SARASWATHI NARAYANAN COLLEGE

(Autonomous Institution Affiliated to Madurai Kamaraj University)
(Reaccredited with Grade 'B' by NAAC)
Madurai – 625 022.

B.Sc Mathematics – Summative Examinations

Code: LUMSSC22 **Semester: II**

FOUNDATION COURSE IN MATHEMATICS

Duration: 2 Hrs. **Max. Marks: 50**

Section – A **5 × 1 = 5**

I. Answer all questions. Choose the correct answer. (K 2)

1) The HCF of $2^3 \times 3^2 \times 5 \times 7^4$, $2^2 \times 3^5 \times 5^2 \times 7^6$, $2^3 \times 5^3 \times 7^2$ is_____.
a) 980 b) 960 c) 930 d)950

2) $\sqrt{\frac{x}{y}}$ is equal to _____.
a) $\frac{x}{y}$ b) $\frac{\sqrt{xy}}{y}$ c) $\frac{\sqrt{xy}}{\sqrt{y}}$ d) $y\sqrt{x}$

3) The value of $5005 - 5000 \div 10$ is _____.
a) 4505 b) 5405 c)5504 d)5045

4) Sum of the angles of a triangle is_____.
a)90 b) 180 c) 360 d) 100

5) Central angle of the component =_____.
a) $\left(\frac{\text{Values of the component}}{\text{Total value}} \times 360\right)^\circ$ b) $\left(\frac{\text{Total value}}{\text{Values of the component}}\right)^\circ$
c) $\left(\frac{\text{Values of the component}}{\text{Total value}} \times 100\right)^\circ$ d) $\left(\frac{\text{Values of the component}}{\text{Total value}}\right)^\circ$

II. Fill in the blanks (K 1) **5x1=5**

6) Product of any two numbers is equal to _____.

7) The value of $\sqrt[3]{343}$ =_____.

8) BODMAS stands for _____.

9) The point where the three medians of a triangle meet is called _____.

10) The sum of all the central angles is _____.

SECTION-B **5x2=10**

Answer all questions.

11) Find the greatest possible length which can be used to measure exactly the lengths 4m 95cm, 9m and 16m 65cm. K1

12) Find the cube root of 2744. K2

13) If $\dfrac{2x}{1+\dfrac{1}{1+\dfrac{x}{1-x}}}=1$, then find the value of x. K3

14) One side of a rectangular field is 15 m and one of its diagonal is 17m. Find the area of the field. K4

15) What is the difference between Bar chart and pie chart? K5

SECTION-C 3x10=30

Answer any THREE questions.

16) Find the HCF of 513, 1134 and 1215. K1

17) (i) Compute the value of $\sqrt{3}$ up to three decimal points.

(ii) Simplify $\sqrt{\left[(12.1)^2-(8.1)^2\right]\div\left[(0.25)^2+(0.25)(19.95)\right]}$. K2

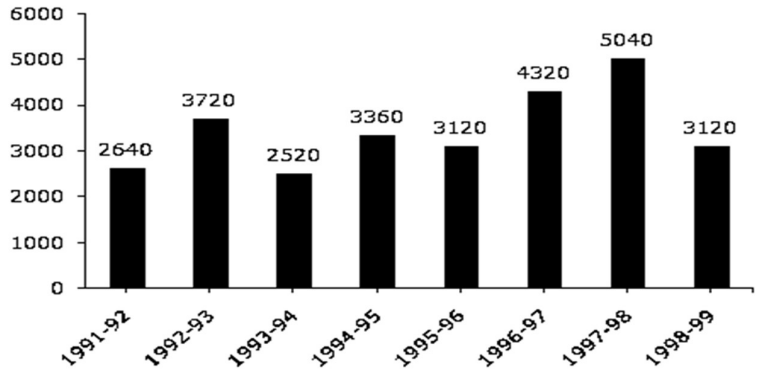
18) (i) A man spends $\frac{2}{5}$ of his salary on house rent, $\frac{3}{10}$ of his salary on food and $\frac{1}{8}$ of his salary on conveyance. If has Rs. 1400 left with him, find his expenditure on food and conveyance. K3

(ii)If $a^2+b^2=117$ and $ab=54$, then find the value of $\dfrac{a+b}{a-b}$.

19) A room is half as long again as it is broad. The cost of carpeting the room at Rs.5 per sq.m is Rs. 270 and the cost of papering the four walls at Rs. 10 per m^2 is Rs. 1720. If a door and 2 windows occupy 8 sq. m, find the dimensions of the room. K4

20) The bar graph given below shows the foreign exchange reserves of a country (in million US $) from 1991 - 1992 to 1998 - 1999. K6

Foreign Exchange Reserves of a Country. (in million US $)



(i) What is the ratio of the number of years, in which the foreign exchange reserves are above the average reserves, to those in which the reserves are below the average reserves?

(ii) What is the foreign exchange reserves in 1997-98 was how many times that in 1994-95?

(iii) For which year, the percent increase of foreign exchange reserves over the previous year, is the highest?

(iv) The foreign exchange reserves in 1996-97 were approximatel what percent of the average foreign exchange reserves over the period under review?

(v) What was the percentage increase in the foreign exchange reserves in 1997-98 over 1993-94?