Roll No. | | | | | |

INDIAN SCHOOL SALALAH

SECOND TERM EXAMINATION – FEB-MARCH 2026

Class: VIII **MATHEMATICS (041)** **Date: 11/03/2026**

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

General Instructions:

a) All questions are compulsory.

b) This question paper consists of 30 questions divided into 5 sections.

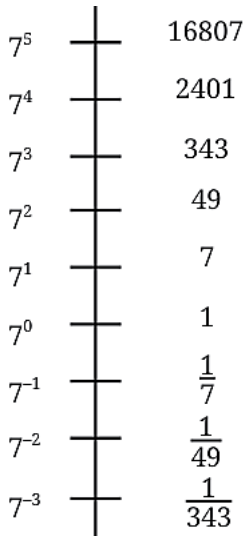
c) Section A contains 6 questions (MCQs) of 1 mark each. Section B contains 6 questions of 2 marks each.

Section C contains 10 questions of 3 marks each. Section D contains 7 questions of 4 marks each and section E contains one case study question of 4 marks.

d) 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	Which of the following is the common factors of the given terms: $12x^3y^2$, $30xy^3$ a) $3x^3y^2$ b) $6xy^2$ c) $3xy^3$ d) $6x^3y^2$	1
2	Identify the appropriate algebraic expression – "The cube of the sum of a number and 2" a) $x^3 + 2$ b) $(x + 2)^3$ c) $x^3 + 8$ d) $3x^2 + 2$	1
3	Find the height of a cuboid whose base area is 20 cm^2 and volume is 60 cm^3? a) 40 cm b) 4 cm c) 3 cm d) 30 cm	1
4	A box contains 5 green, 3 blue, and 2 red balls. One ball is drawn at random. Probability of drawing a blue ball is: a) $\frac{1}{3}$ b) $\frac{1}{10}$ c) 1 d) $\frac{3}{10}$	1

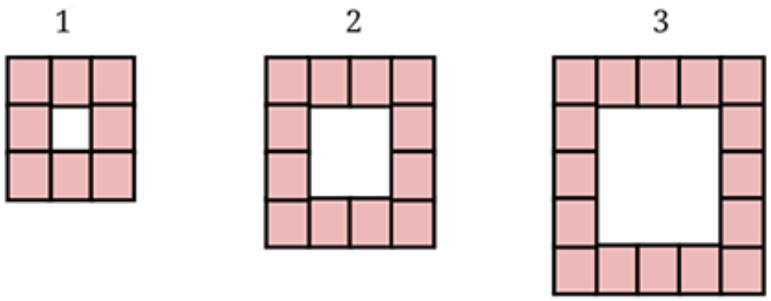
5	Divide $(p^3q^4 - p^4q^3)$ by p^3q^3. a) $(q - p)$ b) $(p - q)$ c) pq d) $(p + q)$	1
	Question 6 contains two statements: an ASSERTION and a REASON, followed by four choices, with only one correct answer.	
6	**Assertion (A):** $(-2)^4 = -16$ **Reason (R):** An even power of a negative number is always positive. a) Both A and R are true, and R is the correct explanation of A. b) Both A and R are true, but R is not the correct explanation of A. c) A is true, R is false. d) A is false, R is true.	1
	SECTION B	
7	Expand: $(x + xy)(2 + y)$	2
8	Factorise: $121y^2 - 49z^2$.	2
9	The area of a rhombus is 48 cm^2 and one of the diagonals is 12 cm. Find the other diagonal.	2
10	Simplify and write the answer in exponential form. $(5^7 \div 5^2) \times 5^{-3}$	2
11	Express 504 as a product of powers of their prime factors in exponential form.	2
12	The area of a trapezium is 54 cm^2 and the length of one of the parallel sides is 8 cm and its height is 6 cm. Find the length of the other parallel side.	2
	SECTION C	
13	Find 3 examples where the product of two numbers remains unchanged when one of them is increased by 1 and the other is decreased by 3.	3
14	Represent the following distances in standard form (scientific notation): (a) The distance between the Earth and the Moon is 38,44,00,000 m. (b) The distance between Saturn and Uranus is 14,39,00,00,00,000 m. (c) The distance between the Sun and Earth is 1,49,60,00,00,000 m.	3

