

**Class -XII**  
**Subject: Biology**

SL no	CHAPTER	LINKS
	<b>Unit VI: Reproduction</b>	MARK 14
1	Reproduction in Organisms	<a href="https://www.youtube.com/watch?v=uLXz1PLgCGg">https://www.youtube.com/watch?v=uLXz1PLgCGg</a>
2	Sexual Reproduction in Flowering Plants	<a href="https://www.youtube.com/watch?v=6UXGobXdZGA">https://www.youtube.com/watch?v=6UXGobXdZGA</a>
3	Human Reproduction	<a href="https://www.youtube.com/watch?v=Lbv6WbjlQW0">https://www.youtube.com/watch?v=Lbv6WbjlQW0</a>
4	Reproductive Health	<a href="https://www.youtube.com/watch?v=NShd2e6m568">https://www.youtube.com/watch?v=NShd2e6m568</a>
	<b>Unit VII: Genetics and Evolution</b>	MARK 18
5	Principles of Inheritance and Variation	<a href="https://www.youtube.com/watch?v=agUgUIJQ1pk">https://www.youtube.com/watch?v=agUgUIJQ1pk</a>
6	Molecular Basis of Inheritance	<a href="https://www.youtube.com/watch?v=1xXeTccA-">https://www.youtube.com/watch?v=1xXeTccA-</a> <a href="https://www.youtube.com/watch?v=XNdvpefKaYk">https://www.youtube.com/watch?v=XNdvpefKaYk</a>
7	Evolution	<a href="https://www.youtube.com/watch?v=RTX9si5RBb0">https://www.youtube.com/watch?v=RTX9si5RBb0</a>
	<b>Unit VIII: Biology and Human Welfare</b>	MARK 14
8	Human Health and Diseases	<a href="https://www.youtube.com/watch?v=YA9Kil7gW5Q">https://www.youtube.com/watch?v=YA9Kil7gW5Q</a> <a href="https://youtu.be/AwISyM1L8N4">https://youtu.be/AwISyM1L8N4</a>
9	Strategies for Enhancement in Food Production	<a href="https://www.youtube.com/watch?v=Ha_plbPM_VE">https://www.youtube.com/watch?v=Ha_plbPM_VE</a>
10	Microbes in Human Welfare	<a href="https://www.youtube.com/watch?v=65sh_0kBuM8">https://www.youtube.com/watch?v=65sh_0kBuM8</a>
	<b>Unit IX: Biotechnology and its Application</b>	MARK 10
11	Biotechnology – Principles and Processes	<a href="https://www.youtube.com/watch?v=TQRL9JnYkA4">https://www.youtube.com/watch?v=TQRL9JnYkA4</a>
12	Biotechnology and its Application	<a href="https://www.youtube.com/watch?v=xF7F3kAJmuQ">https://www.youtube.com/watch?v=xF7F3kAJmuQ</a>
	<b>Unit X: Ecology and Environment</b>	MARK 14
13	Organisms and Populations	<a href="https://www.youtube.com/watch?v=L68S1t9XVgE">https://www.youtube.com/watch?v=L68S1t9XVgE</a>
14	Ecosystem	<a href="https://www.youtube.com/watch?v=ZbVkJGrlaJ4">https://www.youtube.com/watch?v=ZbVkJGrlaJ4</a>
15	Biodiversity and its Conservation	<a href="https://www.youtube.com/watch?v=pfPR0siCG0k">https://www.youtube.com/watch?v=pfPR0siCG0k</a>
16	Environmental Issues	<a href="https://www.youtube.com/watch?v=4GiZJiowSRw">https://www.youtube.com/watch?v=4GiZJiowSRw</a>

