## INDIAN SCHOOL MUSCAT

## MID TERM EXAMINATION

## SEPTEMBER 2018

## CLASS IX

## Marking Scheme - MATHEMATICS [THEORY]

## SET- B

| Q.NO. | Answers | Marks (with split up) |
| :---: | :---: | :---: |
| 1 | $5^{2}-(\sqrt{7})^{2}=18$ | $\frac{1}{2}+\frac{1}{2}$ |
| 2 | $2+5=7$ | 1 |
| 3 | $\begin{aligned} & 30-a+125+2 \mathrm{a}=180 \\ & \text { a } \\ &=180-155 \\ & \text { a }=25^{\circ} . \end{aligned}$ | $\begin{aligned} & \frac{1}{2} \\ & \frac{1}{2} \end{aligned}$ |
| 4 | $(-3,4)$ | 1 |
| 5 | 2 triangles are congruent, if 2 sides and included angle of one triangle are equal to 2 sides and included angle of other triangle. | 1 |
| 6 | $\begin{aligned} & \frac{1}{2} \text { Base } \times \text { height }=\text { area of triangle. } \\ & \text { Base }=72 \div 6=12 \mathrm{~cm} \end{aligned}$ | $\begin{aligned} & \frac{1}{2} \\ & \frac{1}{2} \end{aligned}$ |
| 7 | $2^{3}+3^{2}=8+9=17$ | $\frac{1}{2}+1+\frac{1}{2}$ |
| 8 | $0.707007000700007 \ldots$. $0.710710071000710000 . .$. | $\begin{aligned} & 1 \\ & 1 \end{aligned}$ |
| 9 | If $x-2$ is a factor, then $p(2)=0$ $\begin{array}{ll} \rightarrow(2)^{2}+k(2)-4 k & =0 \\ \rightarrow 4-2 k & =0 \\ \rightarrow k & =2 \end{array}$ | $\frac{1}{2}+\frac{1}{2}+\frac{1}{2}+\frac{1}{2}$ |
| 10 | $\begin{aligned} & P(1)=(1)^{2}-3(1)+4=2 \\ & P(2)=(2)^{2}-3(2)+4=2 \\ & P(1)+p(2)=2+2=4 \end{aligned}$ | $\frac{1}{2}+\frac{1}{2}+\frac{1}{2}+\frac{1}{2}$ |
| 11 | $\begin{aligned} & X+4-4=10-4 \\ & x \quad=6 \end{aligned}$ <br> If equals are subtracted from equals, the remainders are equal | 1 $1$ |
| 12 | $\text { Area of } \begin{aligned} \Delta & =\sqrt{45 \times 4500} \\ & =45 \times 10 \end{aligned}$ | 1 |


|  | $=450 \mathrm{~cm}^{2}$ |  |  | $\begin{aligned} & 1 \\ & \frac{1}{2}+\frac{1}{2}+\frac{1}{2}+\frac{1}{2} \\ & 1 \\ & 3 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
| 13 | $\begin{aligned} & \text { Let } \mathrm{x}=0.2433333 \ldots \ldots .-(1) \\ & 100 \mathrm{x}=24.333333 \ldots \ldots .-(2) \\ & 1000 \mathrm{x}=243.333333 \ldots-(3) \\ & (3)-(2) \rightarrow 900 \mathrm{x}=219 \\ & \\ & \rightarrow \mathrm{x}=\frac{219}{900}=\frac{73}{300} \\ & \text { (OR) } \mathrm{a}^{2}=3+2 \sqrt{2} \\ & \frac{1}{a^{2}}=3-2 \sqrt{2} \\ & a^{2}-\frac{1}{a}=4 \sqrt{2} . \end{aligned}$ |  |  |  |
| 14 | Construction |  |  | 3 |
| 15 | $\begin{aligned} m-\frac{1}{2}=0 \rightarrow m & =\frac{1}{2} \\ \text { Remainder } & =p\left(\frac{1}{2}\right)=\left(\frac{1}{2}\right)^{3}+\left(\frac{1}{2}\right)^{2}+\left(\frac{1}{2}\right)+1 \\ & =\frac{15}{8} \end{aligned}$ <br> (OR) <br> Division <br> Quotient $=x^{3}-3 x^{2}+x-2$ and Remainder $=2$. |  |  | $\frac{1}{2}+\frac{1}{2}$ <br> 1 <br> 2 1 |
| 16 | $\mathrm{x}\left(\mathrm{x}^{3}-125 \mathrm{y}^{3}\right)=\mathrm{x}\left[\mathrm{x}^{3}-(5 y)^{3}\right]=\mathrm{x}(\mathrm{x}-5 \mathrm{y})\left(\mathrm{x}^{2}+5 \mathrm{xy}+25 \mathrm{y}^{2}\right)$ |  |  | 1+1+1 |
| 17 | Figure <br> $P M=\frac{1}{2} P Q(M$ is midpoint of $P Q)$ <br> $\mathrm{PN}=\frac{1}{2} \times \frac{1}{2} \mathrm{PQ}(\mathrm{N}$ is midpoint of PM$)$ $\mathrm{PN}=\frac{1}{4} \mathrm{PQ}$ |  |  | $\begin{aligned} & \frac{1}{2}+1 \\ & 1 \\ & \frac{1}{2} \end{aligned}$ |
| 18 | $\begin{aligned} & \text { Draw EH parallel to } \mathrm{AB} \text { and CD } \\ & / \mathrm{GEH}=180-125=55^{\circ} \text { (co- } \\ & \text { interior angles) } \\ & / \text { /FEH }=180-120=60^{\circ} \text { (co- } \\ & \text { interior angles) } \\ & \mathrm{x}=/ \mathrm{GEH}+/ \text { FEH }=55+60 \\ & =115^{\circ} . \end{aligned}$ |  |  | $\begin{aligned} & 1 \\ & 1 \\ & \frac{1}{2}+\frac{1}{2} \end{aligned}$ |




|  | 1 |
| :--- | :--- | :--- |

