**Excel lesson plan along with assignments (20 hours long lab class)**

***Page/Illustration/Example/Exercise number are valid only for textbook Basic Statistics Using Excel @Kriti Publication***

***It is equally useful for all the textbooks just ignore mentioned Page/Illustration/Example/Exercise number***

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| **SN** | **Lesson** | **Illustration *Data*** (Sheet #) | **Assignment *Data*** (Sheet #) | **Time** |
| 1 | Construction of discrete frequency distributionConstruction of continuous frequency distribution**(Chapter 3)** | p32 ***Ungroup*** (Sheet 2)p34 ***Ungroup*** (Sheet 2) | Exercise 3p39 # 8 ***Discrete 3*** (Sheet 3) | 1 hour |
| 2 | Simple, sub-divided, multiple, percentage bar chart, pie chart **(Chapter 4)** | p64 Illustration 1***Tourists*** (Sheet 4), p66 Illustration 2 ***Income 3*** (Sheet 5), p67 Illustration 3 ***Campus*** (Sheet 6), p69 Illustration 4 ***Population*** (Sheet 7), p70 Illustration 5 **Area** (Sheet 8) |  Exercise 4 # 1 ***Films*** (Sheet 16)5 ***Family*** (Sheet 19)#7 ***Investment*** (Sheet 20)# 8 ***Building*** (Sheet 21) | 1 hour |
| 3 | Histogram for individual series using pivot table, histogram of continuous series and location of mode, frequency polygon with histogram, frequency curve with histogram, frequency polygon only **(Chapter 4)** | p73 Illustration 7 ***Age*** (Sheet 10)p76 Illustration 8 ***Histogram*** (Sheet 11) | Exercise 4 #20 ***IQ Score*** (Sheet 25) # 14 ***Gym*** (Sheet 22) | 1 hour |
| 4 | Less than ogive and location of positional values, number of respondents below/above/between some particular values, two ogives and location of median **(Chapter 4)** | pP79 Illustration 10 ***Profit*** (Sheet 13) | Exercise 4 #15 ***Sales commission*** (Sheet 23) | 1 hour |
| 5 | Stem-leaf-plot **(Chapter 4)** | p86 Illustration 11 ***Marks 5*** (Sheet 14) | Exercise 4  #20 ***IQ score*** (Sheet 25) | 1 hour |
| 6 | Measures of central tendency for individual series **(Chapter 5)** | ***Age 2*** (Sheet 135),p132 Illustration 6 ***Position*** (Sheet 33) | Exercise ***5***# 15a ***Individual*** (Sheet 41) | 1 hour |
| 7 | Measures of central tendency for discrete series **(Chapter 5)** |  p116 Ex 23 ***Statistics*** (Sheet 132) | Exercise 5# 16 ***Exchange*** (Sheet 42) |
| 8 | Measures of central tendency for continuous series **(Chapter 5)** | ***Central tendency*** (Sheet 133) | Exercise 5# 17a ***Students*** (Sheet 43), # 28 ***Daily wage*** (Sheet 46) |
| 9 | Application of measures of central tendency **(Chapter 5)** | p119 Ex 26 ***Application*** (Sheet 134) | Exercise 5# 18 ***Recipients*** (Sheet 44),# 19a ***Factory*** (Sheet 45) | 1 hour |
| 10 | Descriptive statistics using Analysis ToolPak **(Chapter 5)** | ***Weight*** (Sheet 136) | ***Light bulbs*** (Sheet 47) |
| 11 | Measures of dispersion for individual series **(Chapter 6)** | ***Age dispersion*** (Sheet 137) | ***Age 3*** (Sheet 138) | 1 hour |
| 12 | Measures of dispersion for discrete series **(Chapter 6)** | ***Discrete dispersion*** (Sheet 139) | Exercise 6# 2 ***Member*** (Sheet 56), # 8d ***Group*** (Sheet 59) |
| 13 | Measures of dispersion for continuous series **(Chapter 6)** | ***Dispersion*** (Sheet 140) | Exercise 6 # 3 ***Mid-point*** (Sheet 57)#4a ***Wages*** (Sheet 58)# 10 B***ulbs*** (Sheet 60) |
| 14 | Skewness & kurtosis (Karl Pearson’s and Bowley’s coefficient of skewness, and Kurtosis by ***Kurtosis is test of normality*** **(Chapter 7)** | p192 Illustration 2 ***Asset*** (Sheet 64) [for Sk (P) and Sk (B)]p196 Illustration 6 ***Light Bulbs 1*** (Sheet 68) | Exercise 7# 10 ***Marks 6*** (Sheet 69), # 14 ***Mid-value*** (Sheet 70) | 1 hour |
| 15 | Box-plot **(Chapter 7)** | ***Box-plot 1*** (Sheet 141) | ***Five-number 1*** (Sheet 142) | 1 hour |
| 16 | ***Correlation:***1. Product Moment formula
2. Built-in formula
3. Scatter plot
4. Using Analysis ToolPak
5. Probable Error(PE)
6. Test of significance of (Rho) using PE
7. Limits of population correlation coefficient 