**Class -XII**  
**Subject: Chemistry**

<b>Unit-1: Solid State</b>	Part-I	<a href="https://www.youtube.com/watch?v=RcG9e2Bg3eE&amp;list=PLNz32RYOjBerucfu000AYIqZdRU1duNXQ&amp;index=21&amp;t=14s">https://www.youtube.com/watch?v=RcG9e2Bg3eE&amp;list=PLNz32RYOjBerucfu000AYIqZdRU1duNXQ&amp;index=21&amp;t=14s</a>
	Part-II	<a href="https://www.youtube.com/watch?v=KZDUJulaAWw&amp;list=PLNz32RYOjBerucfu000AYIqZdRU1duNXQ&amp;index=20&amp;t=714s">https://www.youtube.com/watch?v=KZDUJulaAWw&amp;list=PLNz32RYOjBerucfu000AYIqZdRU1duNXQ&amp;index=20&amp;t=714s</a>
<b>Unit -2: Solution</b>		<a href="https://www.youtube.com/watch?v=1VEICP7_GFI&amp;list=PLNz32RYOjBerucfu000AYIqZdRU1duNXQ&amp;index=19&amp;t=3609s">https://www.youtube.com/watch?v=1VEICP7_GFI&amp;list=PLNz32RYOjBerucfu000AYIqZdRU1duNXQ&amp;index=19&amp;t=3609s</a>
<b>Unit-3: Electrochemistry</b>		<a href="https://www.youtube.com/watch?v=paRg8Q9Y1t8&amp;list=PLNz32RYOjBerucfu000AYIqZdRU1duNXQ&amp;index=18&amp;t=13s">https://www.youtube.com/watch?v=paRg8Q9Y1t8&amp;list=PLNz32RYOjBerucfu000AYIqZdRU1duNXQ&amp;index=18&amp;t=13s</a>
<b>Unit-4: Chemical Kinetics</b>		<a href="https://www.youtube.com/watch?v=602063c-qzU&amp;list=PLNz32RYOjBerucfu000AYIqZdRU1duNXQ&amp;index=17&amp;t=175s">https://www.youtube.com/watch?v=602063c-qzU&amp;list=PLNz32RYOjBerucfu000AYIqZdRU1duNXQ&amp;index=17&amp;t=175s</a>
<b>Unit -5: Surface Chemistry</b>	Part-I	<a href="https://www.youtube.com/watch?v=2cCiOvm44q4&amp;list=PLNz32RYOjBerucfu000AYIqZdRU1duNXQ&amp;index=16&amp;t=0s">https://www.youtube.com/watch?v=2cCiOvm44q4&amp;list=PLNz32RYOjBerucfu000AYIqZdRU1duNXQ&amp;index=16&amp;t=0s</a>
	Part-II	<a href="https://www.youtube.com/watch?v=-YtNNph4qIM&amp;list=PLNz32RYOjBerucfu000AYIqZdRU1duNXQ&amp;index=15&amp;t=0s">https://www.youtube.com/watch?v=-YtNNph4qIM&amp;list=PLNz32RYOjBerucfu000AYIqZdRU1duNXQ&amp;index=15&amp;t=0s</a>
<b>Unit -6: General Principals and Process of Isolation of Elements</b>		<a href="https://www.youtube.com/watch?v=QalAQq_-Z14&amp;list=PLNz32RYOjBerucfu000AYIqZdRU1duNXQ&amp;index=14&amp;t=0s">https://www.youtube.com/watch?v=QalAQq_-Z14&amp;list=PLNz32RYOjBerucfu000AYIqZdRU1duNXQ&amp;index=14&amp;t=0s</a>
<b>Unit -7: P-Block Elements</b>	Part-I	<a href="https://www.youtube.com/watch?v=kNFXJxX72uY&amp;list=PLNz32RYOjBerucfu000AYIqZdRU1duNXQ&amp;index=13&amp;t=0s">https://www.youtube.com/watch?v=kNFXJxX72uY&amp;list=PLNz32RYOjBerucfu000AYIqZdRU1duNXQ&amp;index=13&amp;t=0s</a>
	Part-II	<a href="https://www.youtube.com/watch?v=Xvt11injjiA&amp;list=PLNz32RYOjBerucfu000AYIqZdRU1duNXQ&amp;index=12&amp;t=0s">https://www.youtube.com/watch?v=Xvt11injjiA&amp;list=PLNz32RYOjBerucfu000AYIqZdRU1duNXQ&amp;index=12&amp;t=0s</a>
<b>Unit-8: d &amp; f Block Elements</b>	Part-I	<a href="https://www.youtube.com/watch?v=LzZWHSdYaxw&amp;list=PLNz32RYOjBerucfu000AYIqZdRU1duNXQ&amp;index=11&amp;t=287s">https://www.youtube.com/watch?v=LzZWHSdYaxw&amp;list=PLNz32RYOjBerucfu000AYIqZdRU1duNXQ&amp;index=11&amp;t=287s</a>
	Part-II	<a href="https://www.youtube.com/watch?v=w3e0Zpz1iZw&amp;list=PLNz32RYOjBerucfu000AYIqZdRU1duNXQ&amp;index=10&amp;t=41s">https://www.youtube.com/watch?v=w3e0Zpz1iZw&amp;list=PLNz32RYOjBerucfu000AYIqZdRU1duNXQ&amp;index=10&amp;t=41s</a>
<b>Unit-9: Coordination Compounds</b>		<a href="https://www.youtube.com/watch?v=53z1EiflKNI&amp;list=PLNz32RYOjBerucfu000AYIqZdRU1duNXQ&amp;index=9&amp;t=1025s">https://www.youtube.com/watch?v=53z1EiflKNI&amp;list=PLNz32RYOjBerucfu000AYIqZdRU1duNXQ&amp;index=9&amp;t=1025s</a>

