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INDIAN SCHOOL MUSCAT PERIODIC TEST - 1 MATHEMATICS

CLASS: IX

Sub. Code: 041

Time Allotted: 40 mins.

03.05.2021

Max. Marks: 20

General Instructions:

1. All questions are compulsory.
2. Calculators are not allowed.
3. This question paper consists of
 - Two questions of 1 mark each
 - Four questions of 2 marks each
 - Two questions of 3 marks each
 - One question on case study of 4 marks with four sub-parts of one mark each.

Q. No.		Marks
1.	Evaluate: $20 - (2^4 \div 2) \times 3 + 2$	1
2.	Insert an irrational between 2.324 and 2.412	1
3	Express $2.232323\dots$ in $\frac{p}{q}$ form.	2
4.	Simplify: $5\sqrt{3} - 3\sqrt{12} + 2\sqrt{75}$	2
5.	State whether true or false (Justify your answer). (i) Every real number is a rational number (ii) $\frac{22}{7}$ is irrational.	2
6.	Simplify and state whether rational or irrational. (i) $\sqrt{98} \div \sqrt{2}$ (ii) $(3 - 2\sqrt{2}) - (3 + 2\sqrt{2})$	2
7.	Using ruler and compass represent $\sqrt{5}$ on the number line.	3
8.	Answer the following: (i) What is the maximum number of digits possible in the repeating block of digits in the decimal expansion of $\frac{a}{7}$, where a is an integer. (ii) State without actually dividing, whether the decimal expansion of $\frac{51}{60}$ is terminating or non-terminating recurring.(Give reason)	3

9. **Case study based question.**

Arya and Dipesh were helping their friends to get prepared for their test. Arya explained how to rationalize the denominator of a given irrational number while Dipesh explained how to simplify expressions. At the end they gave a few questions to be answered.

- i) The rationalizing factor of $\sqrt{7} - \sqrt{3}$ is 1
(a) $\sqrt{7} + \sqrt{3}$ (b) $\sqrt{7} - \sqrt{3}$ (c) $\sqrt{7} \times \sqrt{3}$ (d) $\frac{\sqrt{7}}{\sqrt{3}}$
- ii) On rationalizing the denominator of $\frac{\sqrt{2}}{\sqrt{7}-\sqrt{3}}$ we get, 1
(a) $\frac{\sqrt{2}}{\sqrt{7}+\sqrt{3}}$ (b) $\frac{(\sqrt{7}+\sqrt{3})}{2}$ (c) $\frac{(\sqrt{7}+\sqrt{3})}{\sqrt{2}}$ (d) $\frac{\sqrt{2}(\sqrt{7}+\sqrt{3})}{4}$
- iii) The product of two irrational numbers is 1
(a) irrational (b) rational (c) rational or irrational (d) none of these
- iv) Which identity is used to simplify $(\sqrt{7} + \sqrt{3})(\sqrt{7} - \sqrt{3})$? 1
(a) $(a + b)^2$ (b) $(a - b)^2$ (c) $a^2 - b^2$ (d) $(x + a)(x + b)$
- v) $(\sqrt{7} + \sqrt{3})(\sqrt{7} - \sqrt{3}) = \underline{\hspace{2cm}}$. 1
(a) 4 (b) 7 (c) 3 (d) 5

End of the Question Paper