**Q.1**

(a) John is an honest milkman supplying milk in two houses. One day the two ladies asked for two litres milk each One lady was carrying a five litre pan and the other a four litre pan. John had only two forty-five cans, each full of milk. How would be measure exactly two litres of milk for each lady?

(b) What is an Address Book, and why is it required? How are new addresses added to the Address Book?

(c) What are Cell References? Explain three ways of giving cell references, with examples of each implemented and explained through formula.

(d) Differentiate between spitting of windows and freezing of windowpanes.

(e) State and prove Jung's theorem.

(f) How can names be given to a range of cells? What are the rules for defining range names? List two valid and two invalid range names.

**Q.2** a) What is a Domain name System (DNS)? Explain the username, host, domain and subdomain in the context of an Internet Address.

(b) Differentiate between a Worksheet and Workbook. Give three ways to restrict access to your workbook.

**Q.3**

(a) What is the utility of viewing a worksheet in multiple windows? Explain four ways of arranging the windows on the screen.

(b) Explain two ways to share information with people having common interest, on the Internet.

**Q.4**

(a) How can data in a database be filtered? Explain Autofiles and Advanced filters.

 (b) What is a template? Also explain why it is called a Special Workbook.

 (c) State Goldbach's conjecture. Why is it called a conjecture, and not a theorem?


Q.5
 (a) Explain the following terms, with examples:
 (i) Mailing Lists and Mail Reflectors
 (ii) Telnet
 (iii) Autotemplates

 (b) Show that for all positive integers n, 22n-1+1 is divisible by 3.


Q.1. (a) Three married couples are to cross a river in a boat which can hold only two persons. one of whom must row the boat. Each of the three husbands is a jealous man who will not allow his wife to be left in the company of other men, unless he is also present. Show how the jealous husbands and their wives can accomplish the trip by labelling all the states on the left and right banks of the river.

(b) What are Macros ? Explain two differences between Macros and Templates.

(c) What is "Alignment" ? Explain the four alignment options which can be used for document alignment.

(d) What is a URL in Internet ? Explain the fields of a URL through an example.

**(e)** What is a Domain Name System (DNS) ? What are the bases of classifications of DNS ? Explain with two examples each.

**Q.2. (a)** What are dialog boxes ? Explain the steps to create and run a dialog box.

**(b)** What is a protocol ? Explain any two commonly used Internet protocols.

**(c)** What is Format Painter ? Give the steps involved in applying Format Painter.

**Q.3. (a)** What is a Search Engine in Internet ? List any six search engines available on Internet.

**(b)** What is the remainder left after dividing
 1!+ 2!+ 3! + . . . + 100! by 7 ?

**(c)** Write three differences between a work book and a work sheet.

**(d)** 'Databases can be created in MS-Excel.' True or False ? Give reasons for your answer. (2)

**Q.4. (a)** Explain the meaning and purpose of the following :
 (i) AutoFormat
 (ii) Pivot Table
 (iii) Custom Control

**(b)** Give the steps involved in applying advanced filters in a work sheet.

**(c)** What are the uses of charis in Excel ? What is a Chart Wizard ? Explain two different types of charts.

**Q.5. (a) Explain the steps involved in displaying, editing and deleting a Scenario Manager.**

**(b) What is e-mail ? Explain three common points between e-mail and postal mail services.**

**(c) Prove that the sum of the squares of the first n integers is (2n)(2n+1)(2n+2)/24.**

**(d) Prove that the sum of two odd numbers is odd.**

**Q.1**
**(a) A father has two sons. Four years ago, the father was three times as old as his eldest son and four years hence, the eldest son will be twice as old as the younger son. If the younger son is now 8 years old, find the father's present age.**

**(b) Summarize the working of any two of the following:**
**(i) E-mail**
**(ii) Telnet**
**(iii) Search Engine**

**(c) Explain the features of the following with example:**
**(i) Goal Seek**
**(ii) Solver**

**(d) Suppose m & n are integers, such that**
**N2 +1=2m. Prove that m is the sum of squares of two integers.**

**(e) What is domain name? Name any four top domain names.**

**(f) Explain, with example, how charts in Excel are used in analysis.**

**Q.2**

(a) What do you understand by the term Internet Protocol? Explain HTTP protocol and what it is used for.

(b) If three persons (equally able) can jointly finish/complete three jobs in three days, then 100 persons (of the same ability) can jointly of 100 such jobs in how many days?

Q.3
(a) Explain the following functions giving examples for each:
(i) LEN ( )
(ii) FLOOR ( )
(iii) CEILING ( )

(b) Comment on the statement "Every graph is not an Euler's graph". Using a diagram, illustrate different parameters which decide that a graph can have an Eulerian walk or not.

Q.4
(a) What do you understand by the term Custom Controls? List the sequence of steps involved in creating custom controls.

(b) How do we use FTP? Discuss any three FTP commands.

Q.5 Write short notes on any four of the following:
(a) AutoFit
(b) E-commerce
(c) Auto templates
(d) DNS
(e) Pivot tables

Q.1
(a) Given 13 cricket balls, one of them heavier than the rest, how can you determine it, in not more than 3 weightings, using decision tree?

(b) Explain the concept of filtering a database in MS-Excel using Autofiles and using Advanced filters.

(c) What is the difference between 'Internet' and 'Network'? What is the role of TCP/IP in Internet? Also, list the hardware components used in the Internet.

(d) What is Chart Wizard in MS-Excel? Write the step-by-step method to create charts using chart Wizard. What are the components of Chart Wizard.

(e) What is a template? Explain with an example.

Q.2
(a) Prove that for any prime up p>5, p2+2 is composite.

(b) What is the use of GOAL SEEK? Explain with an example.

Q.3
(a) Prove that for every integer n>2,
(n!)2>nn

(b) What is meant by URL? What are its components?

Q.4
(a) Compare the different types of Internet connectivity mechanisms.

(b) Explain how the access of workbook in Excel can be restricted from other users.

Q.5
(a) Write short notes on any two of the following:
(i) HTTP
(ii) Telnet
(iii) FTP

## (iv) Domain Name System