**Class -XII**  
**Subject: Physics**

<b>UNITS</b>		<b>WEBLINKS</b>
<b>Unit 1. Electrostatics</b>	Part 1	<a href="https://www.youtube.com/watch?v=5JZjEmJqtus&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=19">https://www.youtube.com/watch?v=5JZjEmJqtus&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=19</a>
	Part 2	<a href="https://www.youtube.com/watch?v=jeLUsBz0XIM&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=18">https://www.youtube.com/watch?v=jeLUsBz0XIM&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=18</a>
	Part 3	<a href="https://www.youtube.com/watch?v=5id9XWSaS4g&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=17">https://www.youtube.com/watch?v=5id9XWSaS4g&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=17</a>
	Part 4	<a href="https://www.youtube.com/watch?v=bAb4Yt0NR7w&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=16">https://www.youtube.com/watch?v=bAb4Yt0NR7w&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=16</a>
<b>Unit 2. Current Electricity</b>		<a href="https://www.youtube.com/watch?v=7V9rjkE5YQ&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=15">https://www.youtube.com/watch?v=7V9rjkE5YQ&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=15</a>
<b>Unit 3. Magnetic Effect of Current and Magnetism</b>	Part 1	<a href="https://www.youtube.com/watch?v=8zKTFwlzXhM&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=14">https://www.youtube.com/watch?v=8zKTFwlzXhM&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=14</a>
	Part 2	<a href="https://www.youtube.com/watch?v=96mflZXJcA&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=13">https://www.youtube.com/watch?v=96mflZXJcA&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=13</a>
<b>Unit 4. Electromagnetic Induction and Alternating Currents</b>	Part 1	<a href="https://www.youtube.com/watch?v=GtjtpSAD-w0&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=12">https://www.youtube.com/watch?v=GtjtpSAD-w0&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=12</a>
	Part 2	<a href="https://www.youtube.com/watch?v=DZv-F_XtJ68&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=11">https://www.youtube.com/watch?v=DZv-F_XtJ68&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=11</a>
<b>Unit 5. Electromagnetic Waves</b>		<a href="https://www.youtube.com/watch?v=p0AwOTqgTTk&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=10">https://www.youtube.com/watch?v=p0AwOTqgTTk&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=10</a>
<b>Unit 6. Optics</b>	Part 1	<a href="https://www.youtube.com/watch?v=ZJcLscYRG4M&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=9">https://www.youtube.com/watch?v=ZJcLscYRG4M&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=9</a>
	Part 2	<a href="https://www.youtube.com/watch?v=hcNrcXxijvo&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=8">https://www.youtube.com/watch?v=hcNrcXxijvo&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=8</a>
	Part 3	<a href="https://www.youtube.com/watch?v=hgyWISROhSA&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=7">https://www.youtube.com/watch?v=hgyWISROhSA&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=7</a>
<b>Unit 7. Dual nature of radiation and Matter</b>		<a href="https://www.youtube.com/watch?v=6snnsNjhD24&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=6">https://www.youtube.com/watch?v=6snnsNjhD24&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=6</a>
<b>Unit 8. Atoms and Nuclei</b>	Part 1	<a href="https://www.youtube.com/watch?v=mBCqywZ-eXg&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=5">https://www.youtube.com/watch?v=mBCqywZ-eXg&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=5</a>
	Part 2	<a href="https://www.youtube.com/watch?v=uVeczxtTxz0&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=4">https://www.youtube.com/watch?v=uVeczxtTxz0&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=4</a>
<b>Unit 9. Electronic Devices</b>	Part 1	<a href="https://www.youtube.com/watch?v=EaP2qHdfJUs&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=3">https://www.youtube.com/watch?v=EaP2qHdfJUs&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=3</a>
	Part 2	<a href="https://www.youtube.com/watch?v=aFdpYFJlqdc&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=2">https://www.youtube.com/watch?v=aFdpYFJlqdc&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=2</a>
<b>Unit 10. Communication Systems</b>		<a href="https://www.youtube.com/watch?v=hMdkfZmu5YY&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=1">https://www.youtube.com/watch?v=hMdkfZmu5YY&amp;list=PLNz32RYOjBepdhGCSA5OoVPha83vKJePI&amp;index=1</a>

