

# Class-11 (English)

(Total Videos # 456)

## Chapter # 01

### Grammar (222 Videos)

#### 1.1 Parts of Speech (Introduction)

1. Parts of Speech (introduction)
2. Nouns (explanation with examples)
3. Pronouns (explanation with examples)
4. Adjectives (explanation with examples)
5. Verbs (explanation with examples)
6. Adverbs (explanation with examples)
7. Conjunctions (explanation with examples)
8. Prepositions (explanation with examples)
9. Interjections (explanation with examples)

#### 1.2 Types of Nouns

10. Proper Nouns (explanation with examples)
11. Common Nouns (explanation with examples)
12. Concrete Nouns (explanation with examples)
13. Abstract Nouns (explanation with examples)
14. Exercise-Abstract Nouns-1
15. Exercise-Abstract Nouns-2
16. Singular and Plural Nouns (explanation with examples)
17. Countable and Uncountable Nouns (explanation with examples)
18. Collective Nouns (explanation with examples)
19. Exercise-Collective Nouns
20. Compound Nouns (explanation with examples)
21. Exercise-Nouns-Mixed
22. Abstract Noun (explanation/identify/underline)
23. Abstract Noun (change form/make sentences)
24. Collective Nouns (explanation/identify/make sentences)

#### 1.3 Types of Nouns

25. Personal Pronouns (explanation with examples)
26. Possessive Pronouns (explanation with examples)
27. Relative Pronouns & antecedent(explanation with examples)
28. More on Relative Pronouns
29. Exercise-Relative Pronouns
30. Kinds of Pronouns Mixed Part-1

- 31. Kinds of Pronouns Mixed Part-2
- 32. Exercise-Kinds of Pronouns Mixed
- 33. Exercise-Pronoun Antecedent
- 34. Kinds of Pronouns (personal/possessive)(explanation)
- 35. Kinds of Pronouns (reflexive/indefinite)(explanation)
- 36. Kinds of Pronouns (identify various pronouns in sentences)
- 37. Relative Pronouns (explanation/fill in blanks/make sentences)

#### **1.4 Types of Prepositions**

- 38. Prepositions (explanation with examples & exercise)
- 39. Compound Prepositions (explanation with examples)
- 40. Exercise-Compound Prepositions
- 41. Prepositions (explanation with examples)
- 42. Compound Prepositions (explanation/fill in blanks)

#### **1.5 Conjunctions**

- 43. Conjunctions(3 types)(explanation with examples)

#### **1.6 Articles**

- 44. Definite and Indefinite Articles (explanation with examples)
- 45. Exercise-Articles
- 46. Articles (explanation/identify/insert articles)

#### **1.7 Ellipses**

- 47. Ellipses (use of three dots) (explanation with examples)
- 48. Ellipses (explanation/make sentences)

#### **1.8 Kinds of Adjectives**

- 49. Kinds of Adjectives (explanation with examples)
- 50. Exercise-Kinds of Adjectives
- 51. Order of Adjectives (explanation with examples)
- 52. Exercise-Order of Adjectives
- 53. Degrees of Comparison (explanation with examples)
- 54. Exercise-Degrees of comparison
- 55. Degrees of Comparison (explanation/complete the table/make sentences)
- 56. Kinds of Adjectives (explanation)
- 57. Kinds of Adjectives (change form/make sentences)
- 58. Order of Adjectives (explanation/choose the correct phrase)
- 59. Order of Adjectives (explanation/make sentences)
- 60. Adjective Phrases(explanation/replace phrase by adjective/make senten
- 61. Adverb Phrases(explanation/replace phrase by adjective/make sentences)
- 62. Adjective Clauses (explanation/identify/fill blanks)
- 63. More on Adjective Clauses

#### **1.9 Kinds and Positions of Adverbs in a Senetence**

- 64. Modal Verbs (explanation with examples)
- 65. More on Modal Verbs
- 66. Exercise-Modal Verbs
- 67. Kinds of Adverbs (explanation with examples)
- 68. More on Kinds of Adverbs

- 69. Position of Adverbs in a sentence (explanation with examples)
- 70. Position of a Single Adverb in a Sentence
- 71. Degrees of Adverbs (explanation with examples)
- 72. Modal Verbs (explanation/use of modal verbs to describe various situa
- 73. Adverbs (explanation with examples)
- 74. Kinds of Adverbs/Position of Adverbs (explanation/place adverbs in co
- 75. Adverbial Clauses Types (explanation with examples)
- 76. More on Adverbial Clauses

### **1.10 Types of Sentences**

- 77. Sentence and Order of its Parts
- 78. Statements (explanation with examples)
- 79. Imperative Sentences (explanation with examples)
- 80. Exclamatory Sentences (explanation with examples)
- 81. Interrogative Sentences (explanation with examples)
- 82. Optative Sentences (explanation with examples)
- 83. Exercise-Types of Sentences
- 84. Simple Sentences (explanation with examples)
- 85. Compound Sentences (explanation with examples)
- 86. Complex Sentences (explanation with examples)
- 87. Compound-Complex Sentences (explanation with examples)
- 88. Exercise-Sentences Mixed
- 89. Types of Sentences-Exclamatory/Assertive etc (explanation)
- 90. Simple, Complex and Compound Sentences(identify/write)

### **1.11 Phrases and Clauses**

- 91. Phrase (explanation with examples)
- 92. Noun, Verb, Prepositional Phrases (explanation with examples)
- 93. Noun, Verb, Prepositional Phrases (explanation with examples)
- 94. Adjective Phrase (explanation with examples)
- 95. Exercise-Adjective Phrase
- 96. Adverb Phrase (explanation with examples)
- 97. Exercie-Adverb Phrase
- 98. Independent/Dependent Clauses (explanation with examples)
- 99. Exercise-Independent & Dependent Clause
- 100. Exercise-Comma Clause
- 101. Noun Clause (explanation with examples)
- 102. Adjective Clause (explanation with examples)
- 103. Exercise-Adjective Clause-1
- 104. Exercise-Adjective Clause-2
- 105. Adverb Clause (explanation with examples)
- 106. Exercise-Adverb Clause-1
- 107. Exercise-Adverb Clause-2
- 108. Use of Comma with Clauses (explanation with examples)
- 109. Independent/Dependent Clauses (explanation/identify/fill table)
- 110. Use of Comma to Separate Clauses(explanation/correct sentences)

### **1.12 Kinds of Verbs and their Forms**

- 111. Transitive Verb (explanation with examples)
- 112. Intransitive Verb (explanation with examples)
- 113. Auxiliary Verb (explanation with examples)
- 114. Linking Verbs (explanation with examples)
- 115. Finite Verbs (explanation with examples)
- 116. Non-Finite Verbs (explanation with examples)
- 117. Present and Past participle (explanation with examples)
- 118. Exercise-Present & Past Participles
- 119. Gerund (explanation with examples)
- 120. Gerunds(explanation/complete phrases/make sentences)
- 121. Infinitive (explanation with examples)
- 122. Use of Infinitives(explanation/make sentences)
- 123. More on Use of Infinitives
- 124. Forms of Verbs for Regular Verbs (explanation with examples)
- 125. Forms of Verbs for Irregular Verbs (explanation with examples)

### **1.13 Tense, Aspect and Mood**

- 126. Relation of Tense, Aspect and Mood with Verb (explanation )
- 127. Verb Tense (types of tenses) (explanation with examples)
- 128. Verb Aspect Versus Verb Tense (explanation with examples)
- 129. Verbal Aspect-Simple/Indefinite (explanation with examples)
- 130. Verbal Aspect-Continuous/Progressive (explanation with examples)
- 131. Verbal Aspect-Perfect (explanation with examples)
- 132. Verbal Aspect-Perfect Continuous (explanation with examples)
- 133. Verbal Mood (3 types) (explanation with examples)

### **1.14 Present Tense**

- 134. Present Simple Tense(Uses & Formation)
- 135. Present Simple Tense(Table) (explanation with examples)
- 136. Present Continuous Tense (Uses & Formation)
- 137. Present Continuous Tense (Table) (explanation with examples)
- 138. Present Perfect Tense (Uses&Formation)
- 139. Present Perfect Tense(Table) (explanation with examples)
- 140. Present Perfect Continuous Tense (Uses&Formation)
- 141. Present Perfect Continuous Tense (Table) (explanation & examples)

### **1.15 Past Tense**

- 142. Past Simple Tense(Uses & Formation)
- 143. Past Simple Tense (Table)(explanation with examples)
- 144. Past Continuous Tense(Uses & Formation)
- 145. Past Continuous Tense (Table)(explanation with examples)
- 146. Past perfect Tense (Uses&Formation)
- 147. Past perfect Tense (Table)(explanation with examples)
- 148. Past Perfect Continuous Tense (Uses&Formation)
- 149. Past Perfect Continuous Tense (Table)(explanation & examples)

### **1.16 Future Tense**

- 150. Future Simple Tense (Uses & Formation)(explanation with examples)
- 151. Future Simple Tense (Table) (explanation with examples)

- 152. Future Continuous Tense(Uses & Formation) (explanation with example)
- 153. Future Continuous Tense (Table) (explanation with examples)
- 154. Future Perfect Tense(Uses & Formation) (explanation with examples)
- 155. Future Perfect Tense (Table)(explanation with examples)
- 156. Future Perfect Continuous Tense (Uses & Formation)(explanation &
- 157. Future Perfect Continuous Tense (Table)(explanation with examples)
- 158. Tenses/Aspect Table (all tenses in one table)
- 159. More on Tenses/Aspect Table
- 160. Exercise-Tenses-Mixed

### **1.17 Conditionals Type- I, II and III**

- 161. Conditionals-Type 1 (explanation with examples)
- 162. Conditionals-Sentences Table (explanation with examples)
- 163. More on Conditionals-Sentences Table(Type Zero, 1,2,3,Mixed)
- 164. Exercise-Conditionals
- 165. Conditionals-Type 1,2&3 (explanation with examples/fill blanks)

### **1.18 Active and Passive Voice**

- 166. Active and Passive Voice (explanation with examples)
- 167. Active and Passive Voice Table Part 1 (explanation & examples)
- 168. Active and Passive Voice Table Part 2 (explanation & examples)
- 169. Active and Passive Voice Table Part 3 (explanation & examples)
- 170. Active and Passive Voice Table Part 4 (explanation & examples)
- 171. Exercise-Active & Passive Voice

### **1.19 Subject-Verb Agreement**

- 172. Subject-Verb Agreement Part 1 (explanation with examples)
- 173. Subject-Verb Agreement Part 2 (explanation with examples)
- 174. Subject-Verb Agreement Part 3 (explanation with examples)
- 175. Subject-Verb Agreement Part 4 (explanation with examples)
- 176. Subject-Verb Agreement Part 5 (explanation with examples)
- 177. Exercise-Subject Verb Agreement
- 178. Subject-Verb Agreement (identify/fill in blanks)
- 179. More on Subject-Verb Agreement (1)
- 180. More on Subject-Verb Agreement (2)

### **1.20 Transitional Devices**

- 181. More on Transitional Devices
- 182. Exercise Transitional Devices
- 183. Transitional Devices (explanation/fill blanks)

### **1.21 Direct/Indirect Narration**

- 184. Direct/Indirect Narration (explanation/change form)
- 185. Direct/Indirect Narration Tense-1 (explanation/change form)
- 186. Direct/Indirect Narration Tense-2
- 187. Direct/Indirect Narration Tense-4

### **1.22 Punctuation**

- 188. Ways to End a Sentence (full stop, comma, exclamation)
- 189. Commas with Simple Series, Oxford comma and Adjectives (Rule 1 and 2)

190. Commas with Clauses (Rule 3)
191. Commas with Clauses and Introductory Phrases (Rule 4 to 5)
192. Commas with Introductory Phrases and Nonessential Parts of a Sentence
193. Appositive Commas (Rule 9)
194. Commas with Phrases, Dates and Addresses (Rule 10 to 13)
195. Commas with Degrees, Titles and Direct Speech (Rule 14 to 16)
196. Commas with Direct Speech, Contrasting Parts and Introductory Items (
197. Punctuating Salutations and Valedictions
198. Punctuating Dates
199. Punctuating Addresses
200. Apostrophes with Singular Nouns (Rule 1 to 2)
201. Identify Apostrophes with Plural Nouns (regular nouns) (Rule 3 to 4)
202. Identify Apostrophes with Plural Nouns (irregular Nouns) (Rule 4- 5)
203. Identify Plural Possession (Rule 6 to7)
204. Apostrophes with Singular and Plural Compound Possessives (Rule 8 to
205. Apostrophes with Possessive Adjectives (Rule 12)
206. Apostrophes with Contractions(Rule 13)
207. Apostrophes with Single or More capital Letters, Time and Money (Rule
208. Apostrophes versus Single quotation Mark and False Possessives (Rule
209. Colons with Series of Items (Rule 1-3)
210. Colons with Vertical Lists and Series of Items (Rule 4-5)
211. Colons with Direct Speech (Rule 6-8)
212. Semicolons with Clauses (Rule 1 and 2)
213. Semicolons with Conjunctions and Series of Items (Rule 3 to 6)
214. Italics, Underlining and Quotes in Titles
215. Use of Parenthesis
216. Use of Parenthesis and Brackets
217. Use of Dashes
218. Use of Hyphens Part-1
219. Use of Hyphens Part-2
220. Use of Hyphens Part-3
221. Punctuating a Passage Part-1
222. Punctuating a Passage Part-2

# Chapter # 02

## Writing Skills (73 Videos)

### 2.1 Summary Writing

1. Summary Writing Intro and Steps (explanation with examples)
2. Exercise-Summary Skills-1
3. Exercise-Summary Skills-2
4. Exercise-Summary Skills-3

5. Summary (explanation with practice using short poems)
6. Summary Steps with Flow Chart (explanation)
7. Summary of a Poem(Daffodils) (reading/outlining/checking/writing)
8. Summary of a Short Passage (reading/outlining/checking/writing)
9. Summary of a Long Passage (reading/outlining/checking/writing)
10. More on Summary of a Long Passage

## **2.2 Paraphrasing**

11. Paraphrasing Intro-Sample (writing a paraphrase of a story)
12. More on paraphrasing Intro-Sample
13. Paraphrasing the Stanzas of a Poem (editing/writing)
14. Paraphrasing (explanation with examples)
15. More on Paraphrasing

## **2.3 Paragaraph Writing**

16. Paragraph Writing Intro-Outline (explanation with examples)
17. Paragraph Writing Sample(writing of a paragraph)
18. Paragaraph Writing Skills (explanation/demonstration)
19. More on Paragraph Writing (1)
20. More on Paragraph Writing (2)

## **2.4 Essay Writing**

21. Essay Writing -Intro with Essay Types (explanation with examples)
22. Exercise-Essay Writing
23. Steps for writing an Essay (explanation with examples)
24. More on Steps for writing an Essay
25. Essay Writing (Steps to Follow/types of essays)(explanation)
26. More on Essay Writing Steps to Follow
27. An Essay on Quaid-e-Azam our National Hero (mind map/outline/writing)
28. Important Essay Topics( guessing the type of essay)
29. Formal/Informal-Non-fictional/Fictional Essay (explanation)

## **2.5 Mind Mapping**

30. Mind Map (developing of a mind map)
31. How to Develop a Mind Map (filling a mind map/explanation)

## **2.6 Argumentative Essay**

32. Argumentative Essay Sample-Part-1 (writing of essay)
33. Argumentative Essay Sample-Part-2 (writing of essay)
34. Argumentative Essay Sample-Part-3(writing of essay)
35. Persuasive/Argumentative Essay Comparison(explanation with table)
36. A Sample Persuasive Essay (explanation)
37. A Sample Argumentative Essay (explanation)

## **2.7 Narrative Essay**

38. Narrative Essay Sample-Part-1 (writing of essay)
39. Narrative Essay Sample-Part-2 (writing of essay)
40. Narrative Essay Sample-Part-3 (writing of essay)
41. Narrative Essay Sample-Part-4 (writing of essay)
42. A Sample Personal Narrative Essay (explanation/mind map/outline)

## **2.8 Character Sketch**

43. [Character Sketch\(explanation/steps to follow\)](#)

## **2.9 Descriptive Essay**

44. [Descriptive Essay Sample \(writing of essay\)](#)

45. [Character Sketch\(explanation/steps to follow\)](#)

46. [More on Character Sketch](#)

47. [Descriptive/Narrative Essay Comparison & Expository/Descriptive Mindm](#)

## **2.10 Cause and Effect Essay**

48. [Cause and Effect Essay Sample \(writing of essay\)](#)

49. [More on Cause and Effect Essay Sample \(writing of essay\)](#)

50. [A Sample Cause and Effect Essay \(mind map/outline/writing\)](#)

51. [More on A Cause and Effect Essay](#)

## **2.11 Comparison and Contrast Essay**

52. [Comparison and Contrast Essay Sample\(writing of essay\)](#)

53. [More on Comparison and Contrast Essay Sample \(writing of essay\)](#)

54. [A Sample Comparison and Contrast Essay \(outline/explanation\)](#)

55. [More on A Comparison and Contrast Essay](#)

## **2.12 Letter Format & Types**

56. [Letter Types and Format\(explanation with examples\)](#)

57. [Letter Writing Format \(discussion with sample\)](#)

58. [Letter writing Steps \(discussion\)](#)

59. [Formal/Informal Letter Comparison & Parts in Detail \(discussion\)](#)

## **2.13 Formal Letter (Application)**

60. [Formal Letter Sample \(reading and discussion of sample\)](#)

61. [A Sample Formal Letter/Application \(outline/explanation\)](#)

62. [More on A Formal Letter](#)

## **2.14 Informal Letter**

63. [Informal Letter Sample \(reading and discussion of sample\)](#)

## **2.15 Email**

64. [Email Sample \(reading and discussion of sample\)](#)

## **2.16 Book Review**

65. [Book Review Intro and Tips \(explanation with examples\)](#)

66. [Book Review Sample \(discussion of sample\)](#)

67. [Book Reviews on Hellen Keller's 2 Books \(explanation\)](#)

68. [Book Review \(Importance and tips to write book reviews-Explanation\)](#)

## **2.17 Dialogue Writing**

69. [Dialogue Writing Part 1](#)

70. [Dialogue Writing Part 2](#)

71. [Dialogue Writing Part 3](#)

72. [Dialogue Writing Part 4](#)

73. [Dialogue Writing Part 5](#)



# Chapter # 03

## Vocabulary (56 Videos)

### 3.1 Vocabulary (based on syllabus)

1. Vocabulary Words (10)- [meanings & Sentences] Part 1
2. Vocabulary Words (10)- [meanings & Sentences] Part 2
3. Vocabulary Words (10)- [meanings & Sentences] Part 3
4. Vocabulary Words (10)- [meanings & Sentences] Part 4
5. Vocabulary Words (10)- [meanings & Sentences] Part 5
6. Vocabulary Words (10)- [meanings & Sentences] Part 6
7. Vocabulary Words (10)- [meanings & Sentences] Part 7
8. Vocabulary Words (10)- [meanings & Sentences] Part 8
9. Vocabulary Words (10)- [meanings & Sentences] Part 9
10. Vocabulary Words (10)- [meanings & Sentences] Part 10
11. Vocabulary Words (10)- [meanings & Sentences] Part 11
12. Vocabulary Words (10)- [meanings & Sentences] Part 12
13. Vocabulary Words (10)- [meanings & Sentences] Part 13
14. Vocabulary Words (10)- [meanings & Sentences] Part 14
15. Vocabulary Words (10)- [meanings & Sentences] Part 15
16. Vocabulary Words (10)- [meanings & Sentences] Part 16
17. Vocabulary Words (10)- [meanings & Sentences] Part 17
18. Vocabulary Words (10)- [meanings & Sentences] Part 18
19. Vocabulary Words (10)- [meanings & Sentences] Part 19
20. Vocabulary Words (5)- [meanings & Sentences] Part 20
21. Vocabulary Words (5)- [meanings & Sentences] Part 21

### 3.2 Word Pairs

22. Word Pairs (5)- [meanings & Sentences] Part 1
23. Word Pairs (5)- [meanings & Sentences] Part 2
24. Word Pairs (5)- [meanings & Sentences] Part 3
25. Word Pairs (5)- [meanings & Sentences] Part 4
26. Word Pairs (5)- [meanings & Sentences] Part 5
27. Word Pairs (5)- [meanings & Sentences] Part 6
28. Word Pairs (5)- [meanings & Sentences] Part 7
29. Word Pairs (5)- [meanings & Sentences] Part 8
30. Word Pairs (5)- [meanings & Sentences] Part 9
31. Word Pairs (5)- [meanings & Sentences] Part 10
32. Word Pairs (5)- [meanings & Sentences] Part 11
33. Word Pairs (5)- [meanings & Sentences] Part 12
34. Word Pairs (5)- [meanings & Sentences] Part 13
35. Word Pairs (5)- [meanings & Sentences] Part 14
36. Word Pairs (5)- [meanings & Sentences] Part 15
37. Word Pairs (5)- [meanings & Sentences] Part 16
38. Word Pairs (5)- [meanings & Sentences] Part 17

- 39. Word Pairs (5)- [meanings & Sentences] Part 18
- 40. Word Pairs (5)- [meanings & Sentences] Part 19
- 41. Word Pairs (5)- [meanings & Sentences] Part 20

### **3.3 Proverbs and Stories**

- 42. Proverb and Story Part 1
- 43. Proverb and Story Part 2
- 44. Proverb and Story Part 3
- 45. Proverb and Story Part 4
- 46. Proverb and Story Part 5

### **3.4 Idioms and Phrasal Verbs**

- 47. Idioms (10)- [meanings & Sentences] Part 1
- 48. Idioms (10)- [meanings & Sentences] Part 2
- 49. Idioms (10)- [meanings & Sentences] Part 3
- 50. Idioms (10)- [meanings & Sentences] Part 4
- 51. Idioms (10)- [meanings & Sentences] Part 5
- 52. Phrasal Verbs (10)- [meanings & Sentences] Part 1
- 53. Phrasal Verbs (10)- [meanings & Sentences] Part 2
- 54. Phrasal Verbs (10)- [meanings & Sentences] Part 3
- 55. Phrasal Verbs (10)- [meanings & Sentences] Part 4
- 56. Phrasal Verbs (10)- [meanings & Sentences] Part 5

# **Chapter # 04**

## **Essay Outlines (15 Videos)**

### **4.1 Essay Outlines (with explanation)**

- 1. Essay Outline (Women Education) Part 1
- 2. Essay Outline (Women Education) Part 2
- 3. Essay Outline (Women Education) Part 3
- 4. Essay Outline (Social Media) Part 1
- 5. Essay Outline (Social Media) Part 2
- 6. Essay Outline (Social Media) Part 3
- 7. Essay Outline (Corruption) Part 1
- 8. Essay Outline (Corruption) Part 2
- 9. Essay Outline (Corruption) Part 3
- 10. Essay Outline (Pollution) Part 1
- 11. Essay Outline (Pollution) Part 2
- 12. Essay Outline (Education) Part 1
- 13. Essay Outline (Education) Part 2
- 14. Essay Outline (Education) Part 3
- 15. Essay Outline (Education) Part 4

# Chapter # 05

## Short Stories (18 Videos)

### 5.1 Short Stories (Summaries and Q & A)

1. Button Button Summary
2. Button Button Q & A
3. Birkenhead Drill Summary
4. Birkenhead Drill Q & A
5. The Stuffed Trout Summary
6. The Stuffed Trout Q & A
7. The Man who was a Hospital
8. The Man who was a Hospital Q & A
9. The Dying Sun Summary
10. The Dying Sun Q & A Part 1
11. The Dying Sun Q & A Part 2
12. The Devoted Friend Summary
13. The Devoted Friend Q & A Part 1
14. The Devoted Friend Q & A Part 2
15. Hitch-Hicking Across the Sahara Summary
16. Hitch-Hicking Across the Sahara Q & A Part 1
17. Hitch-Hicking Across the Sahara Q & A Part 2
18. M. A. Jinnah: A Great States Man Q & A

# Chapter # 06

## Plays (27 Videos)

### 6.1 Plays (Summaries, Analysis and Q & A)

1. The Oyster and the Pearl Summary and Analysis Part 1
2. The Oyster and the Pearl Summary and Analysis Part 2
3. The Oyster and the Pearl Q & A Part 1
4. The Oyster and the Pearl Q & A Part 2
5. Progress Summary Part 1
6. Progress Summary Part 2
7. Progress Q & A Part 1
8. Progress Q & A Part 2
9. Progress Q & A Part 3
10. Dear Departed Summary

11. Dear Departed Q & A Part 1
12. Dear Departed Q & A Part 2
13. True Friendship Summary Part 1
14. True Friendship Summary Part 2
15. True Friendship Q & A Part 1
16. True Friendship Q & A Part 2
17. King Lear Summary
18. King Lear Character Analysis Part 1
19. King Lear Character Analysis Part 2
20. King Lear Q & A Part 1
21. King Lear Q & A Part 2
22. King Lear Q & A Part 3
23. King Lear Q & A Part 4
24. King Lear Q & A Part 5
25. Twenty Minutes with Mrs. Oakentubb Summary
26. Twenty Minutes with Mrs. Oakentubb Q & A Part 1
27. Twenty Minutes with Mrs. Oakentubb Q & A Part 2

