:- Other descriptive question :-

1. 1 marks

$$\boxed{a_0 = 0}$$

To find the value correctly after calculations.

1 marks

$$a_n = \frac{2}{n^2\pi}\left\{\cos(n\pi) - 1\right\} = \begin{cases} 0, & n \text{ is even.} \\ -\frac{4}{n^2\pi}, & n \text{ is odd.} \end{cases}$$

To find the value correctly after calculations.

1 marks To calculate

$$b_n = \frac{1}{n}(-1 + \cos n\pi) = \begin{cases} 0, & n \text{ Even} \\ -\frac{2}{n}, & n \text{ odd} \end{cases}$$

To find after calculations.

correctly upto

ALTENATE METHOD

If a student says, that the given function is the negative of a function given in assignment. and hence the fourier coefficients are negative of an already calculated. Then directly writes a_0, a_n, b_n. Give '3' marks

1 marks for realising that they have, to work with the series

$$A = \sum_{1}^{\infty} a_n \cos(nx) + b_n \sin(nx)$$

at $x=0$

(They are trying to use second part of main theorem at $x=0$)

1 marks for finding the answer correctly

$$A = \sum_{0}^{\infty} a_{2m+1} = -\frac{4}{\pi} \sum_{0}^{\infty} \frac{1}{(2m+1)^2}$$

$-\pi/2$

$$\Rightarrow \sum_{0}^{\infty} \frac{1}{(2m+1)^2} = \boxed{\pi^2/8}$$