**Class -XII**  
**Subject: Mathematics**

CHAPTER/MARK	TOPIC COVERED	WEBLINK FOR CONCEPTUAL STUDY
<b>1: RELATION AND FUNCTIONS</b> (5 marks)	1.1 Relation	<a href="https://youtu.be/bzJs4H1ufaw">https://youtu.be/bzJs4H1ufaw</a>
	1.2 Types of relations	
	1.3 TYPES OF FUNCTIONS	
	1.4 COMPOSITION OF FUNCTIONS AND INVERTIBLE FUNCTIONS	
	1.4 BINARY OPERATIONS	
<b>2: INVERSE TRIGONOMETRIC FUNCTIONS</b> (5 marks)	2.1 INTRODUCTION AND BASIC CONCEPTS	<a href="https://youtu.be/tQDCgaAZ-EU">https://youtu.be/tQDCgaAZ-EU</a>
	2.2 PROPERTIES OF INVERSE TRIGONOMETRIC FUNCTIONS	
<b>3: MATRICES</b> (7 marks)	3.1 MATRIX AND TYPES OF MATRICES	<a href="https://youtu.be/ISJbrBrHZn0">https://youtu.be/ISJbrBrHZn0</a>
	3.2 OPERATIONS ON MATRICES	
	3.3 TRANSPOSE OF A MATRIX	
	3.4 SYMMETRIC AND SKEW SYMMETRIC MATRICES	
	3.5 ELEMENTARY TRANSFORMATION OF A MATRIX	
	3.6 INVERTIBLE MATRICES	
<b>4: DETERMINANTS</b> (6 marks)	4.1 DETERMINANT (INTRODUCTION)	<a href="https://youtu.be/BZ1tT7Lod5M">https://youtu.be/BZ1tT7Lod5M</a>
	4.2 PROPERTIES OF DETERMINANTS	
	4.3 AREA OF A TRIANGLE	
	4.4 MINORS AND COFACTORS	
	4.5 ADJOINT AND INVERSE OF A MATRIX	
	4.6 APPLICATION OF DETERMINANTS AND MATRICES	
<b>5: CONTINUITY AND DIFFERENTIABILITY</b> (10 marks)	5.1 CONTINUITY	<a href="https://youtu.be/uahqLcCaiNs">https://youtu.be/uahqLcCaiNs</a>
	5.2 DIFFERENTIABILITY	
	5.3 EXPONENTIAL AND LOGARITHMIC FUNCTIONS	
	5.4 LOGARITHMIC DIFFERENTIATION	
	5.5 DERIVATIVES OF PARAMETRIC FUNCTIONS	
	5.6 SECOND ORDER DERIVATIVE	
	5.7 MEAN VALUE THEOREM	
<b>6: APPLICATION OF DERIVATIVES</b> (8 marks)	6.1 RATE OF CHANGE OF QUANTITIES	<a href="https://youtu.be/gf8WO4qem0Y">https://youtu.be/gf8WO4qem0Y</a>
	6.2 INCREASING AND DECREASING FUNCTIONS	
	6.3 TANGENTS AND NORMAL	
	6.4 APPROXIMATIONS	
	6.5 MAXIMA AND MINIMA	
<b>7: INTEGRALS</b> (14 MARKS)	7.1 INTRODUCTION	<a href="https://youtu.be/IROu1XoGoYQ">https://youtu.be/IROu1XoGoYQ</a>
	7.2 INTEGRATION AS AN INVERSE PROCESS OF DIFFERENTIATION	
	7.3 METHODS OF INTEGRATION	
	7.4 INTEGRALS OF SOME PARTICULAR FUNCTIONS	
	7.5 INTEGRATION BY PARTIAL FRACTION	
	7.6 INTEGRATION BY PARTS	
	7.7 DEFINITE INTEGRALS	
	7.8 FUNDAMENTAL THEOREM OF CALCULUS	

