

INDIAN SCHOOL MUSCAT SECOND PERIODIC TEST 2022 MATHEMATICS (041)



CLASS: IX

DATE: 18.12.2022

TIME ALLOTED

: 50 MINS.

MAXIMUM MARKS: 20

<u>GENI</u>	ERAL INSTRUCTIONS	S:		, , , , , , , , , , , , , , , , , , , ,	
$\overline{(i)}$					
(ii	Section A contains	4 questions of 1 mark e	ach		
(ii		3 questions of 2 marks			
(iv		2 questions of 3 marks			
(v)	Section D contains	a Case Study Based Qu	uestion of 4 marks.		
	Section	n A – Multiple Cho	ice Ouestions (1 r	nark each)	
1					
1.	Zeroes of the polyno	mial p(x) = (x - 1)(x	+ 2)		1
	(a) 1, 2	(b) 1, -2	(c) -1, 2	(d) -1, -2	
2.		ree 5 in x has at most			1
	(a) 5 terms	(b) 3 terms	(c) 6 terms	(d) 4 terms	
3.	8.83×8.83-2.17×2	.17 in its simplified for	14-		1
	6.66	— in its simplified for	m is equal to		
	(a) 9	(b) 10	(c) 11	(d) 12	
4.	An Assertion (A) is a	given followed by a Rea	son (R). Mark your re	esponse from the given	1
	options.			_	
	Assertion: If $f(x) =$	$= x^4 + x^3 - 2x^2 + x +$	1 is divided by $x - 1$, then its remainder is 2.	
	Reason: If $p(x)$ is a	polynomial of degree gro	eater than or equal to	one, divided by the linear	
	polynomial $x - a$, th	en the remainder is p(-a).	·	
	(a) Both Assertion	on and Reason are true a	nd Reason is the corr	ect explanation of	
	(b) Both Assertion	on and Reason are true b	out Reason is not the o	correct explanation of	
		rue but Reason is false			
		alse but Reason is true			
	(4) 110001110111011	and out reagon is true			



	Section B – Very Short Answer Questions (2 marks each)	
5.	Without actually calculating the cubes, evaluate $(25)^3 + (-17)^3 + (-8)^3$	2
6.	Find the value of $p^3 - q^3$ if $p - q = -8$, $pq = -12$	2
7.	Factorize using suitable identities: $27y^3 + 125x^3$	2
	Section C – Short answer Questions (3 marks each)	
8.	Expand using suitable identities: (i) $(4x - 2y - 3z)^2$ (ii) $(3x^2 + y)^3$	3
9.	Factorize: $x^3 + 13x^2 + 32x + 20$	3
10.	Section D – Case Based Questions (4 marks) Two students Annie and Metilda started a business together. They decided to share their	
	capitals depending upon the variable x. The capital of the two partners together is given by the polynomial $6x^2 + 11x - 35$, which is the product of their individual share factors. On the basis of the above information, answer the following questions. (i) Name the polynomial given based on the number of terms. (ii) Find the individual shares of Annie and Metilda in terms of x. (iii) What is the value of x when the individual shares of Annie and Metilda are equal?	1 1 2
	END OF THE QUESTION PAPER*	<u></u>



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	RAL INSTRUCTIONS					
(i)	All questions are co					
(ii)		4 questions of 1 mark e				
(iii		3 questions of 2 marks				
(iv)		2 questions of 3 marks	each			
(v)	Section D contains	a Case Study Based Q	uestion of 4 marks.			
	Section	1 A – Multiple Cho	ice Questions (1 n	nark each)		
•	A polynomial of degr	ree 4 in x has at most			1	
	(a) 5 terms	(b) 3 terms	(c) 6 terms	(d) 4 terms		
•	Zeroes of the polynor	$\overline{\text{mial } p(x) = (x-1)(x)}$	+ 2)		1	
	(a) 1, 2	(b) 1, -2	(c) -1, 2	(d) -1, -2		
	8.83×8.83-2.17×2.				1	
	6.66	— in its simplified for	m is equal to		1	
	(a) 9	(b) 10	(c) 11	(d) 12		
•	An Assertion (A) is g	iven followed by a Rea	ason (R). Mark your re	esponse from the given	1	
	options.					
	Assertion: If $f(x) = x^4 + x^3 - 2x^2 + x + 1$ is divided by $x - 1$, then its remainder is 0.					
	Reason: If $p(x)$ is a polynomial of degree greater than or equal to one, divided by the linear polynomial $x - a$, then the remainder is $p(a)$.					
	(a) Both Assertion and Reason are true and Decree in the					
	(a) Both Assertion and Reason are true and Reason is the correct explanation of Assertion					
	(b) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion					
	(c) Assertion is true but Reason is false					
		alse but Reason is true				

