBN
Miles Hudson	Edexcel AS Student Book 1	Latest Edition	Pearson	1292244879
	Lab Book		Pearson	

REFERENCE BOOK

Crundell, Goodwin, Mee	AS & A Level Physics	Latest Edition	Cambridge	1471809218
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CLASS ROOM RULES OF CONDUCT

1. Cellular phones should be “**turned off**”/“**Silent mode**” during the class.
2. Student should be **punctual** in attending classes.

EXAMS, QUIZ, & MAKE UP POLICY

There will be several quizzes on the core text materials which are worth 15%. **Quiz may not be made up for any reason.** There will be three exams. Each exam carries 10-15% weight of the course works. All exams will be given over the designated class period. Exams will be a combination of true/false, multiple choice, and short answer questions related to assigned reading material. The exams must be taken at the scheduled times. **Exams may not be made up unless arrangements are made prior to the class period for which they are scheduled.** Additional guidelines are available from the Instructor's website and student compliance to these guidelines is mandatory.

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ATTENDANCE POLICY

Attendance in the class is compulsory for the students and is strongly recommended. No make-up/retake examination/ assignment will be allowed. Any missed presentations/ examinations /assignments will be considered as zero.

NOTE 1: The course plan is tentative and subject to change as the semester progresses; any change(s) will be communicated accordingly.

NOTE 2: Additional information will be posted on Google Classroom page.

Course Contents & Schedule

CLASS SCHEDULE FOR AS-Level Physics (Edexcel)

The following is a **TENTATIVE** schedule based on the semester's last published academic calendar, which may change as the semester progresses. Please read the material prior to attending the class where it will be discussed

Note: The instructor reserves the right to make changes to the syllabus if necessary.

Class#	Topic	Subtopic	Resources
1	Unit 1 : Mechanics	1. Motion	Text Book: Topic 1A Pg. 8
2		contd.	Text Book: Topic 1A Pg. 8
3		Question Papers	
4		2. Energy	Text Book: Topic 1B Pg. 34
5		contd.	Text Book: Topic 1B Pg. 34
6		Question Papers	
7		3. Momentum	Text Book: Topic 1C Pg. 46
8		contd.	Text Book: Topic 1C Pg. 46
9		Question Papers	
10		Class Test	
11	Unit 1 : Materials	1. Fluids	Text Book: Topic 2A Pg. 58

12		contd.	Text Book: Topic 2A Pg. 58
13		Question Papers	
14		Class Test	
15		2. Solid Materials	Text Book: Topic 2B Pg. 74
16		contd.	Text Book: Topic 2B Pg. 74
17		Question Papers	
18		Class Test	
19	Unit 2 : Electricity	1. Electrical Quantities	Text Book: Topic 4A Pg. 148
20		contd.	Text Book: Topic 4A Pg. 148
21		2. Circuits	Text Book: Topic 4B Pg. 172
22		contd.	Text Book: Topic 4A Pg. 148
23		Question Papers	
24		Mid-Term	
25	Unit 2 : Waves	1. Waves	Text Book: Topic 3A Pg. 88
26		contd.	Text Book: Topic 4A Pg. 148
27		2. Wave Behaviour	Text Book: Topic 3B Pg. 100
28		contd.	Text Book: Topic 4A Pg. 148
29		3. Light	Text Book: Topic 3C Pg. 118
30		contd.	Text Book: Topic 4A Pg. 148
31		Question Papers	
32		Class Test	
33	Unit 2 : Modern Physics	4. Quantum Physics	Text Book: Topic 3D Pg. 130
34		contd.	Text Book: Topic 4A Pg. 148
35		Question Papers	
36		Class Test	
37	Unit 3 : Practical Skills	Measurement	Class Notes
38		Significant Figures. Uncertainty.	Class Notes
39	Unit 3 : Practical Skills	Lab 1: Acceleration due to gravity	Pearson Lab Book Expt 1
40		Lab 2: Viscosity	Pearson Lab Book Expt 2
41		Lab 3: Young's Modulus	Pearson Lab Book Expt 3
42		Lab 4: Speed of Sound	Pearson Lab Book Expt 4
43		Lab 5: Strings	Pearson Lab Book Expt 5
44		Lab 6: Grating	Pearson Lab Book Expt 6
45		Lab 7: Resistivity	Pearson Lab Book Expt 7
46		Lab 8: EMF	Pearson Lab Book Expt 8
47		Revision	
48		Final Exam	