# Chapter # 07

## Poems (26 Videos)

### 7.1 Poems (Summaries, Analysis, Themes and

1. Night Mail Summary Part 1
2. Night Mail Summary Part 2
3. Night Mail Q & A Part 1
4. Night Mail Q & A Part 2
5. Sonnet-Westminster Bridge Summary
6. Sonnet-Westminster Bridge Q & A Part 1
7. Sonnet-Westminster Bridge Q & A Part 2
8. Sonnet-Westminster Bridge Q & A Part 3
9. We are Seven Summary Part 1
10. We are Seven Summary Part 2
11. We are Seven Themes Part 1
12. We are Seven Themes Part 2
13. We are Seven Themes Part 3
14. September, The First Day of School Summary Part 1
15. September, The First Day of School Summary Part 2
16. September, The First Day of School Summary Part 3
17. September, The First Day of School Themes
18. Endymion Summary and Analysis Part 1
19. Endymion Summary and Analysis Part 2
20. Endymion Summary and Analysis Part 3
21. Endymion Questions and Answers

22. [One Way of Love Summary](#)
23. [One Way of Love Analysis](#)
24. [If Summary](#)
25. [If Analysis Part 1](#)
26. [If Analysis Part 2](#)

# Chapter # 08

## Novels (19 Videos)

### 8.1 Novel (Summary, Themes, Characters and

1. [Goodbye Mr. Chips Summary Part 1](#)
2. [Goodbye Mr. Chips Summary Part 2](#)
3. [Goodbye Mr. Chips Summary Part 3](#)
4. [Goodbye Mr. Chips Summary Part 4](#)
5. [Character of Mr. Chips Part 1](#)
6. [Character of Mr. Chips Part 2](#)
7. [Character of Mr. Chips Part 3](#)
8. [Character of Katherine Bridges Part 1](#)
9. [Character of Katherine Bridges Part 2](#)
10. [Character of Mr. Ralston](#)
11. [Character of Mrs. Wicketts](#)
12. [Goodbye Mr. Chips Short Q & A Part 1](#)
13. [Goodbye Mr. Chips Short Q & A Part 2](#)
14. [Goodbye Mr. Chips Theme: Humour](#)
15. [Goodbye Mr. Chips Theme: Anti-War Part 1](#)
16. [Goodbye Mr. Chips Theme: Anti-War Part 2](#)
17. [Goodbye Mr. Chips Theme: Farewell Speech: Always Stay Positive Part 1](#)
18. [Goodbye Mr. Chips Theme: Farewell Speech: Always Stay Positive Part 2](#)
19. [Goodbye Mr. Chips Theme: Changing World](#)

# **Class-11 (English)**

(Total Videos # 1130)

## **Chapter # 01**

### **Numbers System** (141 Videos)

#### **1.1 Introduction**

1. Introduction to Real Numbers
2. Problem-Introduction to Real Numbers

#### **1.2 Rational Numbers and Irrational Numbers**

3. Presenting Rational Numbers on Number Line
4. Problem-Decimal Representation of Rational Number.
5. Representation of Irrational Number on Number Line
6. Problem1-Decimal Representation of Irrational Number

7. Problem2-Representation of Irrational Number on Number Line
8. Proving Square Root of Prime Number is Irrational Number
9. Problem-Proving Square Root of Prime Number is Irrational Number

### **1.3 Properties of Real Numbers**

10. Closure law of Rational Numbers Subtraction and Division
11. Commutative Law
12. More on Commutative Law
13. Problem-Commutative Law
14. Associative Law
15. More on Associative Law
16. Problem1-Associative Law
17. Problem2-Associative Law
18. Additive Identity & Additive Inverse
19. Problem1-Additive Identity & Additive Inverse
20. Problem2-Additive Identity & Additive Inverse
21. Multiplicative Identity & Inverse
22. Problem1-Multiplicative Identity & Inverse
23. Problem2-Multiplicative Identity & Inverse
24. Distributive Law
25. More on Distributive Law
26. Problem1-Distributive Law
27. Problem2-Distributive Law
28. Problem3- Distributive Law
29. Trichotomy Property of Inequality
30. Problem1-Trichotomy Property of Inequality
31. Problem2-Trichotomy Property of Inequality
32. Reflexive and Symmetric Property of Equality
33. Problem-Reflexive-Symmetric Property of Equality
34. Transitive Property of Equality
35. Problem1-Transitive Property of Equality
36. Problem2-Transitive Property of Equality
37. Additive Property of Equality
38. Problem-Additive Property of Equality
39. Multiplicative Property of Equality
40. Problem-Multiplicative Property of Equality
41. Cancellation Property of Equality
42. Problem-Cancellation Property of Equality
43. Density Property
44. Problem-Density Property
45. Archimedian Property of Inequality
46. Problem1-Transitive property of Inequality
47. Problem2-Transitive property of Inequality
48. Additive property of inequality
49. Problem-Additive property of inequality
50. Multiplicative Property of Inequality
51. Problem2-Multiplicative Property of Inequality
52. Inequality multiplicative Inverse

53. Problem-Inequality multiplicative Inverse
54. Indeterminate Form
55. Golden Rule of Fractions
56. Principle of Equality of Fractions
57. Rule for Quotient of Fractions

## **1.4 Complex Numbers**

58. Complex Number Introduction
59. Problem1-Complex Number Introduction
60. Problem2-Complex Number Introduction
61. Introduction to Complex Numbers
62. Problem2-Definition of Complex Number
63. Conjugate of Complex Number
64. Problem1-Conjugate of Complex Number
65. Problem2-Conjugate of Complex Number
66. Problem3-Conjugate of Complex Number
67. Equality of Complex Number
68. Problem1-Equality of Complex Number
69. Problem2-Equality of Complex Number
70. Properties of Complex Number
71. Problem1-Properties of Complex Number
72. Problem2-Properties of Complex Number
73. Reflexive & Symmetric Law of Complex Number
74. Problem 1: Reflexive & Symmetric Law of Complex Number
75. Problem-Reflexive & Symmetric Law of Complex Number
76. Transitive Law of Complex Number
77. Problem 1: Transitive Law of Complex Number
78. Problem-Transitive Law of Complex Number
79. Addition of Complex Number
80. Problem1-Addition of Complex Number
81. Problem2-Addition of Complex Number
82. Multiplication of Complex with Scalar Numbers
83. Problem1-Multiplying Complex Numbers with Scalar
84. Problem2-Scalar Multiplication of Complex Numbers
85. Multiplication of Complex Numbers
86. Problem1-Multiplication of Complex Numbers
87. Problem2-Multiplication of Complex Numbers
88. Problem1-Subtraction of Complex Numbers
89. Problem2-Subtraction of Complex Numbers
90. Division of Complex Numbers
91. Problem1-Division of Complex Numbers
92. Problem2-Division of Complex Numbers
93. Division Property of Complex Numbers
94. Problem1-Division Property of Complex Numbers
95. Problem2-Division Property of Complex Numbers
96. Commutative Property of Complex Numbers
97. Problem-Commutative Property of Complex Numbers
98. Associative Property of Complex Numbers



- 99. Problem-Associative Property of Complex Numbers
- 100. The Distributive Property of Complex Numbers
- 101. Problem-The Distributive Property of Complex Numbers
- 102. Additive Identity and Multiplicative Identity of Complex Numbers
- 103. Problem-Additive Identity and Multiplicative Identity of Complex Numb
- 104. Additive Inverse and Multiplicative Inverse of Complex Numbers
- 105. Problem-Additive Inverse and Multiplicative Inverse of Complex Numbers
- 106. Solution of Simultaneous Linear Equations with Complex Co-efficients
- 107. Problem-Solution of Simultaneous Linear Equations with Complex Co-eff
- 108. Expression of the Polynomial  $P(z)$  as a Product of Linear Factors
- 109. Problem-Expression of the Polynomial  $P(z)$  as a Product of Linear F
- 110. Quadratic Equation of Complex Variables
- 111. Problem-Quadratic Equation of Complex Variables

## **1.5 The Real Line**

- 112. Presenting Rational Numbers on Number Line
- 113. Problem-Decimal Representation of Rational Number
- 114. Problem-Argand Diagram
- 115. Representation of Irrational Number on Number Line
- 116. Problem1-Decimal Representation of Irrational Number
- 117. Problem-Modulus of Complex Number
- 118. Cartesian Coordinate System & Cartesian Plane
- 119. Problem on Cartesian Coordinate System & Cartesian Plane

## **1.6 Geometrical Representation of Complex Numbers**

- 120. Argand Diagram
- 121. Problem-Argand Diagram
- 122. The Order Relations
- 123. Problem-The Order Relations
- 124. Modulus of Complex Number
- 125. Problem-Modulus of Complex Number
- 126. Theorems on Complex Number
- 127. More on Theorems on Complex Numbers
- 128. Problem-Theorems on Complex Number
- 129. Vector Interpretation of Complex Numbers
- 130. Problem-Vector Interpretation of Complex Numbers
- 131. The Triangle Inequality
- 132. Problem-The Triangle Inequality
- 133. Polar Form of a Complex Number
- 134. Problem-Polar Form of a Complex Number
- 135. Problem2-Polar Form of a Complex Number
- 136. Properties of the Arguments
- 137. Problem-Properties of the Arguments
- 138. Formula for Finding the Principal Argument
- 139. Problem-Formula for Finding the Principal Argument

## **1.7 To Find Real and Imaginary Parts of $(x + iy)^n$**

- 140. Real and Imaginary parts of Expression of Power  $n$

# Chapter # 02

## Sets, Functions and Groups (264 Videos)

### 2.1 Introduction

1. Set Definition
2. Problem-Set Definition
3. Set Notation & its Characteristics
4. Problem-Set Notation & its Characteristics
5. Problem-Presentation of a Set
6. Empty Set & Singleton Set
7. Problem on Empty Set & Singleton Set
8. Problem-Empty Set & Singleton Set
9. Finite & Infinite Set
10. Problem on Finite & Infinite Set
11. Problem-Finite & Infinite Set
12. Subset Definition
13. Problem on Subset Definition
14. Problem-Subset Definition
15. Proper Subset & Improper Subset
16. Problem on Proper Subset & Improper Subset
17. Properties of Subset
18. Problem on Properties of Subset
19. Power Set
20. Problem on Power Set
21. Equal & Equivalent Sets
22. Problem on Equal & Equivalent Sets
23. Universal Set
24. Definition of One to One Correspondence
25. Some Important Sets of Numbers
26. Presentation of a Set
27. Problem on Set Builder Notation
28. Order of a Set
29. Problem-Order of a Set
30. Interval Notation of a Set

### 2.2 Operations on Sets

31. Disjoint Set
32. Overlapping Sets
33. Union of Two Sets
34. Problem on Union of Two Sets
35. Exhaustive Sets and Cells
36. Intersection of Set

37. Problem on Intersection of Set
38. Symmetric Difference of two sets
39. Problem-Symmetric Difference of two sets
40. Complement of a Set
41. Problem-Complement of a Set

## **2.3 Venn Diagrams**

42. Introduction to Venn Diagrams
43. Problem on Introduction to Venn Diagrams
44. Difference of Sets for Overlapping Sets
45. Problem on Difference of Sets for Overlapping Sets
46. Difference of Sets for Disjoint Sets
47. Problem on Difference of Sets for Disjoint Sets
48. Difference of Sets for a Set & its Subset
49. Problem on Difference of Sets for a Set & its Subset
50. Complement of Union for Overlapping Sets
51. Problem on Complement of Union for Overlapping Sets
52. Complement of Intersection for Overlapping Sets
53. Problem on Complement of Intersection for Overlapping Sets
54. Complement of Intersection for Disjoint Sets
55. Problem on Complement of Intersection for Disjoint Sets
56. Complement of Union for Disjoint Sets
57. Problem on Complement of Union for Disjoint Sets
58. Complement of Union for Set & its Subset
59. Problem on Complement of Union for Set & its Subset
60. Complement of Intersection for Set & its Subset
61. Problem on Complement of Intersection for Set & its Subset
62. Demorgans Law for Overlapping Sets
63. Problem on Demorgans Law for Overlapping Sets
64. Identity Laws
65. Problem-Identity Laws
66. Laws of Complement
67. Problem-Laws of Complement
68. Idempotent Laws
69. Problem-Idempotent Laws
70. Demorgans Law for Disjoint Sets
71. Problem on Demorgans Law for Disjoint Sets
72. Demorgans Law for Set & its Subset
73. Problem on Demorgans Law for Set & its Subset

## **2.4 Operations on Three Sets**

74. Associative Property of Union of Sets
75. Problem on Associative Property of Union of Sets
76. Associative Property of Intersection of Sets
77. Problem on Associative Property of Intersection of Sets
78. Distributive Property of Union Over Intersection
79. Problem on Distributive Property of Union Over Intersection
80. Double Complementation Law

81. Problem-Double Complementation Law
82. Operations of Union and Intesection on three sets
83. Commutative Property of Union
84. Commutativity of Intersection
85. Distributive property of Intersection over Union
86. Problem 1: Distributive property of Intersection over Union
87. Distributive Property of Cartesian Product Over Union
88. Problem-Distributive Property of Cartesian Product Over Union
89. Distributive Property of Cartesian Product Over Intersection
90. Problem-Distributive Property of Cartesian Product Over Intersection
91. Distributive Property of Cartesian Product Over Difference
92. Problem-Distributive Property of Cartesian Product Over Difference
93. Identity With Respect to Intersection
94. Problem-Identity With Respect to Intersection

## 2.5 **Properties of Union and Intrersection**

95. Associative Property of Union of Sets
96. Problem on Associative Property of Union of Sets
97. Associative Property of Intersection of Sets
98. Problem on Associative Property of Intersection of Sets
99. Distributive Property of Union Over Intersection
100. Problem on Distributive Property of Union Over Intersection
101. Demorgan Law 1
102. Problem on Demorgan Law 1
103. Demorgan Law 2
104. Problem on Demorgan Law 2
105. Introduction to Venn Diagrams
106. Problem on Introduction to Venn Diagrams
107. Commutative Law of Union of Sets
108. Problem-Commutative Law of Union of Sets
109. Commutative Law of Intersection of Sets
110. Problem-Commutative Law of Intersection of Sets
111. Intersection Associativity for Overlapping Sets
112. Problem on Intersection Associativity for Overlapping Sets
113. Intersection Associativity for Disjoint Sets
114. Problem on Intersection Associativity for Disjoint Sets
115. Intersection Associativity for Sets
116. More on Intersection Associativity for Sets
117. Problem on Intersection Associativity for Sets
118. Problem on More on Intersection Associativity for Sets
119. Union Associativity for Overlapping Sets
120. Problem on Union Associativity for Overlapping Sets
121. Union Associativity for Disjoint Sets
122. Problem on Union Associativity for Disjoint Sets
123. Union Associativity for Sets
124. Problem on Union Associativity for Sets
125. More on Union Associativity for Set

- 126. Problem on More on Union Associativity for Set
- 127. Distributivity of Union Over Intersection of Sets
- 128. Problem on Distributivity of Union Over Intersection of Sets
- 129. Distributivity of Intersection Over Union of Sets
- 130. Problem on Distributivity of Intersection Over Union of Sets
- 131. Difference of Sets for Overlapping Sets
- 132. Problem on Difference of Sets for Overlapping Sets
- 133. Difference of Sets for Disjoint Sets
- 134. Problem on Difference of Sets for Disjoint Sets
- 135. Difference of Sets for a Set & its Subset
- 136. Problem on Difference of Sets for a Set & its Subset
- 137. Complement of Union for Overlapping Sets
- 138. Problem on Complement of Union for Overlapping Sets
- 139. Complement of Intersection for Overlapping Sets
- 140. Problem on Complement of Intersection for Overlapping Sets
- 141. Complement of Intersection for Disjoint Sets
- 142. Problem on Complement of Intersection for Disjoint Sets
- 143. Complement of Union for Disjoint Sets
- 144. Problem on Complement of Union for Disjoint Sets
- 145. Complement of Union for Set & its Subset
- 146. Problem on Complement of Union for Set & its Subset
- 147. Complement of Intersection for Set & its Subset
- 148. Problem on Complement of Intersection for Set & its Subset
- 149. Demorgans Law for Overlapping Sets
- 150. Problem on Demorgans Law for Overlapping Sets
- 151. Demorgans Law for Disjoint Sets
- 152. Problem on Demorgans Law for Disjoint Sets
- 153. Demorgans Law for Set & its Subset
- 154. Problem on Demorgans Law for Set & its Subset

## **2.6 Inductive and Deductive Logic**

- 155. Concept of Induction and Deduction
- 156. Problem-Concept of Induction and Deduction
- 157. Aristotelian and Non Aristotelian Logics
- 158. Problem-Aristotelian and Non Aristotelian Logics
- 159. Symbolic Logics
- 160. Problem-Symbolic Logics

## **2.7 Implication or Conditional**

- 161. Introduction to Implication or Conditional
- 162. Problem-Introduction to Implication or Conditional
- 163. Concept of Bi-Conditional
- 164. Problem-Concept of Bi-Conditional
- 165. Conditionals Related with a Given Conditional
- 166. Problem-Conditionals Related with a Given Conditional
- 167. Introducing Tautologies
- 168. Problem-Introducing Tautologies
- 169. Introducing Quantifiers

## **2.8 Truth Sets, A Link Between Sets Theory and Logic**

- 170. A link Between Set Theory and Logic
- 171. More on A link Between Set Theory and Logic
- 172. Further on A link Between Set Theory and Logic
- 173. Problem-A link Between Set Theory and Logic

## **2.9 Relations**

- 174. Introduction to Binary Relation
- 175. Problem-Introduction to Binary Relation
- 176. Problem 2-Introduction to Binary Relation
- 177. Domain & Range of Binary Relation
- 178. Problem1-Domain & Range of Binary Relation
- 179. Problem-Domain & Range of Binary Relation

## **2.10 Functions**

- 180. Introduction to Function
- 181. More on Introduction to Functions
- 182. Problem on Introduction to Function
- 183. Problem2-Introduction to Function
- 184. Problem3-Introduction to Function
- 185. Problem4-Introduction to Function
- 186. Implied Domain
- 187. Finding Domain and Range of Functions
- 188. Types of Relations
- 189. Operations on Functions
- 190. Into Function
- 191. Problem on Into Function
- 192. Problem2-Into Function
- 193. Onto Function
- 194. Problem on Onto Function
- 195. Problem2-Onto Function
- 196. One to One Function
- 197. Problem on One to One Function
- 198. Problem2-One to One Correspondence
- 199. Bijective Function
- 200. Problem on Bijective Function
- 201. Problem2-Bijective Function
- 202. Injective Function
- 203. Problem on Injective Function
- 204. Problem2-Injective Function
- 205. One-One Function
- 206. Problem-One-One Function
- 207. Set Builder Notation for a Function
- 208. Problem-Set Builder Notation for a Function
- 209. Formulization of Functions
- 210. Algebraic Functions
- 211. Linear and Quadratic Functions

- 212. Problem-Linear and Quadratic Functions
- 213. Sketching Graphs of Quadratic Functions
- 214. Problem-Sketching Graphs of Quadratic Functions

## **2.11 Inverse of a Function**

- 215. Inverse of a Function
- 216. More on Inverse of a Function
- 217. Problem1-Inverse of a Function
- 218. Problem2-Inverse of a Function
- 219. Domain & Range of Inverse Function
- 220. Square Root and Absolute Value Functions
- 221. Problem-Square Root and Absolute Value Functions
- 222. Common Types of Functions
- 223. Problem-Constant, Identity and Rational Functions
- 224. Even and Odd Functions
- 225. Problem-Even and Odd Functions
- 226. The Modulus of a Function

## **2.12 Binary Operations**

- 227. Introduction to Binary Operations
- 228. Problem-Introduction to Binary Operations
- 229. Multiplication Table
- 230. Problem-Multiplication Table
- 231. Operations on Residue Classes Modulo  $n$
- 232. Problem-Operations on Residue Classes Modulo  $n$
- 233. Properties of Binary Operations
- 234. Problem-Properties of Binary Operations
- 235. Theorems on Binary Operation
- 236. More on Theorems on Binary Operation
- 237. Problem-Theorems on Binary Operation

## **2.13 Groups**

- 238. Introduction to Semi-Group
- 239. Problem-Introduction to Semi-Group
- 240. Introduction to Groups
- 241. Problem-Introduction to Groups
- 242. Introduction to Abelian and Non-Abelian Group
- 243. Problem-Introduction to Abelian and Non-Abelian Group
- 244. Finite and Infinite Group
- 245. Problem1-Finite and Infinite Group
- 246. Problem2-Finite and Infinite Group

## **2.14 Solution of Linear Equations**

- 247. Solving Simple Linear Equations in 1 Variable
- 248. Problem1-Solution of Linear Equations
- 249. Problem2-Solution of Linear Equations

## **2.15 Reversal Law of Inverse**

- 250. Introduction to Reversal Laws of Inverses

251. Problem-Introduction to Reversal Laws of Inverses
252. Theorems on Groups
253. More on Theorems on Groups
254. Problem-Theorems on Groups
255. Problem-Theorems on Abelian Groups
256. Composition of a Functions
257. Problem-Composition of Functions
258. Logical Proofs of the Operations on Sets
259. More on Logical Proofs of the Operations on Sets
260. The Set of Rational Numbers is an Abelian Group
261. The Set of Non-Zero Real Numbers is an Abelian Group
262. The Set of Complex Numbers is an Abelian Group
263. Algebraic Method to find the Inverse Function
264. Problem-Algebraic Method to find the Inverse Function

## Chapter # 03

### Matrices and Determinants (157 Videos)

#### 3.1 Introduction

1. Introducing Matrix
2. More on Introducing Matrix
3. Problem-Introducing Matrix
4. Order of Matrix
5. Problem-Order of Matrix
6. Equal Matrices
7. Problem1-Equal Matrices
8. Problem2-Equal Matrices
9. Row-Column Matrix
10. Problem-Row-Column Matrix
11. Square-Rectangular Matrix
12. Problem-Square-Rectangular Matrix
13. Null Matrix or Zero Matrix
14. Problem-Null Matrix or Zero Matrix
15. Practical Application of Matrices
16. Transpose of Matrix
17. Problem-Transpose of Matrix
18. Negative of Matrix
19. Problem-Negative of Matrix
20. Symmetric & Skew-Symmetric Matrices
21. Problem1-Symmetric & Skew-Symmetric Matrices
22. Problem2-Symmetric & Skew-Symmetric Matrices
23. Hermitian and Skew Hermitian Matrix
24. Problem-Hermitian and Skew Hermitian Matrix



25. Triangular Matrices
26. Problem-Triangular Matrices
27. Diagonal Matrix
28. Problem-Diagonal Matrix
29. Scalar Matrix
30. Problem-Scalar Matrix
31. Identity Matrix
32. Problem-Identity Matrix
33. Adjoint of Matrix
34. Problem-Adjoint of Matrix
35. Addition of Matrices
36. Problem-Addition of Matrices
37. Subtraction of Matrices
38. Problem-Subtraction of Matrices
39. Multiplication of Matrix by Real Number
40. Problem-Multiplication of Matrix by Real Number
41. Multiplicative Identity of a Matrix
42. Problem-Multiplicative Identity of a Matrix
43. Properties of Transposed Matrices
44. Problem-Properties of Transposed Matrices
45. Multiplication of Matrices
46. More on Multiplication of Matrices
47. Problem1-Multiplication of Matrices
48. Problem2-Multiplication of Matrices
49. Problem3-Multiplication of Matrices

### **3.2 Determinant of a 2x2 Matrix**

50. Determinant of 2-by-2 Matrix
51. Problem1-Singular and Non-Singular Matrix
52. Problem2-Singular and Non-Singular Matrix
53. Singular and Non-Singular Matrix
54. Problem-Singular and Non-Singular Matrix
55. Adjoint of Matrix
56. Problem-Adjoint of Matrix
57. Multiplicative Inverse of Non-Singular Matrix
58. Problem-Multiplicative Inverse of Non-Singular Matrix
59. Matrix Inverse Using Adjoint
60. More on Matrix Inverse Using Adjoint
61. Problem1-Matrix Inverse Using Adjoint
62. Problem2-Matrix Inverse Using Adjoint
63. Problem3-Matrix Inverse Using Adjoint
64. Problem4-Matrix Inverse Using Adjoint

### **3.3 Solution of Simultaneous Linear Equatio**

65. Solving Simultaneous Equations-Inversion Method
66. Problem-Solving Simultaneous Equations-Inversion Method

### **3.4 Field**

- 67. Introducing Field
- 68. Problem-Introducing Field

### **3.5 Properties of Matrix Addition, Scalar M**

- 69. Commutative Law Under Addition for Matrices
- 70. Problem-Commutative Law Under Addition for Matrices
- 71. Associative Law under Addition and Multiplication of Matrices
- 72. Problem-Associative Law Under Addition for Matrices
- 73. Additive Identity of a Matrix
- 74. Problem-Additive Identity of a Matrix
- 75. Additive Inverse of a Matrix
- 76. Problem-Additive Inverse of a Matrix
- 77. Multiplication of Matrices
- 78. Problem1-Multiplication of Matrices
- 79. Problem2-Multiplication of Matrices
- 80. Associative Law under Multiplication of Matrices
- 81. Problem-Associative Law under Multiplication of Matrices
- 82. Distributive Law of Matrices
- 83. Problem-Distributivity of Matrices
- 84. Commutative Law of Multiplication of Matrices
- 85. Problem-Commutative Law of Multiplication of Matrices
- 86. Prove That  $c(AB) = (cA)B = A(cB)$
- 87. Problem-Prove That  $c(AB) = (cA)B = A(cB)$
- 88. Properties of Scalar Multiplication

