

CHOITHRAM SCHOOL, MANIKBAGH INDORE

CLASS X

SESSION: 2017-18

SUBJECT: MATHEMATICS

ASSIGNMENT NO: 2

ALLOTMENT DATE: 01/09/17

SUBMISSION DATE: 06/09/17

S.No	QUESTION	MARKS	LEVEL																
VERY SHORT ANSWER TYPE																			
1	Find the Arithmetic progression whose 1 st term is 10 & common difference is 5.	1 mark	Knowledge																
2	If the median of the data: 6, 7, $x - 2$, x , 17, 20, written in ascending order is 16. Find the value of x .	1 mark	Understanding																
3	If the mode and the mean of the data is 36.8 and 35.37 respectively. Find the median of the same data with the help of empirical relationship.	1 mark	H.O.T.																
SHORT ANSWER TYPE I																			
4	Find the value of k for which the quadratic equation, $2x^2 + kx + 3 = 0$ has real and equal roots.	2 Marks	Knowledge																
5	Consider the following frequency distribution: <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td>Class</td> <td>0 - 10</td> <td>10 - 20</td> <td>20 - 30</td> <td>30 - 40</td> <td>40 - 50</td> <td>50 - 60</td> <td>60 - 70</td> </tr> <tr> <td>Frequency</td> <td>4</td> <td>4</td> <td>8</td> <td>10</td> <td>12</td> <td>8</td> <td>4</td> </tr> </table> Find the median?	Class	0 - 10	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60	60 - 70	Frequency	4	4	8	10	12	8	4	2 Marks	Understanding
Class	0 - 10	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60	60 - 70												
Frequency	4	4	8	10	12	8	4												
6	In an Arithmetic progression, if $a = 3$, $n = 8$, $S_8 = 192$, find d .	2 Marks	logic																
7	The following table gives the daily income (in Rs) of 50 workers of a factory. Find the mode of the data <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td>Daily income</td> <td>100-120</td> <td>120-140</td> <td>140-160</td> <td>160-180</td> <td>180-200</td> </tr> <tr> <td>No. of workers</td> <td>5</td> <td>15</td> <td>5</td> <td>18</td> <td>7</td> </tr> </table>	Daily income	100-120	120-140	140-160	160-180	180-200	No. of workers	5	15	5	18	7	2 Marks	H.O.T.				
Daily income	100-120	120-140	140-160	160-180	180-200														
No. of workers	5	15	5	18	7														
SHORT ANSWER TYPE II																			
8	The sum of the areas of two squares is 468 m^2 . If the difference of their perimeters is 24 m , find the sides of two squares.	3 Marks	Understanding																
9	The following table shows the distribution of the heights of a group of factory workers: <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td>Height (in cm)</td> <td>150-155</td> <td>155-160</td> <td>160-165</td> <td>165-170</td> <td>170-175</td> <td>175-180</td> <td>180-185</td> </tr> <tr> <td>No. of workers</td> <td>6</td> <td>12</td> <td>18</td> <td>20</td> <td>13</td> <td>8</td> <td>6</td> </tr> </table> (i) Determine the cumulative frequencies. (ii) Find median height in cm through OGIVE curve COMMENT ON CHILD LABOR.	Height (in cm)	150-155	155-160	160-165	165-170	170-175	175-180	180-185	No. of workers	6	12	18	20	13	8	6	3 Marks	Value based
Height (in cm)	150-155	155-160	160-165	165-170	170-175	175-180	180-185												
No. of workers	6	12	18	20	13	8	6												
10	Find the roots of the equation: $\frac{1}{x+4} - \frac{1}{x-7} = \frac{11}{30}$, $x \neq -4, 7$.	3 Marks	Multi concept																
LONG ANSWER TYPE																			
11	The following table shows the daily pocket allowance of children of a locality. The mean pocket allowance is RS.18. Find the missing frequency f . <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td>Daily Pocket Allowance (in RS.)</td> <td>11 - 13</td> <td>13 - 15</td> <td>15 - 17</td> <td>17 - 19</td> <td>19 - 21</td> <td>21 - 23</td> <td>23 - 25</td> </tr> <tr> <td>No. of Children's</td> <td>7</td> <td>6</td> <td>9</td> <td>13</td> <td>f</td> <td>5</td> <td>4</td> </tr> </table>	Daily Pocket Allowance (in RS.)	11 - 13	13 - 15	15 - 17	17 - 19	19 - 21	21 - 23	23 - 25	No. of Children's	7	6	9	13	f	5	4	5 Marks	H.O.T.
Daily Pocket Allowance (in RS.)	11 - 13	13 - 15	15 - 17	17 - 19	19 - 21	21 - 23	23 - 25												
No. of Children's	7	6	9	13	f	5	4												
12	A sum of Rs 70,000 is to be used to give seven cash prizes to students of a school for their overall academic performance. If each prize is Rs 2000 less than its preceding prize, find the value of each of the prizes.	5 Marks	Logic																