INDIAN SCHOOL SALALAH

SECOND TERM EXAMINATION – FEBRUARY – MARCH 2023

MATHEMATICS

Class: VIII

Time: 3 hours **Maximum Marks: 80**

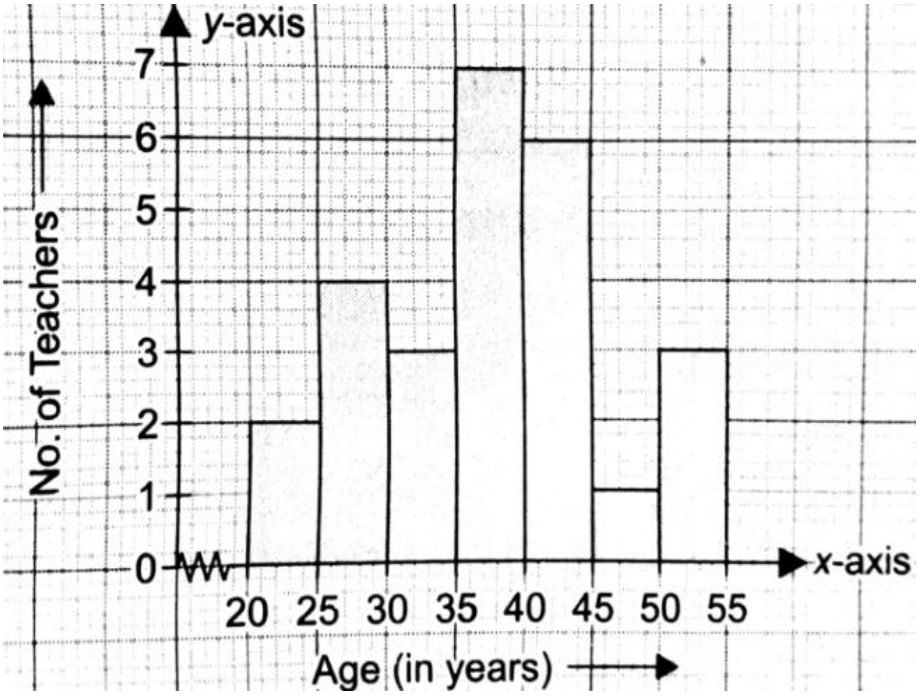
General Instructions:

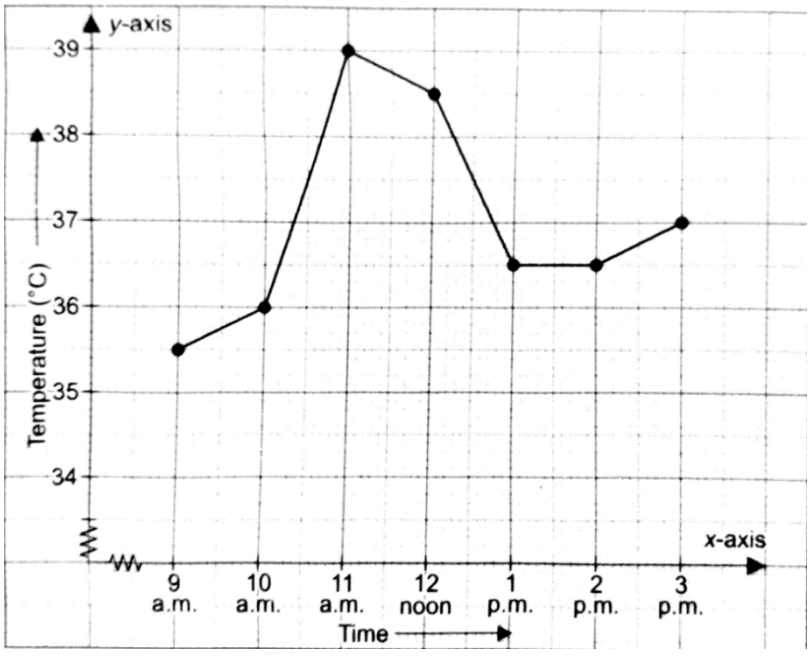
a) All questions are compulsory.

b) This question paper consists of 30 questions divided into 4 sections. Section A contains 6 questions of 1 mark each. Section B contains 6 questions of 2 marks each. Section C contains 10 questions of 3 marks each. Section D contains 8 questions of 4 marks each.

c) Internal choices have been provided in Section C and Section D. You have to attempt only one of the choices in such questions.