### **3.6 Determinants**

- 89. Minor of an Element of a Matrix and Its Determinant
- 90. Problem-Minor of an Element of a Matrix or Its Determinant
- 91. Cofactor of an Element of a Matrix
- 92. Problem-Cofactor of an Element of a Matrix
- 93. Determinant of a Square Matrix of Order 3 or greater
- 94. Problem-Determinant of a Square Matrix of Order 3 or greater

### **3.7 Properties of Determinants Which Help in Their Evaluation**

- 95. Properties of Determinants
- 96. More on Properties of Determinants
- 97. Problem 1-Properties of Determinants
- 98. Problem 2-Properties of Determinants
- 99. Problem 3-Properties of Determinants
- 100. Problem 4-Properties of Determinants
- 101. Properties of Determinants of Order Three
- 102. Problem-Properties of Determinants of Order Three
- 103. Alternate Method For Expanding a Third Order Determinant
- 104. Problem-Alternate Method For Expanding a Third Order Determinant

### **3.8 Adjoint and Inverse of a Square Matrix of Order $n = 3$ or $n >$**

- 105. Matrix Inverse Using Adjoint
- 106. More on Matrix Inverse Using Adjoint
- 107. Problem1-Matrix Inverse Using Adjoint
- 108. Problem2-Matrix Inverse Using Adjoint
- 109. Adjoint of a Square Matrix of Order  $n = 3$  or  $n > 3$
- 110. Problem-Adjoint of a Square Matrix of Order  $n = 3$  or  $n > 3$
- 111. Transpose of Product of Matrices
- 112. Property for Whole Inverse of Product of Matrices
- 113. More on Property for Whole Inverse of Product of Matrices
- 114. Problem- Matrices Law for Whole Transpose of Product

### **3.9 Elementary Row and Column Operations on a Matrix**

- 115. Deriving a Method For Determining Inverses
- 116. Problem-Deriving a Method For Determining Inverses
- 117. Inverse of Matrix by Row Operation
- 118. Problem-Inverse of Matrix by Row Operation
- 119. More on Problem- Inverse of Matrix by Row Operation
- 120. Inverse of Matrix by Column Operation
- 121. Problem-Inverse of Matrix by Column Operation
- 122. More on Problem-Inverse of Matrix by Column Operation
- 123. Triangular Matrices
- 124. Problem-Triangular Matrices
- 125. Symmetric & Skew-Symmetric Matrices
- 126. Problem1-Symmetric & Skew-Symmetric Matrices
- 127. Hermitian and Skew Hermitian Matrix
- 128. Problem-Hermitian and Skew Hermitian Matrix

### **3.10 Echelon and Reduced Echelon Forms of Matrices**

- 129. Echelon and Reduced Echelon Form of Matrix
- 130. Problem-Echelon and Reduced Echelon Form of Matrix
- 131. Echelon Form of Matrix
- 132. Problem-Echelon Form of Matrix
- 133. Reduced Echelon Form of Matrix
- 134. Problem-Reduced Echelon Form of Matrix
- 135. Rank of a Matrix
- 136. Problem-Rank of a Matrix
- 137. Invertible Matrix
- 138. Problem-Invertible Matrix
- 139. Theorems on Invertible Matrix
- 140. More Theorems on Invertible Matrix

### **3.11 Systems of Linear Equations**

- 141. Solution of System of Linear Equations by Row Operation
- 142. Problem-Solution of System of Linear Equations by Row Operation
- 143. Problem-More on Solution of System of Linear Equations by Row Operati
- 144. Solution of Homogeneous Linear Equations
- 145. More on Solution of Homogeneous Linear Equations
- 146. Problem-Solution of Homogeneous Linear Equations

147. More on Problem-Solution of Homogeneous Linear Equations

### **3.12 Cramer's Rule**

- 148. System of Linear Equations
- 149. More on System of Linear Equations
- 150. Problem-System of Linear Equations
- 151. Consistency and Inconsistency of a System
- 152. Problem-Consistency and Inconsistency of a System
- 153. Solving a System of Three Non-Homogeneous Linear Equations
- 154. Problem-Solving a System of Three Non-Homogeneous Linear Equations
- 155. Solving Simultaneous Equations-Cramers Rule
- 156. Problem1-Solving Simultaneous Equations-Cramers Rule
- 157. Problem2-Solving Simultaneous Equations-Cramers Rule

# **Chapter # 04**

## **Quadratic Equations (105 Videos)**

### **4.1 Introduction**

- 1. Quadratic Equations in 1 Variable
- 2. Problem-Quadratic Equations in 1 Variable
- 3. Solving Quadratic Equations by Factorization
- 4. Problem-Solving Quadratic Equations by Factorization
- 5. The Theory of Quadratic Equations
- 6. More on the Theory of Quadratic Equations
- 7. Problem-The Theory of Quadratic Equations
- 8. Solving Quadratic Equations-Completing Squares
- 9. Problem1-Solving Quadratic Equations-Completing Squares
- 10. Problem2-Solving Quadratic Equations-Completing Squares
- 11. Derivation of Quadratic Formula by Completing Square
- 12. Problem-Derivation of Quadratic Formula by Completing Square
- 13. Solving Quadratic Equation-Quadratic Formula
- 14. Problem1-Solving Quadratic Equation-Quadratic Formula
- 15. Problem2-Solving Quadratic Equation-Quadratic Formula

### **4.2 Solutions of Equations Reduceible to th**

- 16. Solving Equation Having Degree 2n
- 17. Problem-Solving Equation Having Degree 2n
- 18. Problem2-Solving Equation Having Degree 2n
- 19. Solving Degree Four Equation
- 20. Solving Rational Equations
- 21. Solving Reciprocal Algebraic Equation
- 22. Solving Exponential Equations
- 23. Equations with Different Exponential Functions
- 24. More on Equations with Different Exponential Functions
- 25. Problem-Equations with Different Exponential Functions

26. Equations with Special Base e
27. Problem-Equations with Special Base e
28. Exponential Modelling
29. Problem1-Exponential Modelling
30. Problem2-Exponential Modelling
31. Equations Containing Logarithms
32. Problem-Equations Containing Logarithms
33. Disguised Quadratic Equations
34. Problem-Disguised Quadratic Equations
35. Solving Algebraic Equations in Products Factors
36. Solving Radical Equations in 1 Variable
37. Problem2-Solving Radical Equations in 1 Variable
38. Solving Equations with Quadratic Radicand at one Side
39. Problem-Solving Equations with Quadratic Radicand at one Side
40. Problem1-Solving Radical Equations in 1 Variable
41. Solving Equations with Quadratic Radicands at Both Sides
42. Problem-Solving Equations with Quadratic Radicands at Both Sides
43. Problem- More on Solving Equations with Quadratic Radicands at Both S
44. Solving sum of radicals equal to constant
45. Solving Sum of Radicals Equal to Linear Expression
46. Problem-Solving Sum of Radicals Equal to Linear Expression

#### **4.3 Three Cube Roots of Unity**

47. The Cube Roots of Unity
48. Problem on The Cube Roots of Unity
49. Recognise Complex Cube Roots of Unity
50. Properties of Cube Roots of Unity
51. Problem-properties of Cube Roots of Unity
52. Problems on Cube Roots of Unity
53. Problem- Cube Roots of Unity

#### **4.4 Four Fourth Roots of Unity**

54. Four Fourth Roots of Unity
55. Problem-Four Fourth Roots of Unity
56. Properties of Four Fourth Roots of Unity
57. Problem-Properties of Four Fourth Roots of Unity

#### **4.5 Polynomial Functions**

58. Introducing Variable and Constant
59. Problem-Introducing Variable & Constant
60. Introducing Coefficient & Exponent
61. Problem-Introducing Coefficient & Exponent
62. Introduction to Polynomials
63. Problem-Introduction to Polynomials

#### **4.6 Theorems**

64. Remainder Theorem
65. Problem-Remainder Theorem
66. Factor Theorem

67. Problem1-Remainder Theorem

68. Problem2-Factor Theorem

#### **4.7 Synthetic Division**

69. Synthetic Division Method

70. Finding Quotient & Remainder

71. Problem on Finding Quotient & Remainder

#### **4.8 Relations Between the Roots and the Coefficients of a Quadratic Equation**

72. Roots & Coefficients of Quadratic Equation

73. Problem 1: Roots & Coefficients of Quadratic Equation

#### **4.9 Formation of an Equation Whose Roots are Given**

74. Find a Quadratic Equation from Given Roots

75. Form Quadratic Equations Whose Roots are Given

76. Problem on Form Quadratic Equations Whose Roots are Given

#### **4.10 Nature of the Roots of a Quadratic Equation**

77. Discriminant of Quadratic Expression

78. Problem on Discriminant of Quadratic Expression

79. Finding Discriminant of Quadratic Equation

80. Problem on Finding Discriminant of Quadratic Equation

81. Nature of the Roots of a Quadratic Equation

82. Problem on Nature of the Roots of a Quadratic Equation

83. Quadratic Function

84. Geometrical Interpretation and the Discriminant

85. Problem1-Geometrical Interpretation and the Discriminant-1

86. Problem1-Geometrical Interpretation and the Discriminant-2

87. Problem2-Geometrical Interpretation and the Discriminant-1

88. Verification of Nature of Roots of Equation

89. Finding  $s$  when Nature of Roots is given

90. Problem on Finding  $s$  when Nature of Roots is given

91. Problem on Finding  $s$  when Nature of Roots is given-2

#### **4.11 Systems of Two Equations Involving Two Variables**

92. System of Two Equations Involving Two Variables

93. Problem-System of Two Equations Involving Two Variables

94. Solving Linear and Quadratic Equations

95. Problem-Solving Linear and Quadratic Equations

96. Solving Simultaneous Quadratic Equations

97. Solving 2nd Degree Equations in General Form Type 1

98. Problem-Solving 2nd Degree Equations in General Form Type 1

99. Solving 2nd Degree Equations in General Form Type 2

100. Case2-Solving 2nd Degree Equations in General Form Type 2

101. Case3-Solving 2nd Degree Equations in General Form Type 2

102. Case4-Solving 2nd Degree Equations in General Form Type 2

103. Case5-Solving 2nd Degree Equations in General Form Type 2

## **4.12 Problems on Quadratic Equations**

104. Problem Leading to Quadratic Equations.
105. Problem on Problem Leading to Quadratic Equations.

# **Chapter # 05**

## **Partial Fractions** (20 Videos)

### **5.1 Introduction**

1. Partial Fractions
2. Problem2-Introducing Partial Fractions
3. Problem-Resolving Fractions-Repeated Irreducible Factors
4. Problem-Resolving Fractions-Repeated Irreducible Factors
5. Kinds of Equations
6. Problem-Kinds of Equations

### **5.2 Rational Fraction**

7. Introduction to Rational Fraction
8. Problem-Introduction to Rational Fraction

### **5.3 Resolution of a Rational Fraction $P(x)/$**

9. Problem-Resolving Fractions-Non-Repeated Linear Factors
10. Problem1-Resolving Fractions-Non-Repeated Linear Factors
11. Problem-More on Resolving Fractions-Non-Repeated Linear Factors
12. Resolving Fractions-Repeated Linear Factors
13. Problem1-Resolving Fractions-Repeated Linear Factors
14. Problem2-Resolving Fractions-Repeated Linear Factors
15. Resolving Fractions-Non-Repeated Irreducible Factors
16. Problem1-Resolving Fractions-Non-Repeated Irreducible Factors
17. Problem2-Resolving Fractions-Non-Repeated Irreducible Factors
18. Resolving Fractions-Repeated Irreducible Factors
19. Problem1-Resolving Fractions-Repeated Irreducible Factors
20. Problem-Resolving Fractions-Repeated Irreducible Factors

# **Chapter # 06**

## **Sequences and Series** (97 Videos)

### **6.1 Introduction**

1. Introduction to Sequence and Series
2. Problem-Introduction to Sequence and Series
3. Convergent, Divergent and Periodic Sequences

4. Problem-Convergent, Divergent and Periodic Sequences
- 6.2 Types of Sequences**
  5. Types of Sequences
  6. Problem-Types of Sequences
- 6.3 Arithmetic Progression (A.P)**
  7. Concept of Arithmetic Progression
  8. Problem-Concept of Arithmetic Progression
- 6.4 Arithmetic Mean (A.M)**
  9. Concept of Arithmetic Mean
  10. Problem-Concept of Arithmetic Mean
  11. n Arithmetic Means Between Two Given Numbers
- 6.5 Series**
  12. Concept of Series
  13. Problem1-Concept of Series
  14. Problem2-Concept of Series
  15. Sum of First n Terms of an Arithmetic Series
  16. Problem-Sum of First n Terms of an Arithmetic Series
  17. To Find the Sum of n A.M
  18. Problem-To Find the Sum of n A.M
  19. To Find the Sum of p A.M
  20. Problem-To Find the Sum of p A.M
- 6.6 Word Problems on A.P.**
  21. Word Problems on Arithmetic Progression
  22. Solving Word Problem on Arithmetic Progression
  23. Problem1-Word Problems on Arithmetic Progression
  24. Problem2-Word Problems on Arithmetic Progression
- 6.7 Geometric Progressions (G.P)**
  25. Concept of Geometric Progressions
  26. Problem1-Concept of Geometric Progressions
  27. Problem2-Concept of Geometric Progressions
- 6.8 Geometric Means**
  28. Concept of Geometric Means
  29. Problem-Concept of Geometric Means
  30. n Geometric Means Between Two Given Numbers
  31. Problem-n Geometric Means Between Two Given Numbers
- 6.9 Sum of n Terms of a Geometric Series**
  32. Introduction to Geometric Series
  33. Problem-Introduction to Geometric Series
  34. Sum of n Terms of a Geometric Series
  35. Problem-Sum of n Terms of a Geometric Series
- 6.10 The Infinite Geometric Series**
  36. The Infinite Geometric Series



- 37. More on The Infinite Geometric Series
- 38. Problem1-The Infinite Geometric Series
- 39. Problem2-The Infinite Geometric Series
- 40. Recurring Decimals

### **6.11 Word Problems on G.P.**

- 41. Word Problems on Geometric Series
- 42. More on Word Problems on Geometric Series
- 43. Problem1-Word Problems on Geometric Series
- 44. Problem2-Word Problems on Geometric Series
- 45. Problem3-Word Problems on Geometric Series

### **6.12 Harmonic ProgerSSION ( H.P)**

- 46. Concept of Harmonic Progression
- 47. Problem-Concept of Harmonic Progression
- 48. General Term of Harmonic Progression
- 49. The Characteristic Relation for H.P
- 50. Problem-The Characteristic Relation for H.P
- 51. An Important Theorem
- 52. More on An Important Theorem
- 53. Problem-An Important Theorem
- 54. Problem-Concept of Harmonic Mean
- 55. Concept of Harmonic Mean
- 56. Problem-General Term of Harmonic Progression
- 57. n Harmonic Means Between Two Numbers
- 58. Problem-n Harmonic Means Between Two Numbers

### **6.13 Relations Between Arithmetic, Geometric and Hamonic Means**

- 59. Relations Between A.M, G.M & H.M
- 60. More on Relations Between A.M, G.M & H.M
- 61. Problem-Relations Between A.M, G.M & H.M

### **6.14 Sigma Notation ( or Summation Notation )**

- 62. Sigma Notation ( or Summation Notation )
- 63. Problem 1-Sigma Notation ( or Summation Notation )
- 64. Problem 2 -Sigma Notation ( or Summation Notation )

### **6.15 To Find Formulae For The Sums**

- 65. Sum of Positive Integral Powers of Natural Numbers
- 66. Alternate Formula For sum of n Numbers
- 67. Problem-Alternate Formula For sum of n Numbers
- 68. Alternate Formula For Sum of n Squares
- 69. More on Alternate Formula For Sum of n Squares
- 70. Problem-Alternate Formula For Sum of n Squares
- 71. Alternate Formula For Sum of n Cubes
- 72. More on Alternate Formula For Sum of n Cubes
- 73. Problem1-Alternate Formula For Sum of n Cubes
- 74. Problem2-Alternate Formula For Sum of n Cubes

75. Arithmetical-Geometric Series
76. Problem-Arithmetical-Geometric Series
77. Sum of n Terms of Arithmetical-Geometric Series
78. More on Sum of n Terms of Arithmetical-Geometric Series
79. Further on Sum of n Terms of Arithmetical-Geometric Series
80. Problem-Sum of n Terms of Arithmetical-Geometric Series
81. Sum to Infinity of Arithmetico-Geometric Series
82. Problem-Sum to Infinity of Arithmetico-Geometric Series
83. The Method of Differences
84. Problem-The Method of Differences
85. A Series Each Term Having r Factors in A.P
86. More on A Series Each Term Having r Factors in A.P-1
87. More on A Series Each Term Having r Factors in A.P-2
88. More on A Series Each Term Having r Factors in A.P-3
89. Problem-A Series Each Term Having r Factors in A.P
90. Introduction to Reciprocal Series
91. More on Introduction to Reciprocal Series1
92. More on Introduction to Reciprocal Series2
93. More on Introduction to Reciprocal Series3
94. Problem-Introduction to Reciprocal Series1
95. Problem-Introduction to Reciprocal Series2
96. Summation of Series By Partial Fractions
97. Problem-Summation of Series By Partial Fractions

## Chapter # 07

### Permutation, Combination and Probability (45

Videos)

#### 7.1 Introduction

1. The Counting Principles
2. Introduction to Factorial Notation
3. Problem-Introduction to Factorial Notation

#### 7.2 Permutation

4. Introduction to Permutation
5. Problem-Introduction to Permutation
6. Permutation of Things Not All Different
7. Problem-Permutation of Things Not All Different
8. Circular Permutation
9. Problem-Circular Permutation

#### 7.3 Combinations

10. Introduction to Combinations
11. Problem1-Introduction to Combinations

12. Problem2-Introduction to Combinations
13. Complementary Combination
14. Problem1-Complementary Combination
15. Problem2-Complementary Combination

## **7.4 Probability**

16. Introduction to Probability
17. Problem-Introduction to Probability
18. Experiments and Sample Space
19. Experiments and Sample Space
20. Definition of Probability
21. Problem-Definition of Probability
22. Basic Terminology
23. Probability as Long Term Relative Frequency
24. Problem Solving Strategies in Probability
25. Probability and Venn Diagrams
26. More on Probability and Venn Diagrams
27. Possible Outcomes in the Sample Space
28. Problem-Possible Outcomes in the Sample Space
29. Simple Combined Events and Possibility Diagrams
30. Problem-Simple Combined Events and Possibility Diagrams
31. Simple Combined Events and Tree Diagrams
32. Estimating Probabilities and Tally Marks
33. Problem-Estimating Probabilities and Tally Marks
34. Addition of Probabilities and Mutually Exclusive Events
35. Problem-Addition of Probabilities of Mutually Exclusive Events
36. Addition of Probabilities of Overlapping Events
37. Problem-Addition of Probabilities of Overlapping Events
38. Addition of Probabilities of Disjoint Events
39. Addition of Probabilities of Subset Events
40. Problem-Addition of Probabilities of Subset Events
41. Multiplication of Probabilities and Independent Events
42. More on Multiplication of Probabilities and Independent Events
43. Problem-Multiplication of Probabilities of Independent Events
44. Multiplication of Probabilities of n Independent Events
45. Problem-Multiplication of Probabilities of n Independent Events

# **Chapter # 08**

## **Mathematical Inductions and Binomial The (41**

**Videos)**

### **8.1 Introduction**

1. Introduction to Mathematical Induction
2. Problem-Introduction to Mathematical Induction

## **8.2 Principle of Mathematical Induction**

3. Principle of Mathematical Induction
4. More on Principle of Mathematical Induction
5. Problem1-Principle of Mathematical Induction
6. Problem2-Principle of Mathematical Induction
7. Sum of Positive Integral Powers of Natural Numbers

## **8.3 Principle of Extended Mathematical Induction**

8. Principle of Extended Mathematical Induction
9. Problem1-Principle of Extended Mathematical Induction
10. Problem2-Principle of Extended Mathematical Induction

## **8.4 Binomial Theorem**

11. Introduction to Binomial Theorem
12. Problem1-Introduction to Binomial Theorem
13. Problem2-Introduction to Binomial Theorem
14. Proof of Binomial Theorem
15. More on Proof of Binomial Theorem
16. Problem1-Proof of Binomial Theorem
17. Problem2-Proof of Binomial Theorem
18. Deductions From Binomial Theorem
19. Problem1-Deductions From Binomial Theorem
20. Problem2-Deductions From Binomial Theorem
21. Some Important Observations
22. Pascal's Triangle
23. Problem1-Pascal's Triangle
24. Problem2-Pascal's Triangle
25. The Middle Term in the Expansion of  $(a + x)^2$
26. Problem1-The Middle Term in the Binomial Expansion
27. Problem2-The Middle Term in the Binomial Expansion
28. More on Problem2-The Middle Term in the Binomial Expansion
29. Problem3-The Middle Term in the Binomial Expansion
30. Some Deductions From the Binomial Expansion of  $(a + x)^n$
31. Problem1-Some Deductions From the Binomial Expansion
32. Problem2-Some Deductions From the Binomial Expansion
33. Problem3-Some Deductions From the Binomial Expansion

## **8.5 The Binomial Theorem When the Index n is a Negative Integer**

34. The Binomial Theorem When the Index n is a Negative Integer
35. Problem-The Binomial Theorem With Negative Integer Index
36. Some Particular Cases of the Expansion of  $(1 + x)^n$ ,  $n < 0$
37. Problem-Some Particular Cases of the Binomial Expansion

## **8.6 Applications of the Binomial Theorem**

38. Applications of the Binomial Theorem
39. More on Applications of the Binomial Theorem
40. Problem1-Applications of the Binomial Theorem
41. Problem2-Applications of the Binomial Theorem

# Chapter # 09

## Fundamentals of Trigonometry (55 Videos)

### 9.1 Introduction

1. Introduction to Trigonometry
2. Problem1-Introduction to Trigonometry

### 9.2 Units of Measures of Angles

3. Introduction to an Angle
4. Measuring an Angle in Sexagesimal System
5. Problem1-Measuring an Angle in Sexagesimal System
6. Sexagesimal System into Decimal form & Vice Versa
7. Problem-Sexagesimal System into Decimal form & Vice Versa
8. Radian Measure of an Angle
9. Problem1-Radian Measure of an Angle
10. Problem2-Radian Measure of an Angle

### 9.3 Relation Between the Length of an Arc o

11. Relationship of Radius-Central Angle-Arc Length
12. Problem1-Relationship of Radius-Central Angle-Arc Length
13. Problem2-Relationship of Radius-Central Angle-Arc Length
14. Area of a Circular Sector.
15. Problem1-Area of a Circular Sector.
16. Problem2-Area of a Circular Sector.
17. Problems Using Arcs and Sectors
18. More on Problems Using Arcs and Sectors
19. Relationship Between Radians & Degrees.