	Section B – Very Short Answer Questions (2 marks each)	
5.	Without actually calculating the cubes, evaluate $(-12)^3 + (7)^3 + (5)^3$	2
6.	Find the value of $p^3 - q^3$ if $p - q = -8$, $pq = -12$	2
7.	Factorize using suitable identities: $64y^3 + 343x^3$	2
	Section C – Short answer Questions (3 marks each)	
8.	Expand using suitable identities: (i) $(4x - 2y - 3z)^2$ (ii) $(3x^2 - y)^3$	
9.	Factorize: $x^3 + 13x^2 + 32x + 20$	
10	Section D – Case Based Questions (4 marks)	-l'
10.	Two students Annie and Metilda started a business together. They decided to share their capitals depending upon the variable x. The capital of the two partners together is given by the polynomial $6x^2 + 11x - 35$, which is the product of their individual share factors. On the basis of the above information, answer the following questions. (i) Name the polynomial given based on the number of terms. (ii) Find the individual shares of Annie and Metilda in terms of x. (iii) What is the value of x when the individual shares of Annie and Metilda are equal?	

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(i)	RAL INSTRUCTIONS All questions are co				
(ii)		mpuisory. 4 questions of 1 mark e	aah		
(iii)		3 questions of 2 marks			
(iv)		2 questions of 3 marks			
(v)	-	a Case Study Based Q			
			J		
				·	
	Section	A – Multiple Cho	oice Questions (1 n	nark each)	
•	Zeroes of the polynor	mial p(x) = (x+1)(x	(+2)		1
	(a) 1, 2	(b) 1, -2	(c) -1, 2	(d) -1, -2	
•	8.83×8.83-2.17×2.	17			$\frac{1}{1}$
	6.66	— in its simplified for	m is equal to		1
	(a) 9	(b) 10	(c) 11	(d) 12	
•	A polynomial of degr	ee 3 in x has at most			$\frac{1}{1}$
	(a) 5 terms	(b) 3 terms	(c) 6 terms	(d) 4 terms	
	An Assertion (A) is g options.	iven followed by a Rea	ason (R). Mark your re	esponse from the given	1
		x4 1 x3 2 2 2 1 x 1	1 != 1!=!1. 11	, then its remainder is 0.	
	Reason: If $p(x)$ is a p	スースーンスースキント olynomial of degree gr	I is divided by $x-1$	one, divided by the linear	
	polynomial $x - a$, the	en the remainder is p(a)).	one, divided by the linear	
	(a) Both Assertion	n and Reason are true a	and Reason is the corr	ect explanation of	ŀ
	(b) Both Assertion	n and Reason are true b	out Reason is not the o	correct explanation of	
		ue but Reason is false			
	(c) Assertion is tr	de out iteason is faise			

	Section B - Very Short Answer Questions (2 marks each)	
5.	Without actually calculating the cubes, evaluate $(55)^3 + (-25)^3 + (-30)^3$	2
6.	Find the value of $p^3 - q^3$ if $p - q = -8$, $pq = -12$	2
7.	Factorize using suitable identities: $27y^3 - 64x^3$	2
	Section C - Short answer Questions (3 marks each)	1
8.	Factorize: $x^3 + 13x^2 + 32x + 20$	3
9.	Expand using suitable identities: (i) $(4x - 2y - 3z)^2$ (ii) $(3x^2 + y)^3$	3
	Section D – Case Based Questions (4 marks)	_1
10.	Two students Annie and Metilda started a business together. They decided to share their capitals depending upon the variable x. The capital of the two partners together is given by the polynomial $6x^2 + 11x - 35$, which is the product of their individual share factors. On the basis of the above information, answer the following questions. (i) Name the polynomial given based on the number of terms. (ii) Find the individual shares of Annie and Metilda in terms of x. (iii) What is the value of x when the individual shares of Annie and Metilda are equal?	1 1 2
	END OF THE QUESTION PAPER*	Щ.