Maxima and Minima 18.1 Q4

$$h(x) = \sin 2x + 5$$

We know that $-1 \le \sin 2x \le 1$.

$$\Rightarrow -1 + 5 \le \sin 2x + 5 \le 1 + 5$$

$$\Rightarrow 4 \le \sin 2x + 5 \le 6$$

Hence, the maximum and minimum values of h are 6 and 4 respectively.

Maxima and Minima 18.1 Q5

$$f(x) = |\sin 4x + 3|$$

We know that $-1 \le \sin 4x \le 1$.

$$\Rightarrow 2 \le \sin 4x + 3 \le 4$$

$$\Rightarrow 2 \le |\sin 4x + 3| \le 4$$

Hence, the maximum and minimum values of f are 4 and 2 respectively.

Maxima and Minima 18.1 Q6

$f(x) = 2x^3 + 5$ on R

Here, we observe that the values of $f(x)$ increase when the values of x are increased and $f(x)$ can be made as large as possible, we please.

So, $f(x)$ does not have the maximum value.
Similarly $f(x)$ can be made as small as we please by giving smaller values to x.

So, $f(x)$ does not have the minimum value.

********** END *********