	7.9 EVALUATION OF DEFINITE INTEGRALS BY SUBSTITUTION	
	7.10 SOME PROPERTIES OF DEFINITE INTEGRALS	
<b>8: APPLICATION OF INTEGRALS (4 MARKS)</b>	8.1 INTRODUCTION	<a href="https://youtu.be/TBD_adLmqeg">https://youtu.be/TBD_adLmqeg</a>
	8.2 AREA UNDER SIMPLE CURVES	
	8.3 AREA BETWEEN TWO CURVES	
<b>9: DIFFERENTIAL EQUATIONS (8 MARKS)</b>	9.1 INTRODUCTION	<a href="https://youtu.be/qZ9ssqQ9nwA">https://youtu.be/qZ9ssqQ9nwA</a>
	9.2 GENERAL AND PARTICULAR SOLUTIONS OF A DIFFERENTIAL EQUATION	
	9.3 FORMATION OF A DIFFERENTIAL EQUATION	
	9.4 METHODS OF SOLVING FIRST ORDER, FIRST DEGREE DIFFERENTIAL EQUATION	
<b>10: VECTOR ALGEBRA (8 MARKS)</b>	10.1 INTRODUCTION	<a href="https://youtu.be/xuK4YNtP4oQ">https://youtu.be/xuK4YNtP4oQ</a>
	10.2 TYPES OF VECTORS	
	10.3 ADDITION OF VECTORS	
	10.4 MULTIPLICATION OF A VECTOR BY A SCALAR	
	10.5 PRODUCT OF TWO VECTORS	
<b>11: THREE DIMENSIONAL GEOMETRY (9 MARKS)</b>	11.1 INTRODUCTION	<a href="https://youtu.be/q5BR40ZJ4xM">https://youtu.be/q5BR40ZJ4xM</a>
	11.2 DIRECTION COSINES AND DIRECTION RATIOS OF A LINE	
	11.3 EQUATION OF A LINE IN SPACE	
	11.4 ANGLE BETWEEN TWO LINES	
	11.5 SHORTEST DISTANCE BETWEEN TWO LINES	
	11.6 PLANE	
	11.7 COPLANARITY OF TWO LINES	
	11.8 ANGLE BETWEEN TWO PLANES	
	11.9 DISTANCE OF A POINT FROM A PLANE	
	11.10 ANGLE BETWEEN A LINE AND A PLANE	
<b>12: LINEAR PROGRAMMING (6 MARKS)</b>	12.1 INTRODUCTION	<a href="https://youtu.be/4PBUH9WFELo">https://youtu.be/4PBUH9WFELo</a>
	12.2 LINEAR PROGRAMMING PROBLEM AND ITS MATHEMATICAL FORMULATION	
	12.3 DIFFERENT TYPES OF LINEAR PROGRAMMING PROBLEMS	
<b>13: PROBABILITY (10 MARKS)</b>	13.1 INTRODUCTION	<a href="https://youtu.be/9qQ9wD29z4c">https://youtu.be/9qQ9wD29z4c</a>
	13.2 CONDITIONAL PROBABILITY	
	13.3 MULTIPLICATION THEOREM ON PROBABILITY	
	13.4 INDEPENDENT EVENTS	
	13.5 BAYES' THEOREM	
	13.6 RANDOM VARIABLE AND ITS PROBABILITY DISTRIBUTION	
	13.7 BERNOULLI TRIALS AND BINOMIAL DISTRIBUTION	

**Note: For complete textual solutions please download the App from the Link:**  
[https://play.google.com/store/apps/details?id=com.studentzoneapps.mathsncertclass\\_12](https://play.google.com/store/apps/details?id=com.studentzoneapps.mathsncertclass_12)