NO	SECTION A	MARKS
1	When a die is thrown, list the outcomes of an event of getting not a prime number.	1
2	If the marked price of an item is ₹ 10 and a discount of 10% is allowed, then what is its sales price?	1
3	Find the area of a rectangle whose length is $15x^2y^3$ and breadth is $\frac{2}{5}xy^2$	1
4	Find the value of m for which $5^3 \div 5^m = 5^2$	1
5	Find the common factors of the terms $17abc, 34ab^2$ and $51a^2b$	1
6	The area of a rhombus is 240 cm^2 and one of the diagonals is 16 cm. Find the length of the other diagonal.	1
	SECTION B	
7	Using suitable identity find the value of $729^2 - 271^2$	2
8	Numbers 1 to 15 are written on fifteen separate slips (one number on one slip), kept in a box and mixed well. One slip is chosen from the box without looking into it. What is the probability of a) Getting a number less than 6 b) Getting a two-digit number.	2

9	A picnic is being planned in a school for the students of class VIII. 60% of the total number of students are going girls and 54 in number. Find the number of boys who are going for picnic.	2
10	a) Express 7.54×10^{-4} in usual form. b) Write 4050000 in standard form.	2
11	Obtain the factors of the expression $y^2 + 7y + 12$	2
12	The area of a trapezium field is 480 m^2, the distance between two parallel sides is 15 m and one of the parallel sides is 20 m. Find the length of the other parallel side.	2
	SECTION C	
13	Factorise the expression and divide them as directed. $15xy^3(x^2 - 16) \div 3xy(x + 4)$	3
14	In a building there are 24 cylindrical pillars. The diameter of each pillar is 56 cm and height is 4 m. Find the total cost of painting the curved surface area of all the pillars at the rate of ₹10 per m^2.	3
15	Factorise the expression: z – 7 + 7xy – xyz **OR** Find the factors of $a^2 + 2ab + b^2 - c^2$	3
16	Study the histogram given below and answer the questions following the histogram. 	3

	a) What is the number of teachers in the oldest age group in the school? b) In which age group the number of teachers is the least. c) How many teachers are below 30 years in age?	
17	Add the following: $4y(3y^2 + 5y - 7)$ and $2(y^3 - 4y^2 + 5)$	3
18	Simplify: $\left\{\left(\frac{1}{3}\right)^{-2} - \left(\frac{1}{2}\right)^{-3}\right\} \div \left(\frac{1}{4}\right)^{-2}$	3
19	Find the factors of $6x^5 - 96x$	3
20	In a shopping mall the list price of a bicycle is ₹ 1600. The sales tax charged on it is at the rate of 4% while a packet of biscuits has marked price ₹ 60, on which the rate of GST is 18%. Calculate the total amount paid by Mr. Binu for the purchase of a bicycle and a packet of biscuits.	3
21	Simplify the following: $(4a + 5b)^2 - (4a - 5b)^2$ **OR** Show that $(9x - 5y)^2 + 180xy = (9x + 5y)^2$	3
22	The following graph shows the temperature of a patient in a hospital, recorded every hour.  Based on the graph answer the following questions: a) What was the patient's temperature at 3 p.m.? b) When was the patient's temperature 36^0 C? c) The patient's temperature was the same two times during the period given. When were these two times?	3

SECTION D

23 (4)

A sum of ₹ 2000 is borrowed by Reema for two years at an interest of 8% compounded annually. Find the compound interest and the amount she must pay at the end of two years.

24 (4)

The number of hours spent by a student on various activities on a working day are given below:

Activity	Sleep	School	Homework and Study	Play and leisure
Number of hours	7	9	5	3

Present the above information by using a pie chart.

25 (4)

Simplify $x(x^2 + x + 1) + 5$ and hence find its value for

a) $x = 0$ b) $x = -1$ c) $x = 1$

26 (4)

The internal measures of a cuboidal room are 12m × 8m × 4m. Find the total cost of whitewashing all the four walls of the room if the cost of whitewashing is ₹ 12/m^2. What will be the total cost of whitewashing if the ceiling of the room is also whitewashed?

27 (4)

Simplify and express the result in power notation with positive exponent.

a) $\frac{3^{-5}\times 10^{-7}\times 125}{5^{-7}\times 6^{-5}}$

b) $\left(\frac{5}{8}\right)^{-7} \times \left(\frac{8}{5}\right)^{-5} \div \left(\frac{5}{8}\right)^{-3}$

28 (4)

Draw a deposit – interest graph for the following data:

Deposit (in ₹)	5000	6000	7000	8000	9000
Simple Interest(in ₹) for 1 year	400	480	560	640	720

29 (4)

Twinkle deposited a sum of money which amounts to ₹ 21632 in 2 years at 4% per annum compound interest. How much money was deposited by her?

OR

Maria invested ₹ 8000 in a business. She would be paid interest at 5% per annum compounded annually. Find

a) The amount credited against her name at the end of the second year.

b) The interest for the 3rd year.

30	A company packages its juice in two different types of containers – a cuboidal container of dimension 5cm × 5cm × 12 cm and a cylindrical container of base diameter 7 cm and height 10 cm. Which container has more capacity and by how much? **OR** A cylindrical tank has a capacity of 6600 m^3. Find its depth if the diameter of its base is 28 m. Also calculate the cost of painting the inside curved surface area at the rate of ₹ 5/m^2.	4