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Course Name	Physics
Standard	Edexcel A2 level
Semester:	2021

INSTRUCTOR INFORMATION

1. Instructor Name:	Adnan Ali
2. Course description	Core requisite for many disciplines
3. Class Timing:	[REDACTED]
4. Instructor Phone:	[REDACTED]
5. Email Address:	adnan_s_ali@outlook.com
6. Department:	Physics
7. Links:	

LEARNING RESOURCES AND TEXTBOOK(S)

Text Book(s)

Author	Title	Edition & Year	Publisher	ISBN
Miles Hudson	Edexcel AS Student Book 2	Latest Edition	Pearson	1292244771
	Lab Book		Pearson	

REFERENCE BOOK

Crundell, Goodwin, Mee	AS & A Level Physics	Latest Edition	Cambridge	1471809218
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CLASS ROOM RULES OF CONDUCT

1. Cellular phones should be “**turned off**”/“**Silent mode**” during the class.
2. Student should be **punctual** in attending classes.

There will be several quizzes on the core text materials which are worth 15%. **Quiz may not be made up for any reason.** There will be three exams. Each exam carries 10-15% weight of the course works. .All exams will be given over the designated class period. Exams will be a combination of true/false, multiple choice, and short answer questions related to assigned reading material. The exams must be taken at the scheduled times. **Exams may not be made up unless arrangements are made prior to the class period for which they are scheduled.** Additional guidelines are available from the Instructor's website and student compliance to these guidelines is mandatory.

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ATTENDANCE POLICY

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NOTE 1: The course plan is tentative and subject to change as the semester progresses; any change(s) will be communicated accordingly.

NOTE 2: Additional information will be posted on Google Classroom page.

Course Contents &Schedule

**CLASS SCHEDULE FOR
A2-Level Physics (Edexcel)**

The following is a **TENTATIVE** schedule based on the semester's last published academic calendar, which may change as the semester progresses. Please read the material prior to attending the class where it will be discussed

Note: The instructor reserves the right to make changes to the syllabus if necessary.

12	Unit 4 : Topic 6 – Magnetic Fields	Electromagnetic Effects	Text Book: Topic 6C Pg.56
13		Question Papers	
14		Class Test	
15	Unit 4 : Topic 7 – Particle Physics	1. Particle Detectors	Text Book: Topic 7A Pg.72
16		2. Particle Accelerators	Text Book: Topic 7B Pg.84
17		3. Fundamental Particles	Text Book: Topic 7C Pg.100
18		Question Papers	
19		Class Test	
20	Unit 5 : Topic 8 – Thermal Physics	Heat and Temperature	Text Book: Topic 8A Pg.116
21		Question Papers	
22		Class Test	
23	Unit 5: Topic 9 – Nuclear Decay	Radioactivity	Text Book: Topic 9A Pg.132
24		Question Papers	
25		Mid-Term	
26	Unit 5 : Topic 10 – SHM	Oscillations	Text Book: Topic 10 Pg.150
27		Question Papers	
28		Class Test	
29	Unit 5 : Topic 11 – Gravitation	Gravitation	Text Book: Topic 11A Pg.168
30		Question Papers	
31		Class Test	
32	Unit 5 : Topic 11 – Astrophysics	Astrophysics	Text Book: Topic 11B Pg.178
33		Contd.	Text Book: Topic 11B Pg.178
34		Question Papers	
35		Class Test	
36	Unit 6 : Practical Skills	Measurement	
37		Significant Figures. Uncertainty.	
38		Lab 1: Momentum	Pearson Lab Book Expt 1
39		Lab 2: Collisions	Pearson Lab Book Expt 2
40		Lab 3: Capacitors	Pearson Lab Book Expt 3
41		Lab 4: Thermistor	Pearson Lab Book Expt 4
42		Lab 5: Latent Heat	Pearson Lab Book Expt 5
43		Lab 6: Pressure of Gases	Pearson Lab Book Expt 6
44		Lab 7: Radiation	Pearson Lab Book Expt 7
45		Lab 8: Resonance	Pearson Lab Book Expt 8
46		Question Papers	
47		Question Papers	
48		Final Exam	