### 9.4 General Angle ( Coterminal Angles )

20. General Angles
21. Problem-General Angles

### 9.5 Angle in the Standard Position

22. Angle in Standard Position.
23. Problem-Angle in Standard Position
24. The Quadrants & Quadrantal Angles
25. Problem-The Quadrants & Quadrantal Angles

### 9.6 Trigonometric Functions

26. Trigonometric Ratios of an Acute Angle
27. Problem 1: Trigonometric Ratios of an Acute Angle
28. Trigonometric Ratios of an Complementary Angles
29. Problem 1: Trigonometric Ratios of an Complementary Angles

### 9.7 Trigonometric Functions of Any Angle

- 30. Trigonometric Ratios & Their Reciprocals
- 31. Problem1-Trigonometric Ratios & Their Reciprocals
- 32. Problem2-Trigonometric Ratios & Their Reciprocals

### **9.8 Fundamental Identities**

- 33. Proof of Fundamental Trigonometric Identity
- 34. More on Fundamental Trigonometric Identity
- 35. Problem1-Proof of Fundamental Trigonometric Identity
- 36. Problem2-Proof of Fundamental Trigonometric Identity
- 37. Problem3-Proof of Fundamental Trigonometric Identity
- 38. Problem4-Proof of Fundamental Trigonometric Identity
- 39. Problem5-Proof of Fundamental Trigonometric Identity
- 40. Problem6-Proof of Fundamental Trigonometric Identity

### **9.9 Signs of the Trigonometric Functions**

- 41. Signs of Trigonometric Ratios in Different Quadrants
- 42. Problem1-Signs of Trigonometric Ratios in Different Quadrant
- 43. Problem2-Signs of Trigonometric Ratios in Different Quadrant
- 44. Trigonometric Functions for a Unit Circle

### **9.10 The Values of Trigonometric Functions of Acute Angles**

- 45. Trigonometric Ratios of 45 Degree
- 46. Problem-Trigonometric Ratios of 45 Degree
- 47. Trigonometric Ratios of 30 & 60 Degree
- 48. Problem1-Trigonometric Ratios of 30 & 60 Degree
- 49. Problem2-Trigonometric Ratios of 30 & 60 Degree

### **9.11 The Values of the Trigonometric Functions of Angles 0, 90, 180, 270, 360 Degrees**

- 50. Values of Trigonometric Ratios at Quadrantal Angle
- 51. Problem-Values of Trigonometric Ratios at Quadrantal Angle

### **9.12 Domains of Trigonometric Functions and of Fundamental Identities**

- 52. Domain and Ranges of Trigonometric Functions and Fundamental Identi
- 53. Problem1-Domain and Ranges of Trigonometric Functions and Fundamental
- 54. Problem2-Domain and Ranges of Trigonometric Functions and Fundamental
- 55. Problem3-Domain and Ranges of Trigonometric Functions and Fundamental

# **Chapter # 10**

## **Trigonometric Identities Sum and Differe (43**

Videos)

## **10.1 Introduction**

1. Derivation of Distance formula
2. Problem2-Derivation of Distance formula
3. Use of Distance formula
4. Problem-Use of Distance formula
5. Fundamental Law of Trigonometry
6. More on Fundamental Law of Trigonometry
7. Problem-Fundamental Law of Trigonometry
8. Proof of Angle Addition Formula for Cosine
9. More on Proof of Angle Addition Formula for Cosine
10. Problem-Proof of Angle Addition Formula for Cosine

## **10.2 Deductions From Fundamental Law**

11. Deductions From Fundamental Law
12. More on Deductions From Fundamental Law1
13. More on Deductions From Fundamental Law2
14. Problem1-Deductions From Fundamental Law
15. Problem2-Deductions From Fundamental Law
16. Problem3-Deductions From Fundamental Law

## **10.3 Trigonometric Ratios and Allied Angles**

17. Trigonometric Ratios and Allied Angles
18. More on Trigonometric Ratios and Allied Angles
19. Problem1-Trigonometric Ratios and Allied Angles
20. Problem2-Trigonometric Ratios and Allied Angles
21. Maximum and Minimum Value of given Trigonometric Function
22. More on Maximum and Minimum Value of given Trigonometric Function
23. More on Maximum and Minimum Value of given Trigonometric Function
24. Solving  $a\sin A + b\cos A = c$

## **10.4 Further Application of Basic Identities**

25. Further Application of Basic Identities
26. Problem-Further Application of Basic Identities
27. More on Further Application of Basic Identities
28. Problem-More on Further Application of Basic Identities

## **10.5 Double angle Identities**

29. Double Angle Identities
30. Problem-Double Angle Identities

## **10.6 Half Angle Identities**

31. Half Angle Identities
32. Problem-Half Angle Identities

## **10.7 Triple Angle Identities**

33. Triple Angle Identities
34. More on Triple Angle Identities
35. Further on Triple Angle Identities
36. Problem1-Triple Angle Identities

37. Problem2-Triple Angle Identities

## **10.8 Sum, Difference and Product of Sines and Cosines**

38. Product to Sum or Difference of Sines and Cosines

39. Problem-Product to Sum or Difference of Sines and Cosines

40. Sum or Difference to Product of Sines and Cosines

41. More on Sum or Difference to Product of Sines and Cosines

42. Problem-Sum or Difference to Product of Sines and Cosines

43. Applications of Product of Sines and Cosines

# **Chapter # 11**

## **Trigonometric Functions and Their Graphs** (39

Videos)

### **11.1 Introduction**

1. Domain and Ranges of Trigonometric Functions and Fundamental Identities
2. Problem1-Domain and Ranges of Trigonometric Functions and Fundamental
3. Problem2-Domain and Ranges of Trigonometric Functions and Fundamental
4. Problem3-Domain and Ranges of Trigonometric Functions and Fundamental
5. Domain and Ranges of Sine and Cosine Functions
6. More on Domain and Ranges of Sine and Cosine Functions
7. Problem-Domain and Ranges of Sine and Cosine Functions
8. Domain and Ranges of Tangent and Cotangent Functions
9. More on Domain and Ranges of Tangent and Cotangent Functions
10. Problem-Domain and Ranges of Tangent and Cotangent Functions
11. Domain and Ranges of Secant Function
12. More on Domain and Ranges of Secant Function
13. Problem-Domain and Range of Secant Function
14. Domain and Ranges of Cosecant Function
15. More on Domain and Ranges of Cosecant Function
16. Problem-Domain and Ranges of Cosecant Function

### **11.2 Period of Trigonometric Functions**

17. Introduction to Period of Trigonometric Functions
18. Problem-Introduction to Period of Trigonometric Functions

### **11.3 Values of Trigonometric Functions**

19. Values of Trigonometric Functions
20. Problem-Values of Trigonometric Functions

### **11.4 Graphs of Trigonometric Functions**

21. Graphs of Trigonometric Functions
22. Problem-Graphs of Trigonometric Functions

### **11.5 Graph of $y = \sin x$ From $-360$ to $360$ Degrees**



23. Problem1-Graph of  $y = \sin x$  From - 360 to 360 Degree
- 11.6 Graph of  $y = \cos x$  From - 360 to 360 Degrees**
24. Problem1-Graph of  $y = \cos x$  From - 360 to 360 Degree
25. Problem2-Graph of  $y = \cos x$  From - 360 to 360 Degree
- 11.7 Graph of  $y = \tan x$  From - 180 to 180 Degrees**
26. Graph of  $y = \tan x$  From - 180 to 180 Degree
27. Problem-Graph of  $y = \tan x$  From - 180 to 180 Degree
- 11.8 Graph of  $y = \cot x$  From - 360 to 180 Degrees**
28. Graph of  $y = \cot x$  From - 360 to 180 Degree
29. Problem-Graph of  $y = \cot x$  From - 360 to 180 Degree
- 11.9 Graph of  $y = \sec x$  From - 360 to 360 Degrees**
30. Problem-Graph of  $y = \sec x$  From - 360 to 360 Degree
- 11.10 Graph of  $y = \operatorname{cosec} x$  From - 360 to 360 Degrees**
31. Problem-Graph of  $y = \operatorname{cosec} x$  From - 360 to 360 Degree
32. Graph of  $\sin^2 A$  and  $\cos^2 A$  Where  $A$  is a Positive Constant
33. More on Graph of  $\sin^2 A$  and  $\cos^2 A$  Where  $A$  is a Positive Constant
34. Symmetric Properties of the Graph of  $\sin A$ ,  $\cos A$  and  $\tan A$
35. Periodic Properties of the Graph of  $\sin A$ ,  $\cos A$  and  $\tan A$
36. Translation Property of the Graph of  $\sin A$ ,  $\cos A$  and  $\tan A$
37. More on Translation Property of the Graph of  $\sin A$ ,  $\cos A$  and  $\tan A$
38. Maximum and Minimum Values of Certain Trigonometric Functions
39. Graphical Solution of Some Trigonometric Equations

## Chapter # 12

### Application of Trigonometry (70 Videos)

#### 12.1 Introduction

1. Solving Right-Angled Triangles by Trigonometric Ratios
2. Use of Calculator

#### 12.2 Tables of Trigonometric Ratios

3. Tables of Trigonometric Ratios
4. Problem1-Tables of Trigonometric Ratios
5. Problem2-Tables of Trigonometric Ratios
6. Problem3-Tables of Trigonometric Ratios
7. Problem4-Tables of Trigonometric Ratios

#### 12.3 Solution of Right Triangles

8. Word problem when one Side and Angle of Elevation are Given
9. Problem-When one Side & Angle of Elevation are Given
10. Right Angles in 3-Dimensions
11. More on Right Angles in 3-Dimensions

12. Problem-Heights and Distances
13. Word problem when one Side and Angle of Depression are Given
14. Problem1-when One Side & Angle of Depression are Given
15. Problem2-when One Side & Angle of Depression are Given
16. Word problem when Hypotenuse and Angle of Elevation are Given
17. Problem-when Hypotenuse & Angle of Elevation are Given
18. Word Problem with given Sides-Angle of Elevation-Depression
19. Problem1-when Given Sides-Angle of Elevation-Depression
20. Problem2-when Given Sides-Angle of Elevation-Depression
21. Problem3a-when Given Sides-Angle of Elevation-Depression
22. Problem3b-when Given Sides-Angle of Elevation-Depression
23. More Examples on Application of Trigonometry

#### **12.4 (a)-Heights and Distances**

24. Heights and Distances
25. Problem-Heights and Distances

#### **12.5 (b)-Angles of Elevation and Depression**

26. Concept of Angle of Elevation & Depression
27. Problem-Concept of Angle of Elevation & Depression

#### **12.6 Engineering and Heights and Distances**

28. Engineering and Heights and Distances
29. More on Engineering and Heights and Distances
30. Problem1-Engineering and Heights and Distances
31. Problem2-Engineering and Heights and Distances

#### **12.7 Oblique Triangles**

32. Concept of Oblique Triangles
33. Problem-Concept of Oblique Triangles
34. The Sine Rule
35. Problem-The Sine Rule
36. Examples on Sine Rule
37. Application of the Sine Rule
38. The Cosine Rule
39. Problem1-The Cosine Rule
40. More on The Cosine Rule
41. The Law of Tangents
42. More on The Law of Tangents
43. Problem-The Law of Tangents
44. Half Angle Formulas
45. Problem-The Sine of Half the Angle Formula
46. The Cosine of Half the Angle in Terms of the Sides
47. Problem-The Cosine of Half the Angle in Terms of the Sides
48. The Tangents of Half the Angle in Terms of the Sides
49. Problem-The Tangents of Half the Angle in Terms of the Sides

#### **12.8 Solution of Oblique Triangles**

50. When Measures of One Side and Two Angles are Given

51. Problem-When Measures of One Side and Two Angles are Given
52. When Measures of Two Side and Their Included Angles are Given
53. Problem-When Measures of Two Side and Their Included Angles are Given
54. When Measures of Three Sides are Given

### **12.9 Area of Triangle**

55. Area of Triangle by Measuring Two Sides and Their Included Angle
56. Area of Equilateral Triangle With Given Sides
57. Problem-Area of Equilateral Triangle With Given Sides
58. Area of a Triangle with Given Sides
59. More on Area of a Triangle with Given Sides

### **12.10 Circles Connected With Triangle**

60. Circles Connected With Triangles
61. Problem-Circles Connected With Triangles
62. Relation Among Radius, Circum-Angle & Chord of a Circum-Circle
63. More on Relation Among Radius, Circum-Angle & Chord of a Circum-Circle
64. Problem1-Relation Among Radius, Circum-Angle & Chord of a Circum-Circ
65. Relation Among In-Radius, Perimeter & Area of Triangle
66. Problem-Relation Among In-Radius, Perimeter & Area of Triangle
67. Relation Among ex-Radius, Perimeter & Area of Triangle
68. Problem-Relation Among ex-Radius, Perimeter & Area of Triangle

### **12.11 Engineering and Circles Connected With Triangles**

69. Engineering and Circles Connected With Triangles
70. Problem-Engineering and Circles Connected With Triangles

## **Chapter # 13**

### **Inverse Trigonometric Functions (32 Videos)**

#### **13.1 Introduction**

1. Introduction to Inverse Trigonometric Functions
2. Vertical and Horizontal Line Tests
3. More on Vertical and Horizontal Line Tests

#### **13.2 The Inverse Sine Function**

4. The Inverse Sine Function
5. Problem1-The Inverse Sine Function
6. Problem2-The Inverse Sine Function
7. Inverse Relation of General Sine Functions

#### **13.3 The Inverse Cosine Function**

8. The Inverse Cosine Function
9. Problem1-The Inverse Cosine Function
10. Problem2-The Inverse Cosine Function

### **13.4 The Inverse Tangent Function**

11. The Inverse Tangent Function
12. Problem1-The Inverse Tangent Function
13. Problem2-The Inverse Tangent Function

### **13.5 Inverse Cotangent, Secant and Cosecant**

14. Inverse Cotangent, Secant and Cosecant Functions
15. More on Inverse Cotangent, Secant and Cosecant Functions
16. Further on Inverse Cotangent, Secant and Cosecant Functions
17. Problem1-Inverse Cotangent, Secant and Cosecant Functions
18. Problem2-Inverse Cotangent, Secant and Cosecant Functions

### **13.6 Domains and Ranges of Principal Trigonometric Function**

19. Domains and Ranges of Principal and Inverse Trigonometric Functions
20. Problem1-Domains and Ranges of Principal and Inverse Trigonometric Fun
21. Problem2-Domains and Ranges of Principal and Inverse Trigonometric Fun
22. Problem3-Domains and Ranges of Principal and Inverse Trigonometric Fun
23. Problem4-Domains and Ranges of Principal and Inverse Trigonometric Fun
24. Problem5-Domains and Ranges of Principal and Inverse Trigonometric Fun
25. Problem6-Domains and Ranges of Principal and Inverse Trigonometric Fun
26. Inverse Trigonometric Identities
27. More on Inverse Trigonometric Identities
28. Further on Inverse Trigonometric Identities

### **13.7 Addition and Subtraction Formulas**

29. Addition and Subtraction Formulas
30. Problem1-Addition and Subtraction Formulas
31. More on Addition and Subtraction Formulas
32. Problem2-Addition and Subtraction Formulas

## **Chapter # 14**

### **Solutions of Trigonometric Equations (21 Videos)**

1. Introduction to Solutions of Trigonometric Equations
2. Problem-Introduction to Solutions of Trigonometric Equations
3. Solution of the Type  $\sin A = k$ ,  $\cos A = k$  and  $\tan A = k$

### **14.2 Solution of General Trigonometric Equat**

4. Solution of General Trigonometric Equations
5. Problem1-Solution of General Trigonometric Equations
6. Problem2-Solution of General Trigonometric Equations
7. Problem3-Solution of General Trigonometric Equations

8. Solution of General Trigonometric Equations by Factorization
9. More on Solution of General Trigonometric Equations by Factorization
10. Problem-Solution of General Trigonometric Equations by Factorization
11. Solution of Trigonometric Equations by Trigonometric Identities
12. Problem-Solution of Trigonometric Equations by Trigonometric Identi
13. Solution of Trigonometric Equations by Quadratic Formula
14. Problem-Solution of Trigonometric Equations by Quadratic Formula
15. Writing  $a\sin A + b\cos A$  in the Form  $r \sin(A + B)$
16. Solving  $a\sin A + b\cos A = c$
17. Trigonometric Equations Containing Principal Functions
18. Problem-Trigonometric Equations Containing Principal Functions
19. Applications of Inverse Trigonometric Functions
20. Problem-Applications of Inverse Trigonometric Functions-1
21. Problem-Applications of Inverse Trigonometric Functions-2

# **Class-11 (Computer Science)**

**(Total Videos # 241)**

## **Chapter # 01**

**Basics of Information Technology (55 Videos)**

## **1.1 Overview**

1. [What is Information technology](#)
2. [IT Revolution](#)

## **1.2 Hardware and Software**

3. [What is Computer Hardware](#)
4. [Types of Software](#)
5. [Hardware vs Software](#)
6. [Software terminologies](#)

## **1.3 Input and Output Devices**

7. [I/O Hardware : Input Output Devices](#)
8. [Keyboard](#)
9. [mouse](#)
10. [track Ball](#)
11. [Joy Stick](#)
12. [touch Pad](#)
13. [Touch screen](#)
14. [Light Pen](#)
15. [Graphic Tablet](#)
16. [Source Data-Entry Devices](#)
17. [Scanners and Its types](#)
18. [More on Scanners](#)
19. [Barcode and QR readers](#)
20. [Magnetic ink character recognition System : MICR](#)
21. [Optical Mark Recognition](#)
22. [Magnetic Stripe card reader](#)
23. [Smart Card](#)
24. [Fax Machine](#)
25. [Imaging System](#)
26. [microphone](#)
27. [digital camera](#)
28. [Video Input Devices](#)
29. [Difference between Soft copy and Hard Copy](#)
30. [Screen resolution](#)
31. [Video Display Adapters](#)
32. [Monitors](#)
33. [Printers and Its types](#)
34. [Plotter](#)
35. [Speakers](#)

## **1.4 System Software vs Application Software**

36. [Types of Software](#)

## **1.5 Basics Units of Data Storage**

37. [Memory terminologies : Memory Cell , Memory Word , Byte](#)
38. [Units of Computer Memory](#)
39. [Examples on Unit Conversion](#)

- 40. [Conversion of Memory Byte into Memory Word](#)
- 1.6 System Development**
  - 41. [Computer System and Its Components](#)
  - 42. [Introduction to System Development Life Cycle \( SDLC\)](#)
  - 43. [Importance of SDLC](#)
  - 44. [SDLC : Phases](#)
  - 45. [Planning Phase](#)
  - 46. [Feasibility Phase](#)
  - 47. [Analysis Phase](#)
  - 48. [Requirement Engineering Phase](#)
  - 49. [Functional Requirements](#)
  - 50. [Design Phase](#)
  - 51. [More on Design Phase](#)
  - 52. [Coding Phase](#)
  - 53. [Testing Phase](#)
  - 54. [Deployment Phase](#)
  - 55. [Maintenance Phase](#)

# Chapter # 02

## Information Networks (38 Videos)

- 2.1 Overview**
  - 1. What is Computer Network
  - 2. WWW : World Wide Web
- 2.2 Workgroup Computing**
  - 3. Work Group and Group Ware
- 2.3 Email and its Benefits**
  - 4. Working with Email
- 2.4 Internet**
  - 5. What is Internet
  - 6. Applications of Internet
  - 7. Effects of Internet on Society : Positive aspects
  - 8. Terminologies related to Internet
- 2.5 Components of Network**
  - 9. Network Interface Card
  - 10. Dial-Up Modem
  - 11. Gateway
  - 12. LAN's Protocol
  - 13. Transmission Control Protocol / Internet Protocol
  - 14. ISDN
  - 15. DSL

16. Types of Networking w.r.t Area: LAN, WAN, MAN
17. TCP/IP Applications

## **2.6 LAN vs WAN**

18. Types of Networking w.r.t Area: LAN, WAN, MAN
19. Uses of Network

## **2.7 Networking Concepts**

20. Advantages and Disadvantages of Network
21. Client Server Network
22. Difference between Client and Server
23. Advantages and Disadvantages of Client Server Network
24. Peer to Peer to Network
25. Network Standards
26. What is Network Topology
27. CSMA
28. Tree Topology
29. What is OSI Model : Over view
30. Application Layer
31. Presentation Layer
32. Session Layer
33. Transport Layer
34. Network Layer
35. Data Link Layer
36. Physical Layer
37. Seven Layers of OSI Model
38. More on OSI Model

# **Chapter # 03**

## **Data Communication (24 Videos)**

### **3.1 Overview**

1. What is data communication

### **3.2 Components of Data Communication**

2. Components of communication System

### **3.3 Signals**

3. Signal

### **3.4 Types of Data**

4. Types of Data
5. Introduction to Data Representation



- 6. Coding Scheme
- 3.5 Encoding of Data**
  - 7. ASCII Code
  - 8. Uni Code
- 3.6 Modes of Data Communication**
  - 9. A Brief Description of Binary Coded Decimal
  - 10. Transmission modes of Computer Network
- 3.7 Types of Data Transmission**
  - 11. Parallel Transmission
- 3.8 Modem**
  - 12. Synchronous and Asynchronous Transmission
  - 13. Comparison between Synchronous and Asynchronous
  - 14. What is Bandwidth
  - 15. Baseband and Broad Band
  - 16. Ethernet : Twisted Pair Cable
  - 17. Co-axial Cable
  - 18. Optical Fibers
  - 19. Wireless media : Microwave Transmission
  - 20. Classification of Satellite Systems
  - 21. Introduction to Mobile device Communication
  - 22. Data Rate , Baud Rate
  - 23. Dial-Up Modem
  - 24. Types of Modems

## Chapter # 04

### Applications Of Computers (16 Videos)

- 4.1 Overview**
  - 1. Basic Operations of Computer
- 4.2 Uses of Computers in Different Fields**
  - 2. Applications of Computers in Business
  - 3. Office Automation
  - 4. Applications of Computers in E-Commerce
  - 5. Computer Aided Design
  - 6. Computer Aided Manufacturing
  - 7. Simulations
  - 8. Use of Computers in Media
  - 9. Use of Computers in Medical

10. Use of Computers in Defence
11. Applications of Computers in Industry
12. Applications of Computers in Education
13. Weather Forecasting
14. Applications of Computers in Airline System

#### **4.3 Computer Assistance simplifying our wor**

15. Effects of Computer on Society : Positive aspects
16. Capabilities of Computer

## **Chapter # 05**

### **Computer Architecture (23 Videos)**

#### **5.1 Overview**

1. Introduction to Computer Architecture
2. Von Neumann Model
3. Central Processing Unit : ALU , Control Unit
4. CPU terminologies : Data Path , CPU Cycle , Control Path
5. RAM : Random Access Memory
6. Types of RAM : DRAM and SRAM
7. ROM : Read Only Memory

#### **5.2 Bus Interconnection**

8. Bus and Types of Buses

#### **5.3 The I/O Unit**

9. I/O Unit
10. Interrupts
11. Direct Memory Access (DMA)

#### **5.4 CPU Registers**

12. Internal Processor Memory : Registers
13. General Purpose Registers

#### **5.5 Computer Operations and the instruction**

14. CPU Operations
15. Instruction Code

#### **5.6 Instruction Format**

16. Instruction Format
17. Instruction cycle

#### **5.7 Software**

18. Types of Software
19. The Concept of Operating System
20. Functions of Operating System
21. Command Line User Interface

- 22. Graphical User Interface
- 5.8 The Translators and their functions**
- 23. Language Translators : An Overview

## Chapter # 06

### **Security, Copyright and the Law** (17 Videos)

#### **6.1 Overview**

- 1. What is Information security
- 2. Information security Terminologies

#### **6.2 Virus and Antivirus issues**

- 3. Symptoms of Virus Attack
- 4. Computer Virus : What is Virus and How it Spread
- 5. Virus Hoax
- 6. Types of Virus
- 7. How to Protect from Viruses
- 8. Downloading and Installation of Antivirus

#### **6.3 Data Security**

- 9. Authorized access and Unauthorized Access
- 10. Difference between Authorization and Authentication
- 11. Authentication Methodologies : Password and Pin Number
- 12. Access Card and Biometrics
- 13. Security Violations
- 14. Security Threats
- 15. Privacy issues and hacking

#### **6.4 Data Protection Legislation and Copyrig**

- 16. Data Protection act

#### **6.5 The Copyright Act**

- 17. The Copyrights Act

## Chapter # 07

### **Windows Operating System** (14 Videos)

#### **7.1 Overview**

- 1. The Concept of Operating System

#### **7.2 Types of Operating System**

- 2. Graphical User Interface

3. Command Line User Interface
4. Objectives of Operating System
- 7.3 Starting to Use Windows Operating System**
  5. GUI Management
  6. The Desktop , ICONS, BUTTONS
  7. How a Mouse is Used
  8. Important features of Windows
  9. Multi-Tasking Operating System
  10. Multi-Processor Operating system
- 7.4 Disk Management**
  11. Dealing with Disks in Windows
- 7.5 File Management**
  12. File Management in Windows
  13. Exploring Windows Explorer
- 7.6 Control Printing Jobs**
  14. Using Printers in Windows

# Chapter # 08

## Word Processing (27 Videos)

- 8.1 Overview**
  1. Office Automation
  2. What is Word Processing
- 8.2 What is a Word Processor?**
  3. Simple Word Processor
  4. Full featured Word Processor
- 8.3 A Simple Word Processor (Text Editor)**
  5. Word Window overview
- 8.4 Starting to Use Word Processor**
  6. Manage a word document
  7. Editing text: Cut, Copy, paste and delete
  8. Spell checking and thesauras in MS word
  9. Text Formatting: Font size, style and color
  10. Text Formatting: Modify text and text case
  11. Paragraph Formatting: Alignment and indent
  12. Paragraph Formatting: Border, Shading and spacing
  13. Page Formatting: Orientation, size and columns
  14. Page Formatting: Border and color
  15. Page Formatting: Insert cover and blank page
  16. Insert page break and section break

17. Insert header, footer and page number
18. Insert/Position image and clip art
19. Insert and delete word art
20. Insert table, add/delete row and column
21. Resize rows and columns
22. Border settings in tables
23. Shading settings in tables
24. Merge and split cells in tables
25. printing the document
26. Using Clipboard
27. Using Text Boxes

# Chapter # 09

## Spreadsheet (15 Videos)

### 9.1 Overview

1. Basics of Spreadsheet

### 9.2 Features of Spreadsheet Software

2. Microsoft Excel terminology

### 9.3 The Spreadsheet's Interface

3. Excel window
4. Creating workbook, naming and working with cells and sheets

### 9.4 Entering Data in a Worksheet

5. Paste cell content

### 9.5 Basics of Worksheet

6. Addressing cells
7. Manipulate data: Filtering cells
8. Named Ranges

### 9.6 Working with Formulas

9. Working with formulas
10. Linking WorkSheets in MS Excel

### 9.7 Functions

11. Working with functions
12. Manipulate data: Data validation

### 9.8 Formatting and Customizing Data

13. Format data: Conditional formatting

### 9.9 Introducing Charts

14. Representing data graphically

### 9.10 Printing Worksheets and Charts

# Chapter # 10

## Fundamentals of Internet (12 Videos)

### 10.1 Overview

1. What is Internet
2. Applications of Internet

### 10.2 How the Internet Works

3. How the Internet Works

### 10.3 Addressing Schemes

4. Addressing Schemes
5. Internet Protocol Address
6. Classes of IP Address
7. More on Classes of IP Addresses
8. WWW : World Wide Web

