ECE 202 