Additional Time (Optional):

1 month for Question Papers

1 month for Revision and Mock Exams

CAMBRIDGE



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Course Name	Physics
Standard	Cambridge AS-level
Semester:	2021

INSTRUCTOR INFORMATION

1. Instructor Name:	Adnan Ali
2. Course description	Core requisite for many disciplines
3. Class Timing:	[REDACTED]
4. Instructor Phone:	[REDACTED]
5. Email Address:	adnan_s_ali@outlook.com
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Text Book(s)

Author	Title	Edition & Year	Publisher	ISBN
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REFERENCE BOOK

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	Lab Book		Pearson	

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Course Contents & Schedule

CLASS SCHEDULE FOR AS-Level Physics (Cambridge)

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Note: The instructor reserves the right to make changes to the syllabus if necessary.

Class#	Topic	Subtopic	
1	1. Physical Quantities and Units	1. Physical Quantities	Text: Topic 1, Pg 1
2		2. S.I Units	Text: Topic 2, Pg. 15
3		3. Errors and Uncertainties	Text: Topic 2, Pg. 15
4		4. Scalars and Vectors	Text: Topic 3, Pg. 40
5		Class Test	
6	2. Kinematics	1. Equations of Motion	Text: Topic 3, Pg. 40
7		2. Momentum and Newton's Law of Motion	Text: Topic 3, Pg. 40
8		3. Non-Uniform Motion	Text: Topic 3, Pg. 40
9		Class Test	
10	3. Dynamics	1. Momentum and Newton's Laws of Motion	Text: Topic 4, Pg. 15

11		2. Non-Uniform Motion	
12		3. Linear Momentum	
13		Class Test	
14	4. Force, Density and Pressure	1. Turning Effects of Forces	Text: Topic 5, Pg. 71
15		2. Equilibrium of Forces	Text: Topic 5, Pg. 71
16		3. Density and Pressure	Text: Topic 5, Pg. 71
17		Class Test	
18	5. Work, Energy and Power	1. Energy Conservation	Text: Topic 6, Pg. 80
19		2. GPE and KE	Text: Topic 6, Pg. 80
20		Class Test	
21	6. Deformation of Solids	1. Stress and Strain	Text: Topic 6, Pg. 94
22		2. Elastic and Plastic Behaviour	Text: Topic 6, Pg. 94
23		Mid-Term	
24	7. Waves	1. Progressive Waves	Text: Topic 14, Pg. 94
25		2. Transverse and Longitudinal Waves	Text: Topic 14, Pg. 94
26		3. Doppler Effect	Text: Topic 14, Pg. 94
27		4. EM Spectrum	Text: Topic 14, Pg. 94
28		5. Polarisation	Text: Topic 14, Pg. 94
29		Class Test	
30	8. Superposition	1. Stationary Waves	Text: Topic 15, Pg. 114
31		2. Diffraction	Text: Topic 15, Pg. 114
32		3. Interference	Text: Topic 15, Pg. 114
33		4. Grating	Text: Topic 15, Pg. 114
34		Class Test	
35	9. Electricity	1. Current	Text: Topic 17, Pg. 94
36		2. Potential Difference and Power	Text: Topic 19, Pg. 146
37		3. Resistance and Resistivity	Text: Topic 19, Pg. 146
38	10. DC Circuits	1. Practical Circuits	Text: Topic 19, Pg. 146
39		2. Kirchoff's Laws	Text: Topic 19, Pg. 146
40		3. Potential Dividers	Text: Topic 19, Pg. 146
41		Question Papers	
42		Class Test	
43	11. Particle Physics	1. Atoms, Nuclei and Radiation	Text: Topic 26, Pg. 168
44		2. Fundamental Particles	Text: Topic 26, Pg. 168
45		Question Papers	
46		Revision	
47		Revision	
48		Final Exam	