### 10.4 Web Browsing

9. WWW : World Wide Web
10. Search Engine

### 10.5 Email

11. Working with Email
12. Limitations on Email

### 10.6 Newsgroups

13. News Groups

# **Class-11 (Physics)**

(Total Videos # 299)

## **Chapter # 01**

### **Measurements** (21 Videos)

#### **1.1 Physical Quantities**

1. Physical Quantities
2. Problem on Physical Quantities

#### **1.2 International System of Units**

3. International Systems of Base Units
4. Supplementary units

#### **1.3 Scientific Notation**

5. Scientific Notation
6. Introduction to Prefixes
7. Problem on Introduction to Prefixes

#### **1.4 Errors and Uncertainties**

8. Errors and Uncertainty in Measurement

#### **1.5 Rounding off Numbers**

- 9. Rounding Off the numbers
- 10. Introduction to Significant Figures
- 1.6 Precision and Accuracy**
  - 11. Precision and Accuracy
  - 12. Problem on Precision and Accuracy
- 1.7 Indicating Uncertainty**
  - 13. Assessment of Total Uncertainty in the Final result
  - 14. More on Assessment of Total Uncertainty in the Final result
  - 15. Problem on Assessment of Total Uncertainty in the Final result
  - 16. Problem on Assessment of Total Uncertainty in the Final result
- 1.8 Dimensions**
  - 17. Dimensions of Physical Quantities
  - 18. More on Dimensions of Physical Quantities
  - 19. Problem on Dimensions of Physical Quantities
  - 20. Deriving a possible Formula
  - 21. Problem on Deriving a possible Formula

## Chapter # 02

### Vectors and Equilibrium (34 Videos)

- 2.1 Vectors**
  - 1. Vector and its Representation
- 2.2 Cartesian Coordinate System or Rectangu**
  - 2. Rectangular Coordinate system
- 2.3 Addition of Vectors**
  - 3. Addition of Forces
  - 4. Commutative Property of Addition of Vectors
  - 5. Vectors Subtraction
  - 6. Problem 1 on Vector Addition and Subtraction
  - 7. Problem 2 on Vector Addition and Subtraction
- 2.4 Multiplication of a Vector by a Number o**
  - 8. Multiplication of Vector by a scalar
- 2.5 Resolution of a Vector**
  - 9. Rectangular Components of a Vector
  - 10. Determination of a Vector from its Rectangular Components
  - 11. Problem on Determination of a Vector from its Rectangular Components
- 2.6 Addition of Vectors by Rectangular Components**
  - 12. Vector Addition by Rectangular Components
  - 13. Steps of vector Addition by Rectangular Components



- 14. Problem2 on Vector Addition by Rectangular Components
- 15. More on Problem2 on Vector Addition by Rectangular Components

## **2.7 Products of Vectors**

- 16. Scalar or Dot product
- 17. Characteristics of Scalar Product
- 18. Problem1 on Scalar or Dot product
- 19. Problem2 on Scalar or Dot product
- 20. Vector or Cross Product
- 21. Characteristics of Cross Product
- 22. Example of Vector product
- 23. Problem1 on Vector or Cross Product
- 24. Problem2 on Vector or Cross Product

## **2.8 Torque or Moment of Force**

- 25. Introduction to Torque or Moment of a Force
- 26. More on Torque
- 27. Problem on More on Torque

## **2.9 Equilibrium**

- 28. Introduction to Equilibrium

## **2.10 Concurrent Forces**

- 29. Equilibrium of Bodies Under the Action of Coplanar Forces

## **2.11 Conditions of Equilibrium**

- 30. Conditions for Equilibrium
- 31. Problem 1 on Conditions for Equilibrium
- 32. Problem 2 on Conditions for Equilibrium
- 33. Problem 3 on Conditions for Equilibrium
- 34. Problem 4 on Conditions for Equilibrium

# **Chapter # 03**

## **Motion and Force (34 Videos)**

### **3.1 Vector Nature of Displacement**

- 1. Difference between Distance and Displacement

### **3.2 Velocity**

- 2. Introduction to velocity
- 3. Problem on Introduction to Velocity

### **3.3 Acceleration**

- 4. Introduction to Acceleration
- 5. Average Acceleration and Retardation
- 6. Problem on Introduction to Acceleration

### **3.4 Graphical Analysis of Motion**

- 7. The Displacement-Time Graph
- 8. Speed-time Graph
- 9. Problem on Speed-Time Graph

### **3.5 Equations of Uniformly Accelerated Motion**

- 10. Review of Equations of Uniformly Accelerated Motion
- 11. Problem on Review of Equations of Uniformly Accelerated Motion

### **3.6 Newton's Laws of Motion**

- 12. First Law of Newton
- 13. Second Law of Newton
- 14. Problem on Second Law of Newton
- 15. Third Law of Newton

### **3.7 Linear Momentum**

- 16. Advanced Momentum
- 17. Momentum and Newton's Second Law of motion
- 18. Impulse
- 19. Problem on Impulse
- 20. Law of Conservation of Momentum
- 21. Problem1 on Law of Conservation of Momentum
- 22. Problem2 on Law of Conservation of Momentum

### **3.8 Elastic and Inelastic Collision**

- 23. Elastic and Inelastic Collisions
- 24. Elastic Collision in one Dimension
- 25. More on Elastic Collision in one Dimension
- 26. Some Cases of Elastic Collision
- 27. Problem on Elastic Collision in one Dimension

### **3.9 Momentum and Explosive Forces**

- 28. Momentum and Explosive Forces

### **3.10 Projectile Motion**

- 29. Projectile Motion
- 30. More on Projectile Motion
- 31. Features of Projectile
- 32. More on Features of Projectile
- 33. problem1 on Features of Projectile
- 34. problem2 on Features of Projectile

## **Chapter # 04**

### **Work and Energy (31 Videos)**

#### **4.1 Work**

1. Work Done by a Constant Forces
2. Problem on Work Done by a Constant Force
3. Work Done By a Variable Forces
4. Problem on Introduction to Work

#### **4.2 Work done in Gravitational Field**

5. Work done by Gravitational Field
6. More on Work done by Gravitational Field
7. Prove that the work done along a closed path in a gravitational Field

#### **4.3 Power**

8. Introduction to Power
9. Power and velocity
10. Problem on Kinetic Energy

#### **4.4 Energy**

11. Introduction to Energy
12. Kinetic Energy
13. Potential Energy

#### **4.5 Implication of Energy Losses in Practic**

14. Implication of Energy Losses in Practical Devices and Efficiency
15. Ideal Machine

#### **4.6 Absolute Potential Energy**

16. Absolute Potential Energy
17. More on Absolute Potential energy

#### **4.7 Escape Velocity**

18. Escape Velocity
19. Problem on Escape Velocity

#### **4.8 Inter Conversion of Potential Energy and Kinetic Energy**

20. Interconversion of Potential Energy and Kinetic Energy
21. problem on Interconversion of Potential Energy and Kinetic Energy

#### **4.9 Conservation of Energy**

22. Advance law of Conservation of Energy
23. Problem on Law of Conservation of Energy

#### **4.10 Sources of Energy**

24. Energy from Non-Renewable Sources
25. Energy from Tides
26. Energy from Waves
27. Solar Energy
28. Energy from Biomass
29. Geothermal Energy
30. Wind Power
31. Nuclear Energy and Electrical Energy

# Chapter # 05

## Rotational and Circular Motion (30 Videos)

### 5.1 Angular Motion

1. Angular Displacement
2. More on Angular Displacement
3. Angular Velocity
4. Angular Acceleration

### 5.2 Relation Between Angular and Linear Dis

5. Relation Between Angular and Linear Velocities
6. Equation of Angular Motion

### 5.3 Centripetal Force and Centripetal Accel

7. Centripetal Forces
8. More on Centripetal Forces
9. Centripetal and Centrifugal Force
10. Applications of Centripetal Force
11. Problem on Centripetal Forces

### 5.4 Torque and Moment of Inertia

12. Moment of Inertia
13. More on Moment of Inertia
14. Problem on Moment of Inertia

### 5.5 Angular Momentum and Torque

15. Angular Momentum
16. More on Angular Momentum
17. Problem on Angular Momentum
18. Law of Conservation of Angular Momentum
19. Problem on Law of Conservation of Angular Momentum

### 5.6 Kinetic Energy of Rotation

20. Rotational Kinetic Energy

### 5.7 Rolling of Disc and Hoop down the Inclined Plane

21. Rotational Kinetic Energy of a Disc and Hoop
22. Problem on Rotational Kinetic Energy of a Disc and Hoop

### 5.8 The Artificial Satellites

23. Artificial Satellites

### 5.9 The Orbital Velocity

24. Orbital Velocity

### 5.10 The Geostationary Orbits

25. Geostationary Orbits
26. Problem on Orbital Velocity

### **5.11 The Real and Apparent Weight**

27. Real and Apparent weight

### **5.12 Weightlessness in Satellites and Gravity Free system**

28. weightlessness in Satellites and Gravity Free system

### **5.13 The Artificial Gravity**

29. Artificial Gravity

30. Communication Satellites

# Chapter # 06

## **Fluid Dynamics** (17 Videos)

### **6.1 Viscous Drag and Stokes Law**

1. Viscous Drag and Stokes Law

2. Problem on Viscous Drag and Stokes Law

### **6.2 Terminal velocity**

3. Advanced Terminal Velocity

4. Terminal Velocity of Paratrooper

5. Problem on Terminal velocity

### **6.3 Fluid Flow**

6. Fluid Flow

### **6.4 Equation of Continuity**

7. Equation of Continuity

8. problem on Equation of Continuity

### **6.5 Bernoulli's Equation**

9. Bernoulli's Equation

10. More on Bernoulli's Equation

11. Torricelli's Theorem

12. Relation Between Speed and Pressure of the Fluid

13. More on Relation Between Speed and Pressure of the Fluid

14. Venturi Relation

15. Problem on Venturi Relation

16. Blood Flow

17. Applications of Bernoulli's Equation

# Chapter # 07

## Oscillation (23 Videos)

### 7.1 Oscillations

1. Vibratory Motion

### 7.2 Terminology of Oscillatory Motion

2. Instantaneous Displacement and Amplitude of Vibration
3. Some other Parameters of Simple Harmonic Motion
4. Problem on Parameters of Simple Harmonic Motion

### 7.3 Simple Harmonic Motion (S.H.M)

5. Simple Harmonic Motion
6. More on Simple Harmonic Motion

### 7.4 Circular Motion and S.H.M

7. SHM and Uniform Circular Motion
8. Problem on SHM and Uniform Circular Motion
9. Displacement
10. Instantaneous Velocity of Mass Spring System
11. Acceleration in Terms of ?

### 7.5. Simple Pendulum

12. Simple Pendulum
13. Problem on Simple Pendulum
14. Energy conservation in SHM
15. More on Energy conservation in SHM
16. Problem on Energy conservation in SHM

### 7.6 Free and Forced Oscillations

17. Free and Forced Oscillations

### 7.7 Resonance

18. Introduction to Resonance
19. Advantages and Disadvantages of Resonance

### 7.8 Waveform of Simple Harmonic Motion

20. Instantaneous Displacement and Amplitude of Vibration

### 7.9 Phase

21. Phase

### 7.10 Damped Oscillations

22. Damped Oscillations

### 7.11 Sharpness of Resonance

# Chapter # 08

## Waves (50 Videos)

### 8.1 Periodic Waves

1. Periodic Waves

### 8.2 Progressive Waves

2. Progressive Waves
3. Introductoin to Wave Motion
4. Necessary Conditions for Wave motion

### 8.3 Classification of Progressive Waves

5. Transverse periodic Waves
6. Phase Relationship between two Points on a Wave
7. Longitudinal Periodic Waves

### 8.4 Speed of Sound

8. Binomial Theorem
9. Speed of Sound in Air
10. Laplace's Correction

### 8.5 Effects of Various Factors on Speed of

11. Effects of Various Factors on Speed of Sound in Air
12. More on Effects of Various Factors on Speed of Sound in Air
13. More on Effects of Various Factors on Speed of Sound in Air
14. Problem on Effects of Various Factors on Speed of Sound in Air

### 8.6 Superposition of Waves

15. Principle of Superposition

### 8.7 Interference of Waves

16. Interference
17. More on Interference
18. More on Interference

### 8.8 Interference of Sound Waves

19. Interference
20. More on Interference
21. More on Interference
22. Problem on Interference

### 8.9 Beats

23. Beats
24. More on Beats

25. problem on Beats

## **8.10 Reflection of Waves and Phase Change**

26. Reflection of waves

27. Reflection of Sound Waves

28. Reflection of Sound (Echoes)

29. Problem1-Reflection of Sound (Echoes)

30. Problem2-Reflection of Sound (Echoes)

## **8.11 Stationary Waves**

31. Stationary waves

32. More on Stationary waves

## **8.12 Transverse Stationary Waves in a Stretched String**

33. Stationary waves in a Stretched String

34. More on Stationary waves in a Stretched String

35. Problem on Stationary Waves in Stretched String

## **8.13 Fundamental and Overtone Vibration**

36. Fundamental and Overtone Vibration

## **8.14 Resonance of Air Column and Organ Pipes**

37. Resonance of Air Column and Organ Pipes

38. Stationary Waves in Air Columns

39. More on Stationary Waves in Air Columns

40. Problem on Stationary Waves in Air Columns

## **8.15 Doppler Effect**

41. Doppler Effect

42. Doppler Effect: When Source at Rest, Observer is Moving

43. Doppler Effect: When Observer at Rest, Source is Moving

44. Doppler Effect: When both Source and Observer are Moving

45. Problem on Doppler Effect

46. Applications of Doppler Effect

47. More on Applications of Doppler Effect

48. More on Applications of Doppler Effect

## **8.16 Ultrasonic Waves**

49. Ultrasonic Waves

50. Uses of Ultrasonic Waves

# **Chapter # 09**

## **Physical Optics (30 Videos)**

### **9.1 Nature of Light**

1. Nature of Light



- 2. More on Nature of Light
- 9.2 Wave Front**
  - 3. Wave Fronts
- 9.3 Huygen's Principle**
  - 4. Huygen's principle
- 9.4 Coherent sources**
  - 5. Coherent sources
- 9.5 Interference of Light**
  - 6. Interference of Light Waves
  - 7. Interference of sound Waves
- 9.6 Young's Double slits Experiment**
  - 8. Young's Double slit Experiment
  - 9. More on Young's Double slit Experiment
  - 10. More on Young's Double slit Experiment
  - 11. More on Young's Double slit Experiment
  - 12. problem on Young's Double slit Experiment
- 9.7 Interference in Thin Film**
  - 13. Interference in Thin Films
- 9.8 Michelson's Interferometer**
  - 14. Michelson's Interferometer
  - 15. Michelson's Interferometer
- 9.9 Diffraction of Light**
  - 16. Diffraction of Light
- 9.10 Fraunhofer Diffraction at a Single Slit**
  - 17. Fraunhofer Diffraction
- 9.11 Diffraction Grating**
  - 18. Diffraction Grating
  - 19. More on Diffraction Grating
  - 20. Problem on Diffraction Grating
  - 21. More on Problem on Diffraction Grating
- 9.12 The Diffraction of X-Rays by Crystal**
  - 22. Diffraction of X-Rays by Crystals
  - 23. More on Diffraction of X-Rays by Crystals
  - 24. Problem on Diffraction of X-Rays by Crystals
- 9.13 Polarization of Light**
  - 25. Polarization
  - 26. Production and Detection of Plane Polarized Light
  - 27. Polarization by Reflection
  - 28. Applications of Polarized Light
  - 29. More on Applications of Polarized Light
  - 30. Optical Rotation

# Chapter # 10

## Thermodynamics (29 Videos)

### **10.1 Thermal Equilibrium**

1. Thermal Equilibrium

### **10.2 Heat and Work**

2. Heat and Work

### **10.3 Equivalence of Heat and Work**

3. Equivalence of Heat and Work

### **10.4 Internal Energy**

4. Internal Energy

### **10.5 Thermodynamic System**

5. Thermodynamic System
6. More on Thermodynamic System

### **10.6 First Law of Thermodynamics**

7. First Law of Thermodynamics
8. Problem on First Law of Thermodynamics
9. Isochoric Process
10. Isobaric Process
11. Isothermal Process
12. Adiabatic Process

### **10.7 Molar Specific Heat of a Gas**

13. Molar Specific Heat of a Gas
14. Constant Volume Molar Specific heat of a Gas ( $C_v$ )
15. Constant Pressure Molar Specific heat of a Gas ( $C_p$ )
16. Derivation of  $C_p - C_v = R$

### **10.8 Reversible and Irreversible Processes**

17. Reversible and Irreversible Processes

### **10.9 Heat Engine**

18. Heat Engine

### **10.10 Second Law of Thermodynamics**

19. Second Law of Thermodynamics
20. More on Second Law of Thermodynamics

### **10.11 Carnot Cycle**

21. Carnot Engine
22. More on Carnot Engine-part1
23. More on Carnot Engine-part2
24. Problem on Carnot Engine

- 25. Refrigerator
- 26. Coefficient of Performance

### 10.12 Entropy

- 27. Entropy
- 28. More on Entropy
- 29. Problem on Entropy

# Class-11 (Chemistry)

(Total Videos # 498)

## Chapter # 01

### Basic Concepts (57 Videos)

#### 1.1 Atom

- 1. Atoms
- 2. Evidence of Atoms
- 3. Molecule
- 4. Ion
- 5. Molecular Ion
- 6. More On Molecular Ion

#### 1.2 Relative Atomic Mass

- 7. Relative Atomic Mass and Atomic Mass Unit

#### 1.3 Isotopes

- 8. Isotopes
- 9. More on Isotopes
- 10. Relative Abundance of Isotopes
- 11. Determination of Ar of Isotopes by Mass Spectrometry
- 12. More on Determination of Ar of Isotopes
- 13. Average Atomic Masses
- 14. Calculating the Average Atomic Mass
- 15. Calculate Percentage Abundance

#### 1.4 Analysis of a Compound - Empirical and

- 16. The Percentage Composition of Elements in a Molecule
- 17. The Percentage Composition of Sodium Carbonate crystal
- 18. Calculating Percentage Composition
- 19. Empirical formula
- 20. Empirical formula-covalent and ionic compound
- 21. The Empirical Formula from the Percentage Composition

- 22. Empirical Formula from Combustion Analysis
- 23. Empirical Formula from Combustion Analysis (continued)
- 24. Calculating Empirical Formula from Combustion Analysis
- 25. Molecular formula
- 26. More on Molecular Formula
- 27. Determining Empirical Formula of a Compound

## **1.5 Concept of Mole**

- 28. Mole
- 29. More on Concept of Mole
- 30. Gram Atomic mass ,Gram molecular mass, Gram formula mass
- 31. Avogadro's Number
- 32. More on Avogadro's Number
- 33. Mole-Mass Calculations
- 34. Mole-Mass Calculations
- 35. Calculating Moles from Mass
- 36. Calculating Mass from Moles
- 37. Calculating Mass in Grams and Moles
- 38. Mole-Particle Calculations
- 39. More on Mole-Particle Calculations
- 40. Calculating Mass in Grams of a Single Atom
- 41. Calculating Number of Ions in the Compounds
- 42. Calculating Number of Particles from Mass
- 43. Calculating Mass and Moles of an Element from a Compound
- 44. Molar Gas Volume
- 45. Calculations of Molar Gas Volume

## **1.6 Stoichiometry**

- 46. Stoichiometry
- 47. Stoichiometric Calculations
- 48. Molar Calculations from Equations
- 49. More on Molar Calculations from Equations

## **1.7 Limiting Reactant**

- 50. Limiting Reactants
- 51. Importance of Limiting Reactants
- 52. More on Importance of Limiting Reactants
- 53. Calculations Based on Balanced Chemical Equations
- 54. Calculating Limiting and Excess Reactants

## **1.8 Yield**

- 55. Percentage Yield
- 56. More on Yield
- 57. Calculation of Percentage Yield

# **Chapter # 02**

# Experimental Techniques in Chemistry (15 Videos)

## 2.1 Filtration

1. Filtration Through Filter Paper
2. Filtration Through Filter Crucibles

## 2.2 Crystallization

3. Choice of a Solvent
4. Steps Involved in Crystallization
5. More on Steps Involved in Crystallization

## 2.3 Sublimation

6. Separating Solids Using Sublimation

## 2.4 Solvent Extraction

7. Solvent Extraction
8. Separating Immiscible Liquids Using Separating Funnel
9. Distribution Law

## 2.5 Chromatography

10. Chromatography
11. Paper Chromatography
12. More on Paper Chromatography
13. Analysis of a Sample Using Paper Chromatography
14. Chromatography for Colourless Substances
15. Uses of Chromatography

# Chapter # 03

## Gases (53 Videos)

### 3.1 States of Matter

1. States of Matter
2. Shape and Volume of Gases
3. Diffusion and Effusion in Gases
4. Effect of Molecular Mass on the Rate of Diffusion
5. Compressibility, Mobility and Density of Gases
6. Condensation
7. Shape and Volume of Liquids
8. Compressibility and Ease of Flow of Liquids
9. Evaporation
10. Dissolving, Filtering and Evaporating
11. Shape and Volume of Solids
12. Compressibility and Ease of Flow of Solids

13. Melting
14. Rigidity and Melting point of Solids
15. Density in Solids
16. Diffusion in Solids
17. Atmosphere Pressure
18. Units of Pressure

### **3.2 Gas Laws**

19. Boyle's Law of Gases
20. Experimental Verification of Boyle's Law
21. Graphical Explanation of Boyle's Law
22. Charles's Law
23. Experimental Verification of Charles's Law
24. Derivation of Absolute Zero
25. Graphical Explanation of Charles' Law
26. Measurement of Temperature

### **3.3 General Gas Equation**

27. General Gas Equation
28. Ideal Gas Constant R
29. Density of an Ideal Gas

### **3.4 Avogadro's Law**

30. Avogadro's Law

### **3.5 Dalton's Law of Partial Pressures**

31. Dalton's Law of Partial Pressures
32. Calculation of Partial Pressure of a Gas
33. Applications of Dalton's Law of Partial Pressures

### **3.6 Diffusion and Effusion**

34. Diffusion and Effusion in Gases
35. Effect of Molecular Mass on the Rate of Diffusion
36. Demonstration of Graham's Law

### **3.7 Kinetic Molecular Theory of Gases**

37. Kinetic Molecular Theory of Gases
38. More on Kinetic Molecular Theory of Gases
39. Explanation of Boyle's Law from Kinetic Molecular Theory of Gases
40. Explanation of Charles's Law from Kinetic Molecular Theory of Gases
41. Explanation of Avogadro's Law from Kinetic Molecular Theory of Gases
42. Explanation of Graham's Law from Kinetic Molecular Theory of Gases

### **3.8 Kinetic Interpretation of Temperature**

43. Kinetic Interpretation of Temperature

### **3.9 Liquefaction of Gases**

44. General Principle of Liquefaction
45. Joule Thomson Effect
46. Linde's Method of Liquefaction of Gases

### **3.10 Non-Ideal Behaviour of Gases**

- 47. Non-Ideal Behaviour of Gases
- 48. Causes for Deviations from Ideality
- 49. Van der Waals Equation for Real Gases; Volume Correction
- 50. Pressure Correction
- 51. Proving Correction of Volume and Pressure
- 52. Van der Waal's Constants

### **3.11 Plasma State**

- 53. Plasma

## **Chapter # 04**

### **Liquids and Solids (52 Videos)**

#### **4.1 Intermolecular Forces**

- 1. Intermolecular Forces
- 2. Dipole-Dipole Interactions
- 3. Dipole-Induced Dipole Forces
- 4. London Dispersion Forces
- 5. Factors Affecting the London Forces
- 6. Hydrogen Bonding
- 7. Thermodynamic Properties of Covalent Hydrides
- 8. Thermodynamic Properties of Covalent Hydrides (continued)
- 9. Solubility of Hydrogen-Bonded Molecules
- 10. Anomalous Behaviour of Water
- 11. More on Anomalous Behaviour of Water
- 12. Function of Soaps
- 13. Function of Detergents
- 14. Hydrogen Bonding in Paints, Dyes and Textile Materials

#### **4.2 Evaporation**

- 15. Evaporation in Liquids and its Uses
- 16. Evaporation
- 17. Vapour Pressure
- 18. Effect of Temperature on Vapour Pressure
- 19. Manometric Method of Measuring Vapour Pressure
- 20. Boiling Points of Liquids
- 21. Boiling Point and External Pressure
- 22. Energetics of Phase Changes
- 23. Energy Changes and Intermolecular Attractions
- 24. Dynamic Chemical Equilibrium