Rank correlation coefficient for non-repeated and repeated observations **(Chapter 8)** | ***Correlation*** (Sheet 143) | Exercise 8# 8 ***Height\_Weight*** (Sheet 79) also plot scatter-plot, # 9 ***Expense*** (Sheet 80), #19 ***Judges*** (Sheet 82), # 20 ***Advertisement*** (Sheet 83) | 1 hour |
| 17 | ***Regression***:Built-in function (Y on X, estimation of Y for given value of X, Syx , R2, X on Y, verification of $r= \sqrt{b\_{yx }b\_{xy}}$ ), interpretation of byx , Syx , R2 , Scatter-plot along with trend line (line of regression), regression model and R2.Regression using Analysis ToolPak (Significance of regression model and regression coefficient) **(Chapter 9)** | ***Regression 1*** (Sheet 85) | Exercise 9# 9 ***Operator*** (Sheet 87) also plot scatter-plot along with trend line, calculate R2 and interpret it. # 10 ***Car*** (Sheet 88), #12 ***BP 1*** (Sheet 89)  | 1 hour |
| 18 | Permutation, combination, laws of probability, solving problems of probability using combination **(Chapter 10)** |  p274 Illustration 5 ***Selection*** (Sheet 93), p285 Illustration 1 ***Problem*** (Sheet 97) | Exercise 10A #7***Commission*** (Sheet 94) # 9 ***Ladies*** (Sheet 95) #12 ***Engineer*** (Sheet 96) Exercise 10B#4 ***Interview*** (Sheet 98) #9 ***Husband*** (Sheet 99) #10 ***Solve*** (Sheet 100) | 1 hour |
| 19 | Solving problems of probability for contingency table along with statistical independency **(Chapter 10)** |  p293 ***HDTV*** (Sheet 145) | Exercise 10C#1 ***Department*** (Sheet 146)#2 ***Independency*** (Sheet 147) | 1 hour |
| 20 | Bayes’ theorem and Mathematical expectation **(Chapter 10 and 11)** | p300 Illustration 3 ***Company 1*** (Sheet 103)p309 Illustration 2 ***Coins*** (Sheet 108)p310 Illustration 3 ***Suzuki*** (Sheet 109) | Exercise 10C***#11Manager*** (Sheet 105)Exercise 11A***#1 Expectation*** (Sheet110)#14 ***Admission*** (Sheet 111)#15 ***Him (Sheet 112)***#16 ***Contractor*** (Sheet 113) | 1 hour |
| 21 | Binomial distribution and fitting **(Chapter 11)** | ***Binomial*** (Sheet 148), p322 Illustration 3 ***Fitting of Binomial*** (Sheet 115)p323 Illustration 4 ***binomial 1*** (Sheet 117) | Exercise 11B #12 ***Head*** (Sheet 118) #16 ***Computer chips*** (Sheet 119) #20 ***Dice 1*** (Sheet 120) | 1 hour |
| 22 | Poisson distribution and its fitting and Normal distribution **(Chapter 11)** | ***Poisson Distribution******Poisson*** (Sheet 149)p328 Ex 18 ***Phone call*** (Sheet 150)p329 Ex 22 ***Airport*** (Sheet 151)p331 Ex 25 ***Fitting of Poisson*** (Sheet 152)***Normal distribution*** ***Exam*** (Sheet 160) p350 Illustration 1 ***Intelligence*** (Sheet 156) | ***Poisson Distribution*** ***Car1*** (Sheet 153)  ***Mistakes*** (Sheet 122) ***Telephone*** (Sheet 154) ***Defective 1*** (Sheet 155)***Normal distribution******IQ Test*** (Sheet 157) ***Potato*** (Sheet 158) ***Richest*** (Sheet 159) | 1 hour |
| 23 | Sampling distribution without replacement (finite population) and with replacement (infinite population) and its frequency and probability distribution**(Chapter 12)** | P379 Illustration 1 ***Computer*** (Sheet 123)***SRSWR*** (Sheet 125) | ***Population 2*** (Sheet 144)  ***Number*** (Sheet 161) | 1 hour |