**Class -XII**  
**Subject: Engineering Drawing**

Topic/Chapter	Link
<b>Unit 1: Isometric Projection of solids</b>	
Construction of Isometric scale	<a href="https://www.youtube.com/watch?v=0yRfY6vouk4">https://www.youtube.com/watch?v=0yRfY6vouk4</a>
Isometric View - of a Triangle ( with Helping View )	<a href="https://www.youtube.com/watch?v=hUw89MgsjcE">https://www.youtube.com/watch?v=hUw89MgsjcE</a>
Constructing a Regular Pentagon within given Circle By Using Ruler and Compass	<a href="https://www.youtube.com/watch?v=9vuJ3W0uD_8">https://www.youtube.com/watch?v=9vuJ3W0uD_8</a>
Construction of Pentagon using protector	<a href="https://www.youtube.com/watch?v=0l-Ly8g3IIE">https://www.youtube.com/watch?v=0l-Ly8g3IIE</a>
How to draw a regular pentagon knowing the length of one side	<a href="https://www.youtube.com/watch?v=NJ4ADblcf6I">https://www.youtube.com/watch?v=NJ4ADblcf6I</a>
How to draw the isometric view of pentagon ( with Helping view )	<a href="https://www.youtube.com/watch?v=OrU5y8IMxOM">https://www.youtube.com/watch?v=OrU5y8IMxOM</a>
How to draw a regular hexagon knowing the length of one side.	<a href="https://www.youtube.com/watch?v=ZfZzIN_5cgQ">https://www.youtube.com/watch?v=ZfZzIN_5cgQ</a>
Isometric projection of hexagon in hindi	<a href="https://www.youtube.com/watch?v=jrcJPgr2fHO">https://www.youtube.com/watch?v=jrcJPgr2fHO</a>
	<a href="https://www.youtube.com/watch?v=Hy9p-fRlRkE">https://www.youtube.com/watch?v=Hy9p-fRlRkE</a>
Isometric projection of cube	<a href="https://www.youtube.com/watch?v=MHARXHaMMs4">https://www.youtube.com/watch?v=MHARXHaMMs4</a>
Projection of pentagonal prism ( in orthographic and isometric )	<a href="https://www.youtube.com/watch?v=3LFDORNpNaU">https://www.youtube.com/watch?v=3LFDORNpNaU</a>
Isometric projection of rectangular ( prism and pyramid )	<a href="https://www.youtube.com/watch?v=-tS9ILOsVho">https://www.youtube.com/watch?v=-tS9ILOsVho</a>
Isometric projection of triangular pyramid	<a href="https://www.youtube.com/watch?v=I00NVSWHCQM">https://www.youtube.com/watch?v=I00NVSWHCQM</a>
Isometric projection of square pyramid resting on apex and base.	<a href="https://www.youtube.com/watch?v=AgOo8umI654">https://www.youtube.com/watch?v=AgOo8umI654</a>
Isometric projection of pentagonal Pyramid ( orthographic and Isometric views )	<a href="https://www.youtube.com/watch?v=QDS6y_U7wdw">https://www.youtube.com/watch?v=QDS6y_U7wdw</a>
Isometric projection of hexagonal Pyramid.	<a href="https://www.youtube.com/watch?v=XVA0hoqsP_I">https://www.youtube.com/watch?v=XVA0hoqsP_I</a>
Example: Draw the isometric view of the hexagonal pyramid of 80mm and base side 40mm placed on H.P. with one of the side parallel to V.P.	<a href="https://www.youtube.com/watch?v=BiELsxac3e4">https://www.youtube.com/watch?v=BiELsxac3e4</a>
Isometric Projection of circle	<a href="https://www.youtube.com/watch?v=AilUpRpEeGc">https://www.youtube.com/watch?v=AilUpRpEeGc</a>
Isometric projection of cone and cylinder	<a href="https://www.youtube.com/watch?v=wAH7N6OsRhW">https://www.youtube.com/watch?v=wAH7N6OsRhW</a>