#### **4.3 Liquid Crystals**

- 25. Liquid Crystals
- 4.4 Introduction to Solids**
  - 26. Crystalline Solids
  - 27. Amorphous Solids
  - 28. Properties of Crystalline Solids
  - 29. Anisotropy
  - 30. Symmetry and Habit of a Crystal
  - 31. Isomorphism
  - 32. Polymorphism
  - 33. Concept of Allotropy
  - 34. Transition Temperature
- 4.5 Crystal Lattice**
  - 35. Crystal Lattice
  - 36. Unit Cell
- 4.6 Crystals and Their Classification**
  - 37. Crystals and Their Classification
  - 38. More on Crystals and Their Classification
- 4.7 Classification of Solids**
  - 39. Properties of Ionic Solids
  - 40. More on Properties of Ionic Solids
  - 41. Structure of Sodium Chloride
  - 42. Lattice Energy
  - 43. Covalent Solids
  - 44. Properties of Covalent Crystals
  - 45. Diamond
  - 46. Structure of Diamond
  - 47. Molecular Solids
  - 48. Structure of Solid Iodine
  - 49. Metallic Solids
  - 50. Properties of Metals
  - 51. Structure of Metals
- 4.8 Determination of Avogadro's Number (NA)**
  - 52. Determination of Avogadro's Number

# Chapter # 05

## Atomic Structure (67 Videos)

### **5.1 Sub-Atomic Particles of Atom**

1. Discovery of Electron(Cathode rays)
2. Properties of Cathode rays



3. More on Properties of Cathode rays
4. Discovery of Proton
5. Properties of positive rays
6. Discovery of Neutron
7. Properties of Neutron
8. More on Properties of Neutron
9. Measurement of e/m Value of Electron
10. Measurement of Charge on Electron-Millikan's Drop Method
11. More on Measurement of Charge on Electron
12. Mass of Electron
13. Properties of Fundamental Particles

## **5.2 Rutherford's Model of Atom (Discovery o**

14. Rutherford's Atomic Model
15. Advantages and Defects in Rutherford's Atomic Model

## **5.3 Plank's Quantum Theory**

16. Planck's Quantum Theory
17. More on Planck's Quantum Theory

## **5.4 Bohr's Model of Atom**

18. Bohr's Atomic Theory
19. Derivation of Radius of Revolving Electron in nth Orbit
20. More on Derivation of Radius of Revolving Electron in nth Orbit
21. Determining Radius of an Orbit Using Bohr's Equation
22. Energy of Revolving Electron
23. More on Energy of Revolving Electron
24. Energy of Electron in nth Orbit
25. Determination of nth Orbit Energy Using Bohr's Equation

## **5.5 Spectrum**

26. Spectrum
27. Continuous Spectrum
28. Line Spectrum
29. Atomic Emission Spectrum
30. Atomic Absorption Spectrum
31. Hydrogen Spectrum
32. More on Hydrogen Spectrum
33. Calculations of Frequency of Photons by Bohr's Theory
34. Calculations of Wave Numbers of Photons by Bohr's Theory
35. Lyman Series
36. Balmer Series
37. Paschen Series
38. Brackett series
39. Pfund series
40. Calculation of Wave Number of Spectral series
41. Defects of Bohr's Atomic Model
42. More on Defects of Bohr's Atomic Model

## 5.6 X-Rays and Atomic Number

- 43. X-Rays
- 44. Types of X-rays
- 45. Study of X-Rays by Moseley
- 46. Importance of Moseley's Law

## 5.7 Wave-Particle Nature of Matter (Dual Nature of Matter)

- 47. Dual Nature of Matter
- 48. More on Dual Nature of Matter
- 49. Experimental Verification of Dual Nature of Matter
- 50. Calculation of De-Broglie's Wavelength

## 5.8 Heisenberg's Uncertainty Principle

- 51. Heisenberg's Uncertainty Principle
- 52. Concept of Orbital
- 53. Quantum Numbers
- 54. Principal Quantum Numbers (n)
- 55. Azimuthal Quantum Numbers (l)
- 56. Magnetic Quantum Numbers (m)
- 57. Spin Quantum Numbers (s)
- 58. Quantum Numbers of Electrons
- 59. Calculation of Combination of Quantum Numbers
- 60. Shape of s-Orbitals
- 61. Shapes of p-Orbitals
- 62. Shapes of d-Orbitals

## 5.9 Electronic Distribution

- 63. (n+l) Rule
- 64. Aufbau Principle
- 65. Pauli's Exclusion Principle and Hund's Rule
- 66. Electronic configuration
- 67. More on Electronic configuration

# Chapter # 06

## Chemical Bonding (67 Videos)

### 6.1 Chemical Bond

- 1. Why do Atoms Form Chemical Bonds?
- 2. Energetics of Bond Formation

### 6.2 Atomic Sizes

- 3. Atomic Size and Atomic Radius
- 4. Trend of Atomic Size and Atomic Radius in Periodic Table
- 5. Ionic Radius

6. Covalent Radii

### **6.3 Ionization Energy, Electron Affinity and**

7. Ionization Energy
8. Factors Influencing the Ionization Energies
9. Trend of Ionization Energy in Periodic Table
10. Higher Ionization Energies
11. Electron Affinity
12. Factors Influencing the Electron Affinity
13. Trend of Electron Affinity in Periodic Table
14. more on Electronegativity
15. Variation of Electronegativities in Periodic Table

### **6.4 Types of Bonds**

16. Ionic Bond
17. More on Ionic Bond
18. Covalent Bond
19. Types of Covalent Bonds
20. Single Covalent Bond
21. Double Covalent Bond
22. Triple Covalent Bond
23. Polar Covalent Bond
24. Non polar Covalent Bond
25. Dative Covalent Bond or Co-ordinate Covalent Bond
26. Valence Shell Electron Pair Repulsion Theory
27. Molecules Containing Two Electron Pairs (AB<sub>2</sub> Type) and AB<sub>3</sub> Type
28. AB<sub>2</sub>E and AB<sub>3</sub> Type With Multiple Bonds
29. AB<sub>4</sub> Type With No Lone Pairs AB<sub>3</sub>E<sub>1</sub> Type and AB<sub>2</sub>E<sub>2</sub>
30. Molecules Containing Five Electron Pairs (AB<sub>5</sub> Type)
31. Molecules Containing Six Electron Pairs (AB<sub>6</sub> Type)
32. Valence Bond Theory
33. More on Valence Bond Theory
34. Formation of H<sub>2</sub> Molecule
35. Formation of HF molecule
36. Formation of Cl<sub>2</sub> Molecule
37. Formation of O<sub>2</sub> molecule
38. Formation of N<sub>2</sub> molecule
39. Ground and Excited State of Carbon
40. Sp<sup>3</sup> Hybridization
41. More on Sp<sup>3</sup> Hybridization
42. Bonding and Structure of Ammonia
43. Bonding and Structure of Water
44. sp<sup>2</sup>-Hybridization; Bonding and Structure of Boron Trifluoride
45. Sp<sup>2</sup> Hybridization
46. Sp Hybridization
47. Bonding and Structure of Beryllium Dichloride
48. Molecular Orbital Theory
49. Head on approach and sideways Approach

- 50. Strength of Sigma and Pi Bonds
- 51. Relative Energies of the Molecular Orbitals
- 52. Molecular Orbital Structure of He<sub>2</sub>
- 53. Molecular Orbital energy level Diagrams of Li<sub>2</sub>
- 54. MOT Diagrams for Be<sub>2</sub>, B<sub>2</sub> and N<sub>2</sub>
- 55. MOT Diagrams for O<sub>2</sub> and F<sub>2</sub>
- 56. Comparison between VBT and MOT

## **6.5 Bond Energy, Bond Length and Dipole Mom**

- 57. Bond Energy
- 58. Ionic Character and Bond Energy
- 59. More on Ionic Character and Bond Energy
- 60. Bond Length
- 61. More on Bond Length
- 62. Dipole Moment
- 63. Dipole Moments and Molecular Structure; Percentage Ionic Character
- 64. Bond Angles or Geometry of Molecules

## **6.6 The Effect of Bonding on the Properties of Compounds**

- 65. Effect of Bonding on Solubility
- 66. Effect of Bonding on Isomerism
- 67. Effect of Bonding on Reaction Kinetics

# Chapter # 07

## **Thermochemistry** (19 Videos)

### **7.1 Spontaneous and Non-Spontaneous Reactio**

- 1. Introduction to Thermochemistry
- 2. Some Examples of Endothermic and Exothermic Reactions
- 3. Spontaneous and Non-Spontaneous Reactions

### **7.2 System, Surrounding and State Function**

- 4. System and Surroundings
- 5. Properties of the System and State Function

### **7.3 Internal Energy and First Law of Thermo**

- 6. work and Heat
- 7. First Law of Thermodynamics

### **7.4 Enthalpy**

- 8. Enthalpy
- 9. Enthalpy Change of Different Reactions
- 10. Enthalpy of Formation
- 11. Enthalpy of Atomization
- 12. Enthalpy of Neutralization

13. Enthalpy of Combustion
14. Calorimetry
15. Estimation of Heat of Reaction from Experimental Data
16. Estimation of Energy Available from Food(Bomb Calorimeter)

## 7.5 Hess's Law of Constant Heat Summation

17. Hess's Law of Constant Heat Summation
18. Verification of Hess's Law
19. The Born-Haber Cycle

# Chapter # 08

## Chemical Equilibrium (49 Videos)

### 8.1 Reversible and Irreversible Reactions

1. Irreversible Chemical Reactions
2. Reversible Chemical Reactions
3. Static Chemical Equilibrium
4. Dynamic Chemical Equilibrium
5. Conditions and Recognition of Chemical Equilibrium
6. Concept of Law of mass action
7. Derivation of Law of Mass Action
8. More on derivation of law of mass action
9. Application of Law of Mass Action
10. Equilibrium Constant  $K_c$  and its Units
11. More on Units of Equilibrium Constant
12. Equilibrium Constant Expressions for Esterification
13. Equilibrium Constant Expressions for Dissociation of  $PCl_5$
14. Equilibrium Constant Expressions for Decomposition of  $N_2O_4$
15. Equilibrium Constant Expressions for Synthesis of  $NH_3$
16. Relationship Between Equilibrium Constants
17. Applications of Equilibrium Constants; Direction of Reaction
18. Extent of Reaction
19. The Effect of Conditions on the Position of Equilibrium
20. Le-Chatelier's Principle; Effect of Change in Concentration
21. Effect of Change in Pressure or Volume
22. Quantitative Effect of Volume on Equilibrium Position
23. Effect of Change in Temperature
24. Effect of Catalyst on Equilibrium Constant

### 8.2 Applications of Chemical Equilibrium in

25. The Haber's Process
26. More on Haber process
27. Preparation of Sulphur Trioxide

### **8.3 Ionic Product of Water**

- 28. Dissociation of Water
- 29. The Ion Product of Water
- 30. More on Ion Product of Water
- 31. pH, pOH and pK<sub>w</sub>

### **8.4 Ionization Constants of Acids (K<sub>a</sub>)**

- 32. Ionization Constants of Acids
- 33. Percentage of Ionization of Acids
- 34. Ostwald's Dilution Law

### **8.5 Ionization Constant of Bases (K<sub>b</sub>)**

- 35. Ionization Constant of Bases
- 36. pK<sub>a</sub> and pK<sub>b</sub>

### **8.6 Lowry Bronsted Acid and Base Concept**

- 37. Bronstead-Lowry Concept of Acids
- 38. Bronstead-Lowry Concept of Bases
- 39. Relationship between K<sub>a</sub> and K<sub>b</sub>

### **8.7 Common Ion Effect**

- 40. Common Ion Effect
- 41. Some Examples of Common Ion Effect

### **8.8 Buffer Solutions**

- 42. Buffer Solutions
- 43. Buffer Action
- 44. Calculation of pH of a Buffer
- 45. More on Calculation of pH of a Buffer
- 46. Buffer Capacity

### **8.9 Equilibria of Slightly Soluble Ionic Compounds (Solubility Product)**

- 47. Solubility Product
- 48. Determination of Solubility Product from Solubility
- 49. Determination of Solubility from Solubility Product

# **Chapter # 09**

## **Solutions (46 Videos)**

### **9.1 Concentration Units of Solutions**

1. Introduction to Solutions
2. Concentration Units
3. Percentage Mass/Mass
4. Percentage Mass/Volume
5. Percentage Volume/Mass
6. Percentage Volume/Volume
7. Moles and Solution
8. Calculations Related to Concentration of Solutions
9. Molarity and Preparation of Molar Solution
10. Molality
11. Mole Fraction ( $x$ )
12. Parts Per Million, Parts Per Billion, Parts Per Trillion
13. Interconversion of Various Concentration Units of Solutions
14. More on Interconversion of Various Concentration Units of Solutions

## **9.2 Types of Solutions**

15. Types of Solutions on the Basis of Physical States
16. Solutions of Solids in Liquids
17. Solutions of Completely Miscible and Practically Immiscible Liquids
18. Partially Miscible Liquids
19. Phenol-Water System

## **9.3 Ideal and Non-Ideal Solutions**

20. Ideal and Non-Ideal Solutions
21. Raoult's Law
22. Raoult's Law When Both Components are Volatile
23. More on Raoult's Law When Both Components are Volatile

## **9.4 Vapour Pressures of Liquid-Liquid Solut**

24. Fractional Distillation of Ideal Mixture of Two Liquids
25. Azeotropic Mixtures
26. More on Azeotropic Mixtures
27. Positive Deviations
28. Negative Deviations

## **9.5 Solubility and Solubility Curves**

29. Introduction to Solubility
30. Solubility and Solute-Solvent Interactions
31. Solubility Curves
32. Fractional Crystallization

## **9.6 Colligative Properties of Solutions**

33. Colligative Properties
34. More on Colligative Properties
35. Lowering of Vapour Pressure
36. Elevation of Boiling Point
37. More on Elevation of Boiling Point
38. Depression of Freezing Point of a Solvent by a Solute
39. Measurement of Freezing Point Depression

40. Applications of Boiling Point Elevation and Freezing Point Depression

## 9.7 Energetics of Solution

41. Energetics of Solution

42. Hydration Energy of Ions

## 9.8 Hydration and Hydrolysis

43. Hydration

44. Water of Crystallization

45. Hydrolysis

46. More on Hydrolysis

# Chapter # 10

## Electrochemistry (43 Videos)

### 10.1 Oxidation State and Balancing of Redox

1. Introduction to Electrochemistry
2. Oxidation State and Rules for Assigning Oxidation State
3. Oxidation State
4. More on Oxidation State
5. Finding out the Oxidation Numbers
6. Identifying Substances Which are Oxidized or Reduced
7. Identifying Oxidizing and Reducing Agents from the Reactions
8. Balancing of Redox Equations by Oxidation Number Method
9. More on Balancing of Redox Equations by Oxidation Number Method
10. Balancing of Redox Equations by Ion-Electron Method
11. Balancing of Redox Equations in Acidic Medium by Ion-Electron Method
12. Balancing of Redox Equations in Basic Medium by Ion-Electron Method

### 10.2 Electrolytic Conduction

13. Introduction to Electrolysis
14. Explaining Electrolysis
15. Electrolytic Cells
16. Construction of an Electrolytic Cell
17. Working of Electrolytic cell
18. Products of Electrolysis
19. Electrolysis of Fused Salts
20. Electrolysis of Aqueous Solution of Salts
21. Industrial Applications of Electrolysis
22. Uses of Electrolysis
23. Galvanic Cell and its construction
24. Working of the Cell
25. Voltaic Cell is Reversible Cell

### 10.3 Electrode Potential



- 26. Electrode Potential
- 27. Standard Hydrogen Electrode
- 28. Measurement of Electrode Potential

#### **10.4 The Electrochemical Series**

- 29. Electrochemical Series
- 30. Prediction of Feasibility of a Chemical Reaction
- 31. Calculation of the Voltage or emf of Cells
- 32. Metals and Non-metals as Reducing and Oxidising Agents
- 33. Relative Chemical Reactivity of Metals
- 34. Reaction of Metals with Dilute Acids
- 35. Displacement of One Metal by Another from its Solution

#### **10.5 Modern Batteries and Fuel Cells**

- 36. Lead-Storage Battery
- 37. Discharging of Lead Battery
- 38. Charging of Lead Battery
- 39. Alkaline Battery
- 40. Silver Oxide Battery
- 41. Nickel Cadmium Cell
- 42. Fuel Cells
- 43. More on Fuel Cells

## **Chapter # 11**

### **Reaction Kinetics (30 Videos)**

#### **11.1 Rate of Reaction**

- 1. Introduction to Reaction Kinetics
- 2. Rate of Chemical Change
- 3. Instantaneous and Average Rate
- 4. Specific Rate Constant or Velocity Constant
- 5. Order of Reaction
- 6. Examples of Reactions Showing Different Orders
- 7. Half Life Period
- 8. Rate Determining Step

#### **11.2 Determination of the Rate of a Chemical**

- 9. Determination of the Rate of a Chemical Reaction
- 10. Physical Methods, Spectrometry and Electrical Conductivity
- 11. Dilatometric, Refractometric and Optical Rotation Method
- 12. Chemical Method

#### **11.3 Energy of Activation**

- 13. Activation Energy
- 14. More on Activation Energy

15. Energy profile Diagram for Exothermic Reactions

16. Energy profile Diagram for Endothermic Reactions

#### **11.4 Finding the Order of Reaction**

17. Finding the Order of Reaction

#### **11.5 Factors Affecting Rates Of Reactions**

18. Factors Affecting Rates Of Reactions, Nature of Reactants

19. Effect of Concentration on Speed of Reaction

20. More on Effect of Concentration on Speed of Reaction

21. Effect of Particle Size on Speed of Reaction

22. Effect of Light on Speed of Reaction

23. Effect of Temperature on Speed of Reaction

24. More on Effect of Temperature on Speed of Reaction

25. Arrhenius Equation

#### **11.6 Catalysis**

26. Catalysts

27. Types of Catalysis, Homogeneous and Heterogeneous Catalysis

28. Characteristics of Catalyst

29. Activation of Catalyst, Negative Catalyst and Autocatalyst

30. Enzymes

# **Class-11 (Biology)**

**(Total Videos # 456)**

## **Chapter # 01**

**Introduction** (17 Videos)

## **1.1 Biology And Some Major Fields of Specia**

1. Introduction to Biology
2. Branches of Biology
3. Marine Biology, Fresh Water Biology
4. Environmental Biology, Taxonomy and Palaeontology
5. Human Biology, Molecular Biology
6. Sociobiology and Parasitology
7. Biotechnology and Biochemistry

## **1.2 Levels of Biological Organization**

8. Subatomic and Atomic and Molecular Level
9. Organelle, Cell and Tissue Level
10. Organ and Organ System Level
11. Individual, Population, Community and Biosphere Level
12. Living World in Space

## **1.3 Living World in Time**

13. Biological Method
14. More one Biological Method

## **1.4 Biology And The Services of Mankind**

15. Biology and The Services of Mankind
16. Multicellular Organisms

## **1.5 Protection and Conservation of Environm**

17. Protection and Conservation of Environment

# **Chapter # 02**

## **Biological Molecules** (28 Videos)

### **2.1 Introduction To Biochemistry**

1. Introduction to Biochemistry

### **2. Importance of Carbon**

2. Importance of Carbon
3. More on Importance of Carbon

### **3.3 Importance of Water**

4. Biological Importance of Water
5. More on Biological Importance of Water

### **2.4 Carbohydrates**

6. Carbohydrates
7. Classification of Carbohydrates
8. Monosaccharides
9. Polysaccharides

## 2.5 Lipids

- 10. Lipids Characteristics
- 11. Classification of Lipids
- 12. Phospholipids
- 13. Saturated and Unsaturated Fats
- 14. Waxes and Terpenoids

## 2.6 Proteins

- 15. Proteins
- 16. Structure of Amino Acid
- 17. Peptide Linkage

## 2.7 Structure of Proteins

- 18. Structure of Protein
- 19. More on Structure of Protein
- 20. Classification of Protein

## 2.8 Nucleic Acids

- 21. Structure and Role of Nucleic Acids
- 22. Mononucleotide
- 23. Nucleotide and Polynucleotide
- 24. Watson and Crick Model of DNA
- 25. Transcription
- 26. Types of RNA
- 27. Translation

## 2.9 Conjugated Molecules

- 28. Conjugated Molecules

# Chapter # 03

## Enzymes (07 Videos)

### 3.1 Introduction

- 1. Enzymes
- 2. Classification of Enzymes
- 3. Types of Cofactors

### 3.2 Characteristics of Enzymes

- 4. Characteristics of Enzymes

### 3.3 Mechanism of Enzyme Action

- 5. Mechanism of Enzymes

### 3.4 Factors Affecting the Rate of Enzyme Ac

- 6. Factors Effecting the Rate of Enzyme Action

### 3.5 Inhibitors

7. Competitive Inhibitors, Non-Competitive Inhibitors

## Chapter # 04

### The Cell (27 Videos)

#### 4.1 Emergence And Implication of Cell Theory

1. History of Formulation of Cell Theory
2. Light Microscope
3. Cell
4. Animal and Plant Cells Common Features

#### 4.2 Structure of A Generalized Cell

5. Cell Membrane
6. More on Cell Membrane (Plasma Membrane)
7. Cell Wall
8. Cytoplasm, Cytoskeleton
9. More on Cytoplasm, Cell Organelles
10. Endoplasmic Reticulum (ER), Ribosomes
11. More on Endoplasmic Reticulum (ER)
12. Ribosomes
13. Golgi Apparatus and Lysosomes
14. More on Golgi Apparatus
15. Lysosomes
16. Peroxisomes and Glyoxysomes
17. Vacuoles
18. More on Vacuoles
19. Centrioles
20. Mitochondria
21. Mitochondria Convert Energy
22. Plastids
23. More on Plastids

#### 4.3 Nucleus

24. Nucleus
25. More on Nucleus
26. Chromosomes, Nucleolus

#### 4.4 Prokaryotic And Eukaryotic Cell

27. More on Difference between Prokaryotic and Eukaryotic Cells

## Chapter # 05

## Variety of Life (18 Videos)

### 5.1 Nomenclature

1. Taxonomic Hierarchy
2. Binomial Nomenclature

### 5.2 Two To Five Kingdom Classification Sys

3. Two Kingdom Classification System
4. Three Kingdom Classification System
5. Five Kingdom System
6. More on Five Kingdom Classification System

### 5.3 Viruses

7. Viruses
8. Virus, Living or Non-Living
9. Characteristics of Virus
10. Structure of Viruses
11. Structure of Bacteriophage
12. Lytic Cycle of Bacteriophage
13. Lysogenic Cycle of Bacteriophage
14. Classification of Viruses, Enveloped, Reterovirus
15. Herpes
16. Measles
17. Small Pox, Mumps, Influenza
18. Structure of Influenza
19. Poliomyelitis
20. Structure of HIV, Retrovirus
21. Life Cycle of HIV
22. Symptoms and Treatment of AIDS
23. Hepatitis A, B, C
24. Hepatitis D, E, F

## Chapter # 06

### Kingdom Prokaryotae (Monera) (20 Videos)

#### 6.1 Discovery of Bacteria

1. Taxonomy of Prokaryotes
2. Discovery of Bacteria

#### 6.2 Occurrence of Bacteria

3. Occurrence of Bacteria

#### 6.3 Structure of Bacteria

4. Size of Bacteria

5. Kinds of Bacteria
  6. Flagella and Its Structure
  7. Structure of Bacteria (Capsule, Pili and Slime)
  8. Cell Wall of Bacteria
  9. Cell Membrane, Cytoplasmic Matrix
  10. Structure of Bacteria
  11. Mode of Nutrition in Bacteria
  12. Respiration and Growth in Bacteria
  13. Reproduction in Bacteria
- 6.4 Importance of Bacteria**
14. Beneficial Bacteria, Harmful Bacteria
  15. Control of Bacteria
  16. Immunization and Vaccination
- 6.5 Uses And Misuse of Antibiotics**
17. Antibiotics
- 6.6 Characteristics of Cyanobacteria**
18. Cyanobacteria
- 6.7 Economic Importance**
19. Economic Importance of Cyanobacteria
- 6.8 Nostoc**
20. Nostoc

## Chapter # 07

### The Kingdom Protista (Or Protoctista) (11 Videos)

- 7.1 Historical Perspective**
1. General Characteristics of Protists
- 7.2 Diversity Among Protista**
2. General Characteristics of Protists
- 7.3 Major Groups of Protista**
3. More on Protozoa
  4. Zooflagellates
  5. Ciliates, Foraminifera and Actinopods
  6. Apicomplexans
  7. Brown Algae, Red Algae and Green Algae
  8. Euglenoids, Dinoflagellates and Diatoms
  9. Economic Importance of Algae
- 7.4 Fungus- Like Protists**

- 10. Fungi like Protists: Myxomycota
- 11. oomycota

# Chapter # 08

## Fungi The Kingdom of Recyclers (16 Videos)

### 8.1 The Body of Fungus

- 1. Characteristics of Fungic
- 2. Characteristics of Fungi
- 3. Taxonomic Status of Fungi

### 8.2 Nutrition In Fungi

- 4. Nutrition in Fungi
- 5. Mutualism, lichen
- 6. Mycorrhizae

### 8.3 Reproduction

- 7. Reproduction in Fungi

### 8.4 Classification of Fungi

- 8. Classification of Fungi, Zygomycota
- 9. Ascomycota
- 10. Basidiomycota
- 11. Life Cycle of Smut
- 12. Deuteromycota