| 24 | CI for population mean and proportion for finite and infinite population **(Chapter 13)** | ***Infinite*** (Sheet 162) ***Finite*** (Sheet 163) ***Proportion finite*** (Sheet 164) |  ***Problems finite*** (Sheet 126) | 1 hour |
| 25 | ***Hypothesis test:*** 1. One sample mean test (one tail and two tail test; critical value approach, p-value approach and CI approach)
2. Two sample means test (one tail and two tail test (critical value and p-value approach)
3. One sample proportion test (one tail and two tail test (critical value and p-value approach)
4. Two sample proportions test(one tail and two tail test (critical value and p-value approach) **(Chapter 14)**
 | [***1 sample mean***](file:///C%3A%5CUsers%5Cnirmal%5CAppData%5CRoaming%5CMicrosoft%5CExcel%5CAll%20Datafiles%20final%20%28version%201%29.xlsb#Sheet130!A1)(Sheet 130)[***2 sample means***](file:///C%3A%5CUsers%5Cnirmal%5CAppData%5CRoaming%5CMicrosoft%5CExcel%5CAll%20Datafiles%20final%20%28version%201%29.xlsb#Sheet131!A1)(Sheet 131)[***1 proportion***](file:///C%3A%5CUsers%5Cnirmal%5CAppData%5CRoaming%5CMicrosoft%5CExcel%5CAll%20Datafiles%20final%20%28version%201%29.xlsb#Sheet128!A1)(Sheet 128)[***2 proportions***](file:///C%3A%5CUsers%5Cnirmal%5CAppData%5CRoaming%5CMicrosoft%5CExcel%5CAll%20Datafiles%20final%20%28version%201%29.xlsb#Sheet129!A1)(Sheet 129) | ***One sample mean test***[***Students 1***](file:///C%3A%5CUsers%5Cnirmal%5CAppData%5CRoaming%5CMicrosoft%5CExcel%5CAll%20Datafiles%20final%20%28version%201%29.xlsb#Sheet165!A1)(Sheet 165) [***Pumpkin***](file:///C%3A%5CUsers%5Cnirmal%5CAppData%5CRoaming%5CMicrosoft%5CExcel%5CAll%20Datafiles%20final%20%28version%201%29.xlsb#Sheet166!A1)(Sheet 166) (by all of the approaches)***Two sample means test*** [***Machine***](file:///C%3A%5CUsers%5Cnirmal%5CAppData%5CRoaming%5CMicrosoft%5CExcel%5CAll%20Datafiles%20final%20%28version%201%29.xlsb#Sheet167!A1)(Sheet 167) [***Europe***](file:///C%3A%5CUsers%5Cnirmal%5CAppData%5CRoaming%5CMicrosoft%5CExcel%5CAll%20Datafiles%20final%20%28version%201%29.xlsb#Sheet168!A1)(Sheet 168)[***BBA-F***](file:///C%3A%5CUsers%5Cnirmal%5CAppData%5CRoaming%5CMicrosoft%5CExcel%5CAll%20Datafiles%20final%20%28version%201%29.xlsb#Sheet170!A1)(Sheet 170)(by critical and p-value approaches)[***Light bulbs 2***](file:///C%3A%5CUsers%5Cnirmal%5CAppData%5CRoaming%5CMicrosoft%5CExcel%5CAll%20Datafiles%20final%20%28version%201%29.xlsb#Sheet169!A1)(Sheet 169)***One sample proportion test***[***Bardiya***](file:///C%3A%5CUsers%5Cnirmal%5CAppData%5CRoaming%5CMicrosoft%5CExcel%5CAll%20Datafiles%20final%20%28version%201%29.xlsb#Sheet171!A1)(Sheet 171) [***Him 1***](file:///C%3A%5CUsers%5Cnirmal%5CAppData%5CRoaming%5CMicrosoft%5CExcel%5CAll%20Datafiles%20final%20%28version%201%29.xlsb#Sheet173!A1)(Sheet 173)by the critical and p-value approaches***Two sample proportions test***[***Oat***](file:///C%3A%5CUsers%5Cnirmal%5CAppData%5CRoaming%5CMicrosoft%5CExcel%5CAll%20Datafiles%20final%20%28version%201%29.xlsb#Sheet172!A1)(Sheet 172) [***Clothes***](file:///C%3A%5CUsers%5Cnirmal%5CAppData%5CRoaming%5CMicrosoft%5CExcel%5CAll%20Datafiles%20final%20%28version%201%29.xlsb#Sheet174!A1)(Sheet 174) | 1 hour |

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