Isometric projection of cylinder	<a href="https://www.youtube.com/watch?v=HKKta2sBOKE">https://www.youtube.com/watch?v=HKKta2sBOKE</a>
Isometric projection of sphere	<a href="https://www.youtube.com/watch?v=VclEDrscIW4">https://www.youtube.com/watch?v=VclEDrscIW4</a>
Isometric projection of hemisphere	<a href="https://www.youtube.com/watch?v=LbKoQXEaMgs">https://www.youtube.com/watch?v=LbKoQXEaMgs</a>
Isometric projection of frustum of right triangular Pyramid	<a href="https://www.youtube.com/watch?v=ydzwdJiwD9k">https://www.youtube.com/watch?v=ydzwdJiwD9k</a>
Isometric projection of frustum of right square pyramid	<a href="https://www.youtube.com/watch?v=tEAJLcvmKQI">https://www.youtube.com/watch?v=tEAJLcvmKQI</a>
Isometric projection of frustum of right pentagonal pyramid	<a href="https://www.youtube.com/watch?v=fZxkAJa54ew">https://www.youtube.com/watch?v=fZxkAJa54ew</a>
Isometric projection of frustum of right hexagonal pyramid	<a href="https://www.youtube.com/watch?v=Z7UmhyusIB4">https://www.youtube.com/watch?v=Z7UmhyusIB4</a>
Isometric projection of frustum of a right circular cone	<a href="https://www.youtube.com/watch?v=xLzbS_umhMM">https://www.youtube.com/watch?v=xLzbS_umhMM</a>
Combination of two solids – hexagonal prism and right circular cylinder	<a href="https://www.youtube.com/watch?v=LW06wwWI5Ns">https://www.youtube.com/watch?v=LW06wwWI5Ns</a>
Combination of two solids -triangular pyramid and hemisphere	<a href="https://www.youtube.com/watch?v=47xhoP503IU">https://www.youtube.com/watch?v=47xhoP503IU</a>
Combination of two solids -triangular prism and cube	<a href="https://www.youtube.com/watch?v=KdydTRrQXaM">https://www.youtube.com/watch?v=KdydTRrQXaM</a>
<b>Combination of Solids – equilateral triangular pyramid and hexagonal prism.</b> :- Draw an isometric Projection of an equilateral triangular pyramid resting vertically and centrally with one base edge, at the back, parallel to V.P. on the top face of a hexagonal prism having two of its rectangular faces parallel to V.P. Side of the triangle = 34mm height of pyramid = 50mm, side of the hexagon = 30mm and height of the prism = 60mm.	<a href="https://www.youtube.com/watch?v=eUHAAC4JsRM">https://www.youtube.com/watch?v=eUHAAC4JsRM</a>
<b>Combination of Solids – right circular cone and pentagonal prism</b> :- Draw an Isometric Projection of a right circular cone resting vertically and centrally on the top horizontal rectangle of a pentagonal prism having its axis parallel to H.P. and V.P. both. Side of pentagon = 34mm, length of the prism = 80mm, diameter of the cone = 44mm and height of cone = 60mm.	<a href="https://www.youtube.com/watch?v=6QbTYQH1vKo">https://www.youtube.com/watch?v=6QbTYQH1vKo</a>
<b>Combination of Solids – right circular cone and cuboid</b> :-	<a href="https://www.youtube.com/watch?v=wAH7N6OsRhW">https://www.youtube.com/watch?v=wAH7N6OsRhW</a>

<b>Unit II: Machine Drawing</b>	
A. (i) Drawing to full size scale with instruments	
Standard profile of square thread	<a href="https://www.youtube.com/watch?v=oh0D-AQjf6U">https://www.youtube.com/watch?v=oh0D-AQjf6U</a>
Standard profile of knuckle thread	<a href="https://www.youtube.com/watch?v=NctOljg1GOI">https://www.youtube.com/watch?v=NctOljg1GOI</a>
B.S.W Thread	<a href="https://www.youtube.com/watch?v=uGkGgwF-qbE">https://www.youtube.com/watch?v=uGkGgwF-qbE</a>
Metric Thread	<a href="https://www.youtube.com/watch?v=L99lnAqVK1A">https://www.youtube.com/watch?v=L99lnAqVK1A</a>
Metric Thread ( external and internal )	<a href="https://www.youtube.com/watch?v=onZ3QlwWozk">https://www.youtube.com/watch?v=onZ3QlwWozk</a>
Hexagonal Bolt	<a href="https://www.youtube.com/watch?v=RbkXnN6T5wk">https://www.youtube.com/watch?v=RbkXnN6T5wk</a>
	<a href="https://www.youtube.com/watch?v=vIK5j6HAjXo">https://www.youtube.com/watch?v=vIK5j6HAjXo</a>
Square Headed Bolt and Square Nut	<a href="https://www.youtube.com/watch?v=KnhBjLUNik4">https://www.youtube.com/watch?v=KnhBjLUNik4</a>
Hexagonal Headed Bolt and Hexagonal Nut	<a href="https://www.youtube.com/watch?v=r5C9nIKoVos">https://www.youtube.com/watch?v=r5C9nIKoVos</a>
Tee headed Bolts	
Hook bolt	
( ii)Free- hand sketches	
Plain Studs	
Plain with square-neck and collar	
Round headed screw	
Cheese headed screw	
90 degree flat counter sunk flat head	
Hexagonal socket-head screw	
Grub screw	
Types of rivets:-Snap head	
Pan head-without tampered neck	
60 degree counter flat head	
Flat head	
Types of sunk-keys	
Rectangular sunk taper key	
Woodruff Key	
Double-headed feather key	
Gib head on both ends	
<b>B. Assembled views of the following machine parts:-</b>	
<b>1. Bearings</b>	
(i) Open - Bearing	<a href="https://www.youtube.com/watch?v=HKLAFFKpBO">https://www.youtube.com/watch?v=HKLAFFKpBO</a>