### 8.5 Land Adaptation of Fungi

- 13. Land Adaptation of Fungi

### 8.6 Importance of Fungi

- 14. Importance of Fungi
- 15. Economic Gains Due to Fungi
- 16. Economic Losses Due to Fungi

# Chapter # 09

## Kingdom Plantae (42 Videos)

### 9.1 Classification of Plantae

- 1. General Characteristics of Plants
- 2. Classification of Plantae

### 9.2 Division Bryophyta



3. Division Bryophyta
4. General Features of Bryophytes
5. Alternation of Generation in Bryophyta
- 9.3 Adaption to Land Habitat**
  6. The Land Adaptions of Bryophytes
  7. Funaria
  8. Protection of Reproductive Cells
- 9.4 Classification**
  9. Classification of Liverworts
  10. Moss
  11. Life Cycle of Moss
  12. Hornworts
  13. Alternation of Generation (Liverworts, Mosses and Hornworts) and Sign
- 9.5 Division Tracheophyta**
  14. Division Tracheophytes
- 9.6 Psilopsida (Psilophyta)**
  15. Psilopsida
- 9.7 Evolution of Leaf**
  16. Evolution of Leaf
- 9.8 Lycopsida**
  17. Lycopsida
- 9.9 Sphenopsida**
  18. Sphenosida
- 9.10 Pteropsida**
  19. Pteropsida
  20. Class Filicineae
  21. Adiantum
  22. Life Cycle of Adiantum
- 9.11 Evolution of Seed Habit**
  23. Evolution of Seed
  24. Seed bearing Vascular Plants
  25. Gymnosperms
  26. Conifers
  27. Sporophytes of Pinus
  28. Gametophytes of Pinus
  29. Life Cycle of Pinus
  30. Cycads
  31. Ginkgo
  32. Plant Body of Angiosperms
  33. Life Cycle of a Flowering Plant
  34. Seed and fruit Formation
  35. Comparison of Monocots and Dicots

36. Family Rosaceae
37. Family Solanaceae
38. Family Papilionaceae
39. Family Caesalpiniaceae
40. Family Mimosaceae
41. Family Poaceae
42. Importance of Angiosperms

# Chapter # 10

## Kingdom Animalia (47 Videos)

### 10.1 Introduction

1. Characteristics of Animals
2. More on Characteristics of Animals

### 10.2 Development of Complexity In Animals

3. Criteria for Animal Classification

### 10.3 Grade Radiata

4. Grade Radiata, Bilateria

### 10.4 Grade Bilateria

5. Grade Radiata, Bilateria
6. Protostomes versus Deuterostomes
7. Diploblastic and Triploblastic Organization

### 10.5 Parazoa

8. Phylum Protozoa
9. Phylum porifera
10. Generalized Sponge Anatomy

### 10.6 Grade Radiata

11. Phylum Coelenterata
12. Advance Phylum Coelenterata
13. Hydra, Jelly Fish

### 10.7 Grade Bilateria

14. Phylum Platyhelminthes
15. More on Phylum Platyhelminthes
16. Liver Fluke, Tapeworm
17. Phylum Nematoda
18. More on Phylum Nematoda
19. Diseases Caused by Pathogenic Worms (Round Worms)
20. Phylum Annelida
21. More on Phylum Annelida
22. Classes of Annelida

23. Diseases Caused by Pathogenic Worms (Thread Worm & Flat Worms)
24. Phylum Arthropoda
25. More on Phylum Arthropoda
26. Classification of Arthropods
27. Metamorphosis
28. Some Insects Being The Vectors of Diseases
29. Phylum Mollusca
30. More on Phylum Mollusca
31. Echinodermata
32. More on Phylum Echinodermata
33. Phylum Hemichordata
34. General Features of Chordates
35. Subphylum, Uro and Cephalo Chordates
36. Subphylum Vertebrata (Craniata), Jawless Fish
37. Class Pisces (Fishes)
38. Class Chondrichthyes
39. Class Osteichthyes
40. Adaptations in Fishes to Aquatic Life
41. Class Amphibia
42. Class Reptilia
43. Class Aves
44. Flying Birds and Running Birds
45. Class Mammalia
46. Egg Laying and Pouched Mammals
47. Placental Mammals

# Chapter # 11

## Bioenergetics (25 Videos)

### **11.1 Photosynthesis**

1. Basic Introduction
2. Metabolism
3. Oxidation-Reduction Reactions
4. Photosynthesis
5. Chloroplasts, The Sites of Photosynthesis
6. Chloroplast Convert Energy

### **11.2 Photosynthetic Pigments**

7. Role of Photosynthetic Pigments, Carotenoids

### **11.3 Light-The driving Energy**

8. Absorption Spectrum
9. Action Spectrum

### **11.4 Role of Carbon Dioxide: A Photosyntheti**

10. Role of Carbon Dioxide as one of the raw materials of Photosynthesis

### **11.5 Reactions of Photosynthesis**

- 11. More on Photosynthesis
- 12. More on Light Reaction
- 13. Non-cyclic Phosphorylation
- 14. Cyclic Phosphorylation
- 15. Synthesis of ATP, Chemiosmosis
- 16. More on Dark Reaction

### **11.6 Respiration**

- 17. Respiration
- 18. Anaerobic Respiration
- 19. Types of Fermentation
- 20. Aerobic Respiration
- 21. Mechanism of Respiration, Glycolysis
- 22. Oxidation of Pyruvic Acid and Krebs Cycle
- 23. Respiratory chain
- 24. Oxidation Phosphorylation
- 25. Mitochondria Convert Energy

# Chapter # 12

## **Nutrition** (45 Videos)

### **12.1 Autotrophic Nutrition**

- 1. Basic definitions
- 2. Autotrophic and Heterotrophic Nutrition
- 3. Minerals Requirement in Plants
- 4. Micronutrients and Macronutrients
- 5. Role of Nitrogen and Magnesium

### **12.2 Heterotrophic Nutrition (Methods of Pla**

- 6. Autotrophic and Heterotrophic Organisms
- 7. Parasitic and Saprophytic Nutrition
- 8. More on Heterotrophic Nutrition, Parasitic and Saprophytic Nutrition
- 9. Insectivorous Plants and Symbionts
- 10. More on Insectivorous Plants
- 11. Herbivores, Carnivores, Omnivores
- 12. Frugivores, Insectivore, Parasitic, Saprozoic
- 13. More on Heterotrophic Animal Nutrition, Carnivores, Herbivores, Omni
- 14. Filter Feeders, Fluid Feeders and Macrophagous Feeder

- 15. Parasitic Nutrition
- 16. Parasitic Nutrition Classification

### **12.3 Digestion and Absorption**

- 17. Ingestion and Digestion of Food in Man
- 18. Digestion in Amoeba
- 19. Digestion in Hydra
- 20. Digestion in Planaria
- 21. Digestion in Cockroach
- 22. Nutrition in Man
- 23. Digestion in Human
- 24. More on Digestive System of Man
- 25. Human Alimentary Canal
- 26. More on Alimentary Canal Structure
- 27. Digestion in Oral Cavity
- 28. Digestion in Pharynx and Oesophagus
- 29. Digestion in Stomach
- 30. More on Digestion of Food in the Stomach
- 31. Digestion in Small Intestine
- 32. Pancreas
- 33. More on Pancreas
- 34. Liver
- 35. More on Liver
- 36. More on Jejunum
- 37. More on Digestion and Absorption of Food in the Small Intestine
- 38. Digestion in Large Intestine
- 39. More on Large Intestine
- 40. Types of Digestion
- 41. Enzymes
- 42. More on Digestive Glands

### **12.4 Some Common Diseases Related to Nutriti**

- 43. Dyspepsia, Food Poisoning
- 44. Obesity, Anorexia Nervosa
- 45. Bulimia Nervosa, Ulcer

# Chapter # 13

## **Gaseous Exchange** (31 Videos)

### **13.1 Need of Respiration Gas Exchange**

- 1. Need of Respiratory Gas Exchange

### **13.2 Advantages and Disadvantages of Gas Ex**

- 2. Advantages and Disadvantages of Gas Exchange in Air and Water

3. Advantages and Disadvantages of Gas Exchange in Air and Water
- 13.3 Gaseous Exchange in Plants**
  4. Gaseous Exchange in Plants
  5. Photorespiration
  6. Photorespiration and its Consequences
- 13.4 Respiratory Organs in Representative A**
  7. Properties of Respiratory Surface
  8. Respiration in Hydra
  9. Respiration in Earthworm
  10. Gaseous Exchange in Insects
  11. Respiration in Fish
  12. Respiration in Frog
  13. Gaseous Exchange Through Lungs
  14. Respiration in Birds
  15. The Air Passageway
  16. Structure of Human Respiratory System
  17. The Lungs
- 13.5 Mechanisms of Voluntary and Involuntary**
  18. Mechanism of Breathing in Man
  19. Inspiration (Inhalation)
  20. Expiration
- 13.6 Transport of Respiratory Gases**
  21. Transport of Oxygen
  22. Transport of (CO<sub>2</sub>)
  23. Lung Cancer
  24. Pulmonary Tuberculosis (T.B)
  25. Pneumonia, Asthma
  26. Bronchitis, Emphysema
  27. Emphysema
  28. Role of Respiratory Pigments
  29. Myoglobin
  30. Hemoglobin
  31. Lungs Volumes and Capacities

# Chapter # 14

## Transport (116 Videos)

- 14.1 Need For Transport of Materials**
  1. The Need of Transport of System
- 14.2 Transport In Plants**

2. Transport in Plants
3. Diffusion and Facilitated Diffusion
4. More on Diffusion, Active Transport, Facilitated Diffusion
5. Passive Transport and Active Transport
6. Water and Ion Uptake
7. Transport of Water
8. Absorption by Roots
9. Apoplast Pathway
10. Symplast Pathway
11. Vacuolar Pathway
12. Water Potentials
13. Plasmolysis and Pressure Potential

### **14.3 Ascent of Sap**

14. Ascent of Sap
15. More on Ascent of Sap
16. Transpiration
17. Root Pressure, Root Pressure Theory
18. Guttation
19. Imbibition
20. Bleeding

### **14.4 Types of Transpiration**

21. Cuticular Transpiration
22. Stomatal Transpiration
23. Structure of Stomata

### **14.5 Opening And Closing of Stomata**

24. Opening and Closing of Stomata
25. Starch Sugar Hypothesis
26. Influx of K<sup>+</sup> Ions
27. Factors Affecting the Rate of Transpiration
28. Transpiration is Necessary Evil

### **14.6 Translocation of Organic Solutes**

29. Phloem Tissues
30. Translocation
31. Patterns of Transport
32. Path of Transport of Organic Materials in Plants, Diffusion
33. Pressure Flow Hypothesis
34. Source - Sink Movement

### **14.7 Transport in Animals**

35. Transportation in Hydra
36. Transportation in Planaria

### **14.8 Circulatory System**

37. General Characteristics of Circulatory System
38. Open Circulatory System
39. Closed Circulatory System

- 40. Difference Between Open and Closed Circulatory System
- 41. Transportation in Earthworm
- 42. More on Transportation in Earthworm
- 43. Blood Vessel in Cockroach
- 44. Circulation in Cockroach
- 45. General Plan of Circulatory System of Vertebrates
- 46. Evolution of Vertebrate Heart (Fish)
- 47. Evolution of Vertebrate Heart (Amphibians)
- 48. Evolution of Vertebrate Heart (Reptiles)
- 49. Evolution of Vertebrate Heart (Birds & Mammal)

## **14.9 Transport in Man**

- 50. Transportation in Man
- 51. Blood Cells
- 52. Blood, Blood Plasma
- 53. Plasma
- 54. More on Plasma
- 55. Blood Cells and Cell Like Bodies
- 56. Role of Respiratory Pigments
- 57. White Blood Cells and Platelets
- 58. White Blood Cells
- 59. Agranular Leukocytes
- 60. Granular Leukocytes
- 61. Platelets
- 62. Functions of Blood
- 63. Functions of Blood
- 64. More on Functions of Blood

## **14.10 Disorders**

- 65. Leukemia
- 66. Thalassemia
- 67. Oedema

## **14.11 Pumping Organ - The Heart**

- 68. Human Heart
- 69. Structure of Human Heart
- 70. More on Structure of Human Heart
- 71. More on Structure of Human Heart
- 72. Valves of Heart
- 73. More on Valves of Heart
- 74. Circulation of Blood Inside Heart
- 75. Passage of Blood Through Heart
- 76. Cardiac Cycle
- 77. Heartbeat
- 78. Cardiovascular System
- 79. Reason For Slight Delay Between Atrial & Ventricular Contraction
- 80. S-A Node, Pace Maker, AV Node
- 81. Artificial Pacemaker



82. Blue Babies or Cyanosis
83. More on Atherosclerosis
84. Arteriosclerosis
85. Capillaries
86. Veins
87. Valves in Veins
88. Arterioles
89. Comparison of Arteries, Capillaries and Veins
90. Blood Pressure, Measuring of Blood Pressure
91. Rate of Blood Flow
92. Hypertension
93. Thrombosis
94. Prevention and Treatment of Hypertension
95. Myocardial Infarction
96. More on Myocardial Infarction
97. Stroke
98. Haemorrhage

#### **14.12      Lymphatic system**

99.        Lymphatic System
100.      Lymphatic System of Man
101.      Lymph Nodes
102.      Position of Lymph Nodes
103.      Lymph Nodes in Pelvic, Abdominal & Thoracic Cavity
104.      Lymphatic Vessels
105.      Lymphatic Capillaries
106.      Functions of Lymphatic System

#### **14.13      Immunity And Its Types**

107.      Immunity, Immunology, Immune System
108.      Antigen, Antibody
109.      b-Lymphocytes
110.      The Antibody Mediated Immune Response
111.      T-Lymphocytes
112.      Function of T-Lymphocytes
113.      Cell Mediated Immune Response
114.      Types of Immunity, Active Immunity
115.      Passive Immunity
116.      Symptoms and Treatment of AIDS

# **Class-11 (Statistics)**

**(Total Videos # 421)**

## **Chapter # 01**

### **Representation and Exploration of Data** (36 Videos)

#### **1.1 Exploring and Interpreting Data**

1. Data
2. Exploring Data
3. Interpretation of Data
4. Introducing Parameters and Statistic
5. Basic Terminologies in Statistics
6. Accuracy of Measurements & Errors
7. Qualitative/Quantitative Data
8. Types of Data(Continuous/Discrete)
9. Types of Data By Source

#### **1.2 Frequency Distribution**

10. Construction of Continuous Frequency Table
11. Problem on Construction of Continuous Frequency Table
12. Discrete Frequency Distribution
13. Cumulative Frequency Distribution

#### **1.3 Charts/Diagrams**

14. Charts/Diagrams

15. Graphical Representation of Data-Horizontal/Vertical Bar Graph
16. Graphical Representation & Interpretation of Data-Multiple Bar Graph
17. Component Bar Chart
18. Percentage Component Bar Chart
19. Composite Bar Chart
20. Graphical Representation & Interpretation of Data- Pie Graph
21. Pictograms

#### **1.4 Graphs**

22. Graphs
23. Interpretation of Data Through Graphs
24. Creating a Histogram
25. Problem on Constructing Histogram with Equal Intervals
26. Frequency Polygon
27. Cumulative Frequency Polygon
28. Graphical Representation & Interpretation of Data-Dot Graph
29. Representation and Interpretation of Data through Stem and Leaf
30. Graphical Representation & Interpretation of Data- Line Graph
31. Graph of Time Series
32. Difference Between Histogram and Histogram

#### **1.5 Types of Frequency Curves**

33. Frequency Curve
34. Common Shapes of Frequency Curves
35. Positively Skewed Frequency Curves
36. Negatively Skewed Frequency Curves

## **Chapter # 02**

### **Measure of Central Tendency or Averages (47**

Videos)

#### **2.1 Averages**

1. Average
2. Applications of Different Averages

#### **2.2 Arithmetic Mean**

3. Arithmetic Mean for Ungrouped Data
4. Problem on A.M of Ungrouped Data by Direct Method
5. Arithmetic Mean of Grouped Data by Direct Method
6. Problem on A.M for Grouped Data by Direct Method
7. Arithmetic Mean of Ungrouped Data using Short-cut Method
8. Problem on A.M for Ungrouped Data by Short formula Method
9. Arithmetic Mean of Grouped Data using Short-cut Method
10. Problem on A.M for Grouped Data by Short formula Method
11. Arithmetic Mean of Ungrouped Data using Coding Method

- 12. Problem on A.M for Ungrouped Data by Coding Method
- 13. A.M for Grouped Data by Coding Method
- 14. Problem on A.M for Grouped Data by Coding Method
- 2.3 Weighted/Combined Mean**
  - 15. Combined Arithmetic Mean
  - 16. Where to Use Arithmetic Mean
  - 17. Applications of Weighted Averages
  - 18. Introducing Weighted Average
  - 19. Problem - Weighted Average for Ungrouped Data
  - 20. Properties of Arithmetic Mean
  - 21. More on Properties of Arithmetic Mean
- 2.4 Median and Quantiles**
  - 22. Median for Ungrouped Data
  - 23. Median of Grouped Data
  - 24. Quartiles for Individual Observations
  - 25. More on Quartiles for Individual Observations
  - 26. Problem-Quartiles for Individual Observations
  - 27. Quartiles for a Frequency Distribution
  - 28. Problem-Quartiles for a Frequency Distribution
  - 29. Estimating Quartiles for Grouped Data using Graph
  - 30. Quantiles from Discrete Data
  - 31. More on Quantiles from Discrete Data
  - 32. Quartiles From Grouped Data
  - 33. More on Quartiles From Grouped Data
  - 34. Deciles and Percentiles from Grouped Data
  - 35. More on Deciles and Percentiles from Grouped Data
  - 36. Problem - Deciles and Percentiles from Grouped Data
  - 37. Problem - Deciles and Percentiles from Grouped Data
- 2.5 Mode**
  - 38. The Mode
- 2.6 Geometric Mean and Harmonic Mean**
  - 39. Geometric Mean of Ungrouped Data
  - 40. Geometric Mean for Grouped Data
  - 41. Harmonic Mean for Ungrouped Data
  - 42. Harmonic Mean for Grouped Data
  - 43. Where to Use Harmonic Mean
  - 44. Where to Use Geometric Mean
  - 45. Change in Origin and Scale
  - 46. Empirical Relationship Between Mean, Median and Mode
  - 47. Relationship Between Arithmetic, Geometric and Harmonic mean

## Chapter # 03

# Measures of Dispersion (63 Videos)

## **3.1** Dispersion

1. Applications of Dispersion
2. Dispersion

## **3.2** Range

3. Range of Ungrouped Data
4. Problem on Calculation of Range for Raw or Ungrouped Data
5. Calculation of Range for Grouped Data
6. Problem 1: Calculation of Range for Grouped Data

## **3.3** Mean Deviation

7. Mean Deviation of Ungrouped Data
8. Problem-Mean Deviation for Ungrouped Data by Mean
9. Problem-Mean Deviation for Ungrouped Data by Median
10. Mean Deviation of Ungrouped Data from Mode
11. Problem-Mean Deviation for Ungrouped Data by Mode
12. Mean Deviation of Grouped Data from Mean
13. Problem-Mean Deviation for Grouped Data by Mean
14. Mean Deviation of Grouped Data from Median
15. Problem-Mean Deviation for Grouped Data by Median
16. Mean Deviation for Grouped Data by Mode
17. Problem-Mean Deviation for Grouped Data by Mode

## **3.4** Quartile Deviation

18. Concept of Quartile Deviation
19. Problem-Concept of Quartile Deviation
20. Interquartile Range for Data Set Represented in Different Ways
21. More on Interquartile Range for Data Set Represented in Different Ways

## **3.5** Variance and Standard Deviation

22. Variance and Standard Deviation
23. Problem on Introduction to Variance & S.D
24. Variance and Standard Deviation of Ungrouped Data
25. Calculation of Variance by Direct Method
26. Variance and Standard Deviation of Ungrouped Data by Short Method
27. Variance and Standard Deviation of Ungrouped Data by Short-cut Method
28. Variance and Standard Deviation of Grouped Data
29. Variance and Standard Deviation of Grouped Data by Short Method
30. Variance and Standard Deviation of Grouped Data by Short-cut Method
31. Variance and Standard Deviation of Grouped Data by Coding Method
32. Effect of Change of Origin and Scale on S.D
33. Properties of Variance and Standard Deviation
34. More on Properties of Variance and Standard Deviation
35. More on Properties of Variance and Standard Deviation

## **3.6** Coefficient of Dispersion

- 36. Absolute and Relative Dispersion
- 37. Coefficient of Dispersion and Its Measure
- 38. Range Coefficient of Dispersion and its measure
- 39. Problem-Range Coefficient of Dispersion and its measure
- 40. Coefficient of Variation and its Measure
- 41. More on Problem-Coefficient of Dispersion and Its Measure
- 42. Quartile Coefficient of Relative Dispersion and its Measure
- 43. Quartile Coefficient of Relative Dispersion and its Measure
- 44. Mean Coefficient of Dispersion

### **3.7 Moments**

- 45. Introducing Moments
- 46. Introducing Moments
- 47. More on Introducing Moments
- 48. Problem-Introducing Moments
- 49. More on Problem-Introducing Moments
- 50. Problem-Moments for group data
- 51. Problem-Moments for group data
- 52. Prob-Relation Between Mean Moments and Raw Moments
- 53. More on Prob-Relation Between Mean Moments and Raw Moments

### **3.8 Skewed vs Unskewed Curves**

- 54. Introducing Skewness
- 55. Skewed Vs Unskewed Curves
- 56. More on Skewed Vs Unskewed Curves
- 57. Measures of Skewness
- 58. More on Measures of Skewness
- 59. Problem-Measures of Skewness

### **3.9 Kurtosis**

- 60. Kurtosis and Its Measurements
- 61. More on Kurtosis and Its Measurements
- 62. Problem-Measures of Kurtosis
- 63. More on Problem-Measures of Kurtosis

# **Chapter # 04**

## **Index Numbers (28 Videos)**

### **4.1 Introduction to Index Numbers**

- 1. Index Number
- 2. Applications of Index Numbers
- 3. Death Rates and Birth Rates

### **4.2 Main Steps to Construct Price Index Num**

- 4. Calculating Index Number By Fixed Base Method

5. More on Calculating Index Number By Fixed Base Method
6. Calculating Index Number By Chain Base Method
- 4.3 Unweighted and Weighted Price Index Num**
  7. Calculation of Unweighted Index Number by Simple Aggregative Method
  8. Problem-Unweighted Index Number by Simple Aggregative Method
  9. Calculation of Unweighted Index Number by Simple Average Method
  10. Problem-Unweighted Index Number by Simple Average Method
  11. Calculation of Unweighted Index Number by Average of Relative Method
  12. Weighted Aggregative Price Index Numbers By Laspeyres Method
  13. Weighted Aggregative Price Index Numbers By Paasches Method
  14. Weighted Aggregative Price Index Numbers By Fishers Method
- 4.4 Quantity Index Numbers**
  15. Quantity Index Number
  16. Problem - Simple Aggregative Quantity Index Number
  17. Problem - Weighted Aggregative Quantity Index Number
  18. Problem - Simple Average of Relatives Quantity Index Number
  19. Problem - Weighted Average of Relatives Quantity Index Number
- 4.5 Value Index**
  20. Value Index Number
- 4.6 Theoretical Tests of Index Number**
  21. Tests of Index Number
  22. More on Tests of Index Number
  23. Problem - Time Reversal Test
  24. Problem - Factor Reversal Test
- 4.7 Consumer Price Index Numbers**
  25. Consumer Price Index Numbers
  26. Consumer Price Vs Wholesale Price Index Numbers
  27. Problem- Consumer Price Vs Wholesale Price Index Numbers
  28. Sensitive Price Index (SPI)

## Chapter # 05

### Regression and Correlation Analysis (06 Videos)

- 5.1 Regression Analysis**
  1. Introduction to Regression
  2. Deterministic and Probabilistic Relations or Models
  3. Scatter Diagram
  4. Approximating Line by the Principle of Least Squares
- 5.2 Correlation**

5. Correlation
6. Pearson Product Moment Correlation Coefficient

# Chapter # 06

## Analysis of Time Series (15 Videos)

### 6.1 Time Series

1. Introducing Time Series
2. Applications of Time Series

### 6.2 Components of Time Series

3. Secular Trend
4. Seasonal Variations
5. Cyclical Fluctuations
6. Irregular or random variations

### 6.3 Estimation of Secular Trend

7. Method of Free Hand Curve
8. Method of Semi-Averages
9. How to Calculate Moving Averages
10. Applications of Moving Averages
11. Problem - Application for Moving Averages
12. Estimating Secular Trend by Method of Least Squares
13. Fitting a Parabola or second Degree Curve
14. Detrending
15. Time Series Decomposition

# Chapter # 07

## Set Theory (21 Videos)

### 7.1 Set Theory

1. Sets
2. Types of Set
3. Subsets
4. Basic Operations of Sets
5. Venn Diagram

### 7.2 Algebra of Sets

6. Commutative Law of Sets
7. Associative Laws
8. Idempotent Laws of Sets
9. Identity Laws of Sets



10. Complementation Law
11. Law of Double Complementation
12. Law of Empty Set and Universal Set
13. Distributive Laws

### **7.3 Counting Methods**

14. A Basic Counting Procedure
15. Introducing Factorials
16. Problem- Introducing Factorials
17. Introducing Permutations
18. Problem- Introducing Permutations (Distinct Objects)
19. Permutations When the Objects are Not Distinct
20. Introduction to Combinations
21. Problem1-Introducing Combinations