Additional Time (Optional):

1 month for Question Papers

1 month for Revision and Mock Exams



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Course Name	Physics
Standard	Cambridge A2 level
Semester:	2021

INSTRUCTOR INFORMATION

1. Instructor Name:	Adnan Ali
2. Course description	Core requisite for many disciplines
3. Class Timing:	[REDACTED]
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Course Contents & Schedule

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Class#	Topic	Subtopic	
1	12. Motion in a Circle	1. Kinematics	Text: Topic 7, Pg. 184
2		2. Centripetal Acceleration	Text: Topic 7, Pg. 184
		Question Papers	
3	13. Gravitational Fields	1. Gravitational Field 2. Force 3. Gravitational Field of a Point Mass 4. Gravitational Potential	Text: Topic 8, Pg. 191
4		Question Papers	
5		Class Test	

6	14. Temperature	1. Thermal Equilibrium 2. Temperature Scales 3. Sp. Heat Capacity and Sp. Latent Heat	Text: Topic 11, Pg. 211
7	15. Ideal Gases	1. The Mole 2. Equation of State 3. Kinetic Theory	Text: Topic 10, Pg. 202
8	16. Thermodynamics	1. Internal Energy 2. First Law	Text: Topic 12, Pg. 218
9		Question Papers	
10		Class Test	
11	17. SHM	1. SHM 2. Energy	Text: Topic 13, Pg. 230
12		3. Damping, Resonance	Text: Topic 13, Pg. 230
13		Question Papers	
14		Class Test	
15	18. Electric Fields	1. Electric Field Lines 2. Uniform Fields 3. Force 4. Point Charge 5. Potential	Text: Topic 17, Pg. 274
16	19. Capacitance	1. Capacitors and Capacitance 2. Energy 3. Discharging	Text: Topic 18, Pg. 281
17		Question Papers	
18		Class Test	
19	20. Magnetic Fields	1. Magnetic Fields 2. Force on a Current-Carrying Conductor 3. Force on a Moving Charge	Text: Topic 22, Pg. 311
20		4. Magnetic Fields due to Currents 5. Electromagnetic Induction	Text: Topic 23, Pg. 332
21	21. Alternating Currents	1. Alternating Currents 2. Rectification and Smoothing	Text: Topic 24, Pg. 341
22		Question Papers	
23		Mid-Term	
24	22. Quantum Physics	1. Energy and Momentum of a Photon 2. Photoelectric Effect	Text: Topic 25, Pg. 350
25		3. Wave-Particle Duality 4. Energy Levels and Line Spectra	Text: Topic 25, Pg. 350
26		Question Papers	
27		Class Test	
28	23. Nuclear Physics	1. Mass Defect and Nuclear Binding Energy	Text: Topic 26, Pg. 376
29		2. Radioactive Decay	Text: Topic 25, Pg. 350
30		Question Papers	

31		Class Test	
32	24. Medical Physics	1. Ultrasound 2. X-Rays	Text: Topic 14, Pg. 248 Supplementary Topics Sheet
33		3. PET	Supplementary Topics Sheet
34		Question Papers	
35		Class Test	
36	25. Astrophysics	1. Standard Candles 2. Stellar Radii 3. Hubble's Law and Big Bang Theory	Text: Sang
37		Question Papers	
38		Class Test	
39	Communication	Telecommunication (Optional) Sensors Electronics	Text: Topic 16, Pg. 255 Text: Topic 19, Pg. 255 Text: Topic 21, Pg. 298
40	Unit 5: Planning, Analysis and Evaluation	Lab: Question Papers	
41		Lab: Question Papers	
42		Lab: Question Papers	
43		Lab: Question Papers	
44		Lab: Question Papers	
45		Lab: Question Papers	
46		Lab: Question Papers	
47		Lab: Question Papers	
48		Final Exam	

Additional Time (Optional):

1 month for Question Papers

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