(ii)	Bushed-bearing	<a href="https://www.youtube.com/watch?v=mZkprNZHkAw">https://www.youtube.com/watch?v=mZkprNZHkAw</a>
(iii)	Footstep- Bearing ( only sectional front -view will be asked )	<a href="https://www.youtube.com/watch?v=WyjG5rp65OY">https://www.youtube.com/watch?v=WyjG5rp65OY</a>
	Footstep- Bearing	<a href="https://www.youtube.com/watch?v=De-qL0TC8hM">https://www.youtube.com/watch?v=De-qL0TC8hM</a>
	Footstep- Bearing	<a href="https://www.youtube.com/watch?v=3q5sJXWe-no">https://www.youtube.com/watch?v=3q5sJXWe-no</a>
(iv)	Simple Plummer – Block ( only sectional front view will be asked with only round brases )	<a href="https://www.youtube.com/watch?v=J0plhX4XGvw">https://www.youtube.com/watch?v=J0plhX4XGvw</a>
	Simple Plummer – Block ( only sectional front view will be asked with only round brases )	<a href="https://www.youtube.com/watch?v=WP6IUup-cOp0">https://www.youtube.com/watch?v=WP6IUup-cOp0</a>
<b>2. Rod Joints</b>		
(i)	Cotter-,Joints for circular - rods ( socket and spigot joint and cotter joint ) ( in English )	<a href="https://www.youtube.com/watch?v=5OG5nfCwdng">https://www.youtube.com/watch?v=5OG5nfCwdng</a>
(ii)	Cotter-,Joints for round- rods ( Sleeve and cotter joint ) ( in English )	<a href="https://www.youtube.com/watch?v=mlgmVleA-Zw">https://www.youtube.com/watch?v=mlgmVleA-Zw</a>
(iii)	Cotter-,Joints for square- rods ( Gib and cotter joint ) ( in English )	<a href="https://www.youtube.com/watch?v=m3B7CsHQI5o">https://www.youtube.com/watch?v=m3B7CsHQI5o</a>
(ii)	Knuckle-joints ( only sectional front view will be asked )	<a href="https://www.youtube.com/watch?v=HHcza2uel3A">https://www.youtube.com/watch?v=HHcza2uel3A</a>
	Knuckle-joints ( only for 3D reference of students )	<a href="https://www.youtube.com/watch?v=SGfLx9YsCSQ">https://www.youtube.com/watch?v=SGfLx9YsCSQ</a>
<b>3. Tie-rod and Pipe- joint</b>		
(i)	Turnbuckle	<a href="https://www.youtube.com/watch?v=a03ZIS_ONM">https://www.youtube.com/watch?v=a03ZIS_ONM</a>
(ii)	Flange pipe joint.	<a href="https://www.youtube.com/watch?v=A-ov0PQFj0M">https://www.youtube.com/watch?v=A-ov0PQFj0M</a>
<b>4. Couplings</b>		
(i)	Unprotected flange ( having socket and spring arrangement )	<a href="https://www.youtube.com/watch?v=7Ab-1KOzuew">https://www.youtube.com/watch?v=7Ab-1KOzuew</a>
(ii)	Protected flange coupling (assembly )	<a href="https://www.youtube.com/watch?v=2sAU7crQUqU">https://www.youtube.com/watch?v=2sAU7crQUqU</a>
<b>5. Pulleys</b>		
(i)	Solid cast Iron Pulley ( upto 200mm diameter ) having solid web	
(ii)	Single Groove pulley ( upto 200mm diameter )	<a href="https://www.youtube.com/watch?v=QSQ3xP7KS3M">https://www.youtube.com/watch?v=QSQ3xP7KS3M</a>