## **Chapter # 08**

### **Introduction to Probability (31 Videos)**

#### **8.1 Basic Probability**

1. Introducing Probability
2. Random Experiment
3. Sample Space
4. Basic Terminologies used in Probability
5. Types of Events
6. Probability for Multiple Event
7. Problem - Probability for Multiple Event
8. Mutually Vs Non-Mutually Exclusive Events
9. Problem - Mutually Vs Non-Mutually Exclusive Events
10. Equally Likely Vs Exhaustive Events
11. Conditional Probability
12. Properties of Probabilities

#### **8.2 Addition Law for Probability**

13. Addition Law of Probability
14. More on Applications of Addition of Probabilities
15. Addition Laws of Probability
16. Problem-Addition Laws of Probability
17. Addition of Probabilities of Overlapping Events by Venn Diagram
18. Problem-Addition of Probabilities of Overlapping Events by Venn Diagram
19. Addition of Probabilities of Disjoint Events by Venn Diagram
20. Addition of Probabilities of Subset Events

#### **8.3 Multiplication Law for Probability**

21. Multiplication Law of Probability

22. Application of Multiplication Laws of Probabilities
23. More on Application of Multiplication Laws of Probabilities
24. Multiplication of Probabilities of Dependent Events
25. Problem- Multiplication of Probabilities of Dependent Events
26. Multiplication of Probabilities of Independent Events
27. Problem-Multiplication of Probabilities of Independent Events

#### **8.4 Conditional Probability**

28. Conditional Probability
29. Application of Conditional Probability
30. Conditional Probability By Sample and Reduced Sample Space Approach
31. Prob-Conditional Probability By Sample and Reduced Sample Space Approach

## **Chapter # 09**

### **Random Variables and Distributions (43 Videos)**

#### **9.1 Random Variables**

1. Random Variables
2. Discrete Vs Continuous Random Variable

#### **9.2 Discrete Probability Distribution**

3. Introducing Probability Distribution
4. Probability Mass Function
5. Probability Distribution of Discrete Random Variable
6. More on Probability Distribution of Discrete Random Variable
7. Problem - Probability Distribution of Discrete Random Variable
8. Cumulative Distribution and Probability Mass Function
9. The Expected Value of Random Variable
10. Use of Expected Value in Decision Making
11. More on Use of Expected Value in Decision Making

#### **9.3 Continuous Probability Distribution**

12. The PDF of Continuous Distribution
13. More on The PDF of Continuous Distribution
14. Finding Area Under the Curve with Trapezoidal Rule
15. More on Finding Area Under the Curve with Trapezoidal Rule
16. Probability Density Function using Integration Method
17. Problem-Probability Density Function using Integration Method
18. More on Problem-Probability Density Function using Integration Method
19. Cumulative Distribution and Probability Density Function
20. Problem-Cumulative Distribution and Probability Density Function

#### **9.4 The Expectation of Random Variable**

21. Expectation
22. Applications of Expectation

23. How Probability Helps Expectations
24. The Expectation of a Discrete Distribution
25. Problem1-The Expectation of a Discrete Distribution
26. Problem2-The Expectation of a Discrete Distribution
27. More on Problem2-The Expectation of a Discrete Distribution
28. Laws of Expectation
29. More on Laws of Expectation
30. Addition and Subtraction Laws of Expectation
31. Multiplication Law of Expectation
32. Problem-Laws of Expectation

## 9.5 **Properties of Variances**

33. Properties of Variance1
34. Properties of Variance2
35. Properties of Variance3
36. Properties of Variance4
37. Problem1 - Properties of Variance
38. Problem2 - Properties of Variance

## 9.6 **Sum or Differences of Variances of Random Variables**

39. Variance of the Sum or Difference of Two Random Variables1
40. Variance of the Sum or Difference of Two Random Variables2
41. Variance of the Sum or Difference of Two Random Variables3
42. Variance of the Sum or Difference of Two Random Variables4
43. Problem-Variance of the Sum or Difference of Two Random Variables

# Chapter # 10

## **Binomial and Hypergeometric Distribution** (14

Videos)

### 10.1 **The Binomial Distribution**

1. The Bernoulli Distribution
2. The Binomial Distribution
3. More on Binomial Distribution
4. Visualizing Binomial Distribution
5. Probability of Binomial Distribution - Example
6. Binomial Distribution for All Possible Value of Random Variable
7. More on Binomial Distribution for All Possible Value of Random Variab
8. Problem- Probability of Binomial Distribution
9. Binomial Frequency Distribution
10. Mean of Binomial Distribution
11. Variance of Binomial Distribution

### 10.2 **The Hypergeometric Distribution**

12. Introducing Hypergeometric Distribution

13. More on Hypergeometric Distribution
14. Properties of Hypergeometric Distribution

# Chapter # 11

## The Normal Distribution (12 Videos)

### 11.1 The Normal Distribution

1. Introducing Normal Distribution
2. Cumulative Distribution Function of Normal Distribution
3. Standard Normal Distribution
4. Characteristics of the Normal Probability Distribution
5. Areas under the Normal Curve
6. Tabulated Areas of Normal Distribution
7. More on Tabulated Areas of Normal Distribution
8. Tabulated Areas of Normal Distribution for Centre Case
9. Inverse Use of Table of Areas Under Normal Curve
10. More on Inverse Use of Table of Areas Under Normal Curve1
11. Problem- Inverse Use of Table of Areas Under Normal Curve
12. Normal Approximation to the Binomial Distribution

# Chapter # 12

## Sampling and Sampling Distributions (52 Videos)

### 12.1 Basic Concepts

1. Applications of Sampling
2. Central Limit Theorem
3. Population Vs Sample
4. Population and Its Kind
5. Sample and Sampling
6. Sampling Units and Frame
7. Sampling Versus Census
8. Sampling and Non-Sampling Errors
9. Precision and accuracy
10. Limitations of Sampling
11. Sampling Design and Its Types
12. A Representative Vs Biased Sample

### 12.2 Probability And Non-Probability sampling

13. Probability and Non-probability Sampling
14. Random Digits

15. Simple Random Sampling
16. Systematic Sampling
17. Stratified Sampling
18. Cluster Sampling
19. Introducing Purposive and Quota Sampling

### **12.3 Errors in Sampling**

20. True Value, Accuracy, Precision and Error
21. Prob-True Value, Accuracy, Precision and Error
22. Prob-Simple Random Sampling and Sampling Distribution

### **12.4 Sampling and Sampling Distributions**

23. Sampling
24. Sampling Distribution
25. Sampling With Replacement and Without Replacement
26. Sampling Distribution and Standard Error of Statistic
27. Prob-Sampling Distribution and Standard Error of Statistic
28. Prob-Sampling Distribution From General Populations

### **12.5 Sampling Distributions**

29. Sampling Distribution of Mean
30. More on Sampling Distribution of Mean
31. Graphical Representation of Sampling Distribution of Means
32. Standard Deviation of the Sampling Distribution With Replacement
33. More on Standard Deviation of the Sampling Distribution With Replacem
34. Problem- Standard Deviation of Sampling Distribution With Replacement
35. Standard Deviation of Sampling Distribution Without Replacement
36. More on Standard Deviation of Sampling Distribution Without Replaceme
37. Sampling Distribution of Difference of Means
38. Variance of Difference of Random Variables
39. More on Sampling Distribution of Difference of Means
40. More on Difference of Variance of Random Variables
41. Problem-Sampling Distribution of Difference of Means
42. More on Problem-Sampling Distribution of Difference of Means
43. Further to Problem-Sampling Distribution of Difference of Means
44. Further to Problem-Sampling Distribution of Difference of Means
45. Sampling Distribution of Proportions
46. Problem- Sampling Distribution of Proportions
47. More on Problem- Sampling Distribution of Proportions
48. More on Problem- Sampling Distribution of Proportions
49. Sampling Distribution of Difference between Proportions
50. Sampling Distribution of Variances
51. More on Sampling Distribution of Variances
52. Further stuff on Sampling Distribution of Variances

# Chapter # 13

## Statistical Inference: Estimation (17 Videos)

### 13.1 Statistical Inference

1. Introducing Statistical Inference
2. Estimates and Estimators
3. Statistic and Estimator

### 13.2 Point Estimation

4. Introducing Point Estimation

### 13.3 Unbiased Estimator

5. Introducing Unbiased Estimator
6. Unbiased Estimation of the Variance

### 13.4 Confidence Interval

7. Introducing Confidence Interval
8. Confidence Interval for Means with Large Samples
9. Confidence Interval for  $\mu$  when  $\sigma^2$  is Unknown
10. Confidence Interval for Differences between Means with Large Sample s
11. Confidence Interval for Mean with Small Sample
12. Problem-Confidence Interval Estimates of Mean From Small Samples
13. Confidence Interval for differences between Means for small samples w
14. Confidence Interval for Paired Observations
15. Confidence Interval for Proportions
16. Confidence Intervals for Difference Between Proportions
17. Confidence Interval for Paired Observations

# Chapter # 14

## Statistical Inference: Hypothesis Testing (27 Videos)

### 14.1 Basic Concepts

1. Testing hypothesis
2. Formulation of Null and Alternative Hypothesis
3. Prob-Formulation of Null and Alternative Hypothesis
4. Simple and Composite Hypothesis
5. Test-Statistics
6. Acceptance and Rejection Regions
7. Type 1 and 2 Errors
8. The Significance Level

9. One Tailed and Two Tailed Test
10. General Procedure for Testing Hypothesis
11. Left Tailed and Right Tailed Tests
12. Prob-Left Tailed and Right Tailed Tests
13. Deciding Upon an Appropriate Test
14. Level of Significance and Level of Confidence

## **14.2 Testing Hypothesis about Population Mean**

1. Testing Hypothesis about Mean of a Normal population when Sigma is kn
2. Testing Hypothesis about Mean of a Normal population when Sigma is Un
3. The Students t Distribution
4. Comparing the Mean of Two Normal Populations
5. Comparing the Means of Two Normal Distributions with unequal Unknown
6. The Paired t Test

## **14.3 Testing Hypothesis about Population Pro**

7. Test Based on Normal Approximation
8. Example- Test Based on Normal Approximation
9. Test of Hypothesis About the Difference Between Two Population Proport
10. Prob-Test of Hypothesis About the Difference Between Two Population P
11. Testing That Difference Between Two Population Proportions Equals Som
12. Prob-Testing That Difference Between Two Population Proportions Equal

# **Chapter # 15**

## **Association of Attributes (09 Videos)**

### **15.1 The Association of Attributes**

1. Variables and Attributes
2. Classification by Attributes
3. Independence and Criterion of Independence
4. Association of Attributes
5. Coefficient of Association
6. Categorical data
7. Contingency Tables
8. Testing Hypothesis of Independence between Attributes
9. Yates Correction for Continuity

# **Class-11 (Accounting)**

(Total Videos # 258)

## **Chapter # 01**

### **Introduction to Accounting** (25 Videos)

#### **1.1 Introduction to Accounting**

1. Need, Importance and Objectives of Accounting
2. What is Accounting?
3. Book-Keeping Versus Accounting
4. Branches of Accounting
5. Types and Forms of Business
6. Accounting System

#### **1.2 Important Accounting Terms**

7. Transaction, Goods, Stock and Account
8. Sales, Debtors, Purchases and Creditors
9. Discount and Commission
10. Proprietor, Capital, Liability, Equity and Drawings
11. Expense, Expenditure, Assets and Income

#### **1.3 Accounting Principles**

12. Accounting Principles

#### **1.4 Accounting Concepts**

13. Separate Entity and Going Concern Concept
14. Accounting Period and Matching Concept
15. Cost Concept
16. Realization Concept
17. Substance over Form Concept
18. Money measurement Concept
19. Dual Aspect Concept

#### **1.5 Accounting Conventions**

20. Conservatism Convention
21. Full Disclosure Convention
22. Consistency Convention
23. Materiality Convention

#### **1.6 Qualitative Characteristics of Financial Accounting Information**

24. Relevance and Reliability



## Chapter # 02

### Transactions and Accounting Equation (04 Videos)

#### 2.1 What is an Event?

1. Events and Transactions
2. Classification of Transactions

#### 2.2 The Accounting Equation

3. Accounting Equation
4. Accounting Equation (Problem)

## Chapter # 03

### Analysis of Business Transactions and Do (12 Videos)

#### 3.1 Analysis of Business Transactions

1. Analysis of Transactions
2. More on Analysis of Transactions

#### 3.2 Double Entry System

3. Double Entry System
4. Single Entry System
5. Statement of Affairs Method
6. Conversion Method

#### 3.3 What is an Account?

7. Account and its Classification
8. Problem: Classification of Accounts

#### 3.4 Rules For Debiting and Crediting

9. Debit and Credit Rules of Accounting
10. Explanation of Debit and Credit Rules of Accounting

#### 3.5 Numericals

11. Analysis of Business Transactions and double entry system
12. Analysis of Business Transactions and double entry system

# Chapter # 04

## Journal: The Original Book of Entry (11 Videos)

- 4.1 Accounting Cycle
  - 1. Accounting Cycle
- 4.2 Journal: Book of Original Entry
  - 2. Journal
  - 3. General Journal (Problem 1)
  - 4. Problem 2: General Journal
  - 5. Problem 3: General Journal
- 4.3 Types of Entries
  - 6. Simple Entry and Compound Entry
- 4.4 Transactions Between Business and Its P
  - 7. Capital and Drawing Account
  - 8. Cash Discount
- 4.5 Numericals
  - 9. Journal: The original book of Entry (Numerical 1)
  - 10. Journal: The original book of Entry
  - 11. Journal: The original book of Entry (Numerical 2)

# Chapter # 05

## Ledger: The Main Books of Account (14 Videos)

- 5.1 Ledger: Main Book of Accounts
  - 1. Ledger: The Main Book of Accounts
- 5.2 Forms of Ledger Accounts
  - 2. Posting to the Ledger Account
  - 3. Posting to the Ledger Account: Illustration
  - 4. Self-Balancing Form of Ledger Account
- 5.3 Trial Balance
  - 5. Trial Balance
  - 6. Methods of Trial Balance
  - 7. More on Methods of Trial Balance
  - 8. Total-cum-balances Method
  - 9. Problem 2: Recording Transactions in Journal, Ledger & Trial Balance
  - 10. More on Recording Transactions in Ledger
  - 11. More on Recording Transactions in Trial Balance

## 5.4 Numericals

12. Ledger: The Main Book of Accounts
13. Ledger: The Main Book of Accounts
14. Trial Balance

# Chapter # 06

## Bills of Exchange (25 Videos)

### 6.1 Introduction to Bills of Exchange

1. Bills of Exchange
2. Important Terms Used in Bills of Exchange
3. Types and Classification of Bills of Exchange
4. Difference between Bills of Exchange and Cheque

### 6.2 How Transactions Relating to Bills of E

5. Bills Receivable and Bills Payable Books
6. Accounting Treatment For Bills Receivable and Bills Payable
7. Recording of Transactions in the books of Drawer
8. Recording of Transactions in the books of Drawee

### 6.3 Aspects of Bills of Exchange

9. Illustration 1: Drawing, Acceptance and Payment of Bills
10. Illustration 2: Discounting of a Bill
11. Illustration 3: Bills for Collection
12. Illustration 4: Endorsement of a Bill
13. Illustration 5: Dishonour of a Bill
14. Illustration 6: Renewal of a Bill
15. Illustration 7: Retiring of a Bill
16. Illustration 8: Accommodation Bills

### 6.4 Promissory Note

17. Promissory Note

### 6.5 Numericals

18. Bills of Exchange-Numerical 1
19. Bills of Exchange-Numerical 1
20. Bills of Exchange-Numerical 2
21. Bills of Exchange-Numerical 2
22. Bills of Exchange-Numerical 3
23. Bills of Exchange-Numerical 3
24. Numerical 4: Accommodation Bill
25. Numerical 4: Accommodation Bill

# Chapter # 07

## Special Journals (18 Videos)

### 7.1 Introduction to Special Journal

1. Subdivision of Journal

### 7.2 Business Documents

2. Invoice
3. Debit Note
4. Credit Note
5. Receipt and Statement of Account
6. Cheque

### 7.3 Purchases Journal

7. Purchases Journal
8. Distinction between Purchases Journal and Purchases Account
9. Purchases Returns Journal
10. Problem: Purchases Returns Journal

### 7.4 Sales Journal

11. Sales Journal
12. Sales Returns Journal
13. Problem: Sales Returns Journal

### 7.5 Numericals

14. Numerical 1: Purchase Journal
15. Numerical 2: Sales Journal
16. More on Numerical 2: Posting of Sales Journal into Ledger Accounts
17. Numerical 3: Purchases Returns Journal
18. Numerical 4: Sales Returns Journal

# Chapter # 08

## Cash Book and Bank Reconciliation Statement (22 Videos)

### 8.1 Cash Book

1. Introduction to Cash Book

### 8.2 Classification of Cash Book

2. Simple Cash Book
3. Double column Cash Book
4. Posting from Cash Book to concerned Accounts in Ledger
5. Three Column Cash Book

### **8.3 Opening an Account with a Bank**

6. Opening an Account with a Bank
7. Accounting Treatment of Cheques
8. Dishonour of Cheques
9. Some Special Banking Transactions
10. More on Some Special Banking Transactions

### **8.4 Bank Reconciliation Statement**

11. What is Bank Reconciliation Statement?
12. Distinction between Cash book and Pass Book
13. Preparation of Pass Book

### **8.5 Recording Transactions in Cash Book and**

14. What is Meant by 'Rectification'?

### **8.6 Different causes of Disagreement**

15. Causes of Disagreement between Cash Book and Pass Book

### **8.7 Preparation of Bank Reconciliation Statement**

16. Bank Reconciliation Statement: When Cash Book Balance is given.
17. Bank Reconciliation Statement: When Pass Book Balance is given.
18. Bank Reconciliation Statement: When unfavourable Cash Book Balance is
19. Bank Reconciliation Statement: When unfavourable Pass Book Balance is

### **8.8 The Petty Cash Book**

20. Systems of Petty Cash Accounting
21. The Petty Cash Book
22. Problem: Petty Cash Book

## **Chapter # 09**

### **Journal Proper and Summary of Book Keepi (02 Videos)**

#### **9.1 Journal Proper: Divisions of Transactio**

1. Opening and Closing Entries
2. Closing Entries
3. Adjustment and Entries
4. Rectifying Entries
5. Transfer Entries
6. Rare Transactions or Residuary Entries

#### **9.2 Summary of Book Keeping**

7. Problem 2: Recording Transactions in Journal, Ledger & Trial Balance
8. More on Recording Transactions in Ledger
9. More on Recording Transactions in Trial Balance

# Chapter # 10

## Final Accounts: The Completion of Account (27

Videos)

### 10.1 Final Accounts-Different kind of Busine

1. Trading, Manufacturing and Service concerns

### 10.2 Final Accounts

2. Expense
3. Categories of Expense
4. Revenue and Income
5. Types and Source of Revenue
6. Matching Revenue and Expenses
7. Trading Account-Basic Level
8. Different Items of Trading Account-Debit side
9. More on Different Items of Trading Account-Debit side
10. Different Items of Trading Account-Credit side
11. Valuation of Closing Stock
12. More on Valuation of Closing Stock
13. Problem 1: Trading Account
14. Trading, Profit and Loss Account
15. Different Items of Profit and Loss Account-Debit side
16. More on Different Items of Profit and Loss Account-Debit side
17. Different Items of Profit and Loss Account-Credit side
18. Problem 2: Profit and Loss Account
19. Problem 3: Trading, Profit and Loss Account
20. Problem 4: Revised Trial Balance
21. Balance Sheet-Basic Level
22. Asset
23. Types of Assets
24. Liabilities
25. Types of Liabilities
26. Equity
27. Problem 5: Statement of Financial Position / Balance Sheet

# Chapter # 11

## Adjustments and their Effects on Final A (39 Videos)

### 11.1 Adjustments and their Effects on Final

1. Accounting System

2. Need and Types of Adjustments
3. Accrued Expenses or Outstanding Expenses
4. Prepaid Expenses or Unexpired Expenses
5. Accrued Revenue or Revenue Receivable
6. Unearned Revenue or Revenue Received in Advance
7. Depreciation of Assets
8. Methods of Depreciation
9. Interest on Capital and Drawings
10. Bad Debts
11. Doubtful Debts & Difference between Bad and Doubtful Debt
12. Treatment of Bad debts & Provision for Doubtful Debts
13. Illustration: Treatment of Bad debts & Provision for Doubtful Debts
14. More on Illustration: Treatment of Bad debts & Provision for Doubtful
15. More on Illustration: Treatment of Bad debts & Provision for Doubtful
16. Problem 1: Adjustments and their Effect on Final Accounts
17. Problem 1: More on Adjustments and their Effect on Final Accounts
18. Problem 1: More on Adjustments and their Effect on Final Accounts (II)
19. Problem 2: Adjustments and their Effect on Final Accounts
20. Problem 2: More on Adjustments and their Effect on Final Accounts
21. Problem 2: More on Adjustments and their Effect on Final Accounts (II)
22. Provision for Discount on Debtors & Creditors
23. Some Typical Problems in Final Accounts
24. Recovery of Bad Debts
25. Loss of Goods
26. Closure of Abnormal Loss Account
27. Treatment of Loan Borrowed & Lent
28. Treatment of Depreciation and Profit or Loss on sale of Fixed Assets
29. Interest on Loan & Income Tax
30. Manager's Commission and Agreement of Balance Sheet by opening Suspen
31. Adjustments of Errors in Final Accounts
32. Adjustments of Errors in Final Accounts(II)
33. Adjustments of Errors in Final Accounts (III)

## **11.2 Numericals**

34. Numerical 1: Adjustments and their Effects on Final Accounts
35. More on Numerical 1: Adjustments and their Effects on Final Accounts
36. More on Numerical 1: Adjustments and their Effects on Final Accounts
37. Numerical 2: Adjustments and their Effects on Final Accounts
38. More on Numerical 2: Adjustments and their Effects on Final Accounts
39. More on Numerical 2: Adjustments and their Effects on Final Accounts

# **Chapter # 12**

## **Work Sheet (03 Videos)**

## **12.1 Work Sheet**

1. What is Worksheet?
2. Work Sheet
3. More on Work Sheet

# **Chapter # 13**

## **Financial Statements (17 Videos)**

### **13.1 Income Statement**

1. Statement of Profit or Loss - General
2. Manufacturing Account or Cost of Goods sold Statement
3. Problem 1: Income Statement

### **13.2 Effects of Adjustment on Financial Stat**

4. Accrued Expenses or Outstanding Expenses
5. Prepaid Expenses or Unexpired Expenses
6. Accrued Revenue or Revenue Receivable
7. Unearned Revenue or Revenue Received in Advance
8. Depreciation of Assets
9. Interest on Capital and Drawings
10. Inventory-Opening and Closing

### **13.3 Balance Sheet-Advance Level**

11. Balance Sheet-Advance Level
12. Problem 1: Balance Sheet
13. Problem 2: Balance Sheet

### **13.4 Numericals**

14. Numerical 1: Statement of Profit or Loss
15. Numerical 1: Statement of Profit or Loss
16. Numerical 1: Statement of Profit or Loss
17. Numerical 2: Statement of Financial Position

# **Chapter # 14**

## **Capital and Revenue (12 Videos)**

### **14.1 Capital and Revenue Expenditure**

1. Capital Expenditure



2. List of Capital Expenditure
3. List of Capital Expenditure - II
4. Revenue Expenditure
5. List of Revenue Expenditure
6. Problem 1: Identification of Revenue and Capital
7. Problem 2: Identification of Revenue and Capital
8. Exceptions to the Revenue Expenditure
9. Capital and Revenue Receipts and Profits
10. Capital and Revenue Losses and Payments

## **14.2 Numericals**

11. Numerical 1: Capital and Revenue Expenditure
12. Numerical 2: Capital and Revenue Expenditure

# **Chapter # 15**

## **Rectification of Errors (20 Videos)**

### **15.1 Rectification of Errors**

1. What is Rectification of Errors and types of Errors
2. Book-keeping Errors
3. More on Book-keeping Errors
4. Trial Balance Errors
5. Rectifying the Errors

### **15.2 Error causing Disagreement in Ledger an**

6. Problem 1: One sided Error
7. Problem 2: Two sided Error
8. Accounts before and after Rectification of Errors
9. Suspense Account
10. One-sided Errors at Different stages
11. Two-sided Errors at Different Stages

### **15.3 Effect of Errors on the Final Accounts**

12. Effect of Errors on Net Profit
13. Problem: Effects of Errors on Income Statement
14. Effect of Errors on Balance Sheet
15. Problem: Effect of Errors on Balance Sheet
16. Problem: More on Effects of Errors on Balance Sheet

### **15.4 Numericals**

17. Numerical 1: Rectification of Errors
18. Numerical 2: Rectification of Errors
19. Numerical 3: Preparation of Suspense Account from Entries
20. State the Effects of Errors on Final Accounts