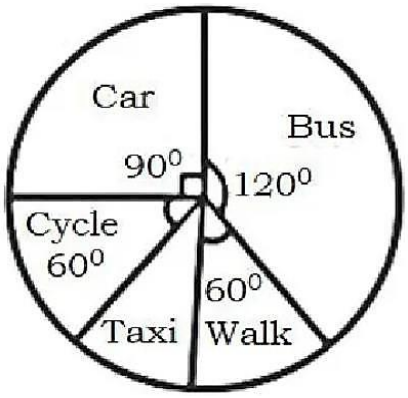
15	A cylindrical log of diameter 84 cm and length 2 m is rolled over a garden. If it takes 200 revolutions to cover the garden, calculate the total area of the garden covered.	3
16	Find the factors of $y^2 - 2y - 15$.	3
17	Factorise: $p^4 - 625$. **OR** Factorise: $25a^2b^2 - 70abc + 49c^2$.	3
18	A floor is made of 2000 rhombus-shaped tiles. Each tile has diagonals 40 cm and 20 cm. Find the total cost of polishing at ₹5 per m².	3
19	Using the appropriate identities, evaluate: (a) 99×101 (b) 52^2	3
20	Use the power line for 7 to answer the following questions. (a) $16807 \times \frac{1}{343}$ (b) $\frac{49}{16807}$ (c) $\frac{1}{49} \times 2401$ 	3
21	Factorise the expressions and divide: $(4x^2 + 12x + 9) \div (2x + 3)$	3
22	A school canteen recorded the number of food items sold during the lunch break as follows:	3

Item	Sandwiches	Burgers	Pizza slices	Biscuits	Juices	Total
Sales	40	80	120	160	320	720

Draw a pie chart for this data.

	SECTION D	
23	Expand the following using Identities: (a) $\left(\frac{3y}{4} + 5z\right)^2$ (b) $\left(7p - \frac{3q}{5}\right)^2$	4

24	In a building, there are 30 cylindrical pillars. The radius of each pillar is 35 cm and height is 5 m. Find the total cost of painting the curved surface area of all pillars at the rate of ₹10 per m². **OR** The internal dimensions of a room are 10 m × 6 m × 3 m. Find the total cost of whitewashing all four walls and the ceiling, if the rate of whitewashing is ₹6 per m².	4
25	A rectangular piece of paper 22 cm × 6 cm is folded without overlapping to make a cylinder of height 6 cm. Find the volume of the cylinder.	4
26	(a) A 3-digit locker has an alphanumeric pass code. First two digits are numbers (from 0 to 9) and the last digit is a letter (from A to Z). Some example codes are 58A, 44P, 37W, and 03A. How many such codes are possible? (b) In a science experiment, bacteria grow in a petri dish such that their number doubles every hour. After 15 hours, the dish is completely full. Write the number of bacteria (in exponential form) when the dish was: (i) completely full (ii) half full	4
27	(a) Factorise: $15xy + 8 + 6y + 20x$ (b) Factorise : $(m - n)^2 + 4mn$	4
28	Answer the following questions: (a) Write 7^{15} as a power of a power. (b) Express in exponential form: $7 \times 7 \times 7 \times a \times a \times b \times b \times b \times b \times b$ (c) Simplify and write in the exponential form: $(m^3)^2 \times (mn)^5$ (d) Write the numerical value of $(-2)^3 \times (-3)^2$.	4
29	Consider the pattern made of square tiles in the picture below.  (a) How many square tiles are there in Step 4 of the pattern? (b) How many square tiles are used in Step 10 of the pattern? (c) Write an algebraic expression to represent the number of tiles used in Step n.	4

	SECTION E **Case-study based question. Read the following passage and answer the questions given below:**	
30	A survey was conducted among school children to understand the different modes of transport they use to travel to school. The data collected from the survey has been represented in the form of a pie chart, where each sector shows the proportion of children using a particular mode of transport. The pie chart shows the result of a survey carried out to find the modes of travel used by children to go to school. A total of 540 children participated in the survey.  Study the pie chart and answer the questions that follow (a) Which is the most common mode of transport? (b) What is the central angle of the taxi sector? (c) How many children use a car to travel to school? (d) How many children use a cycle to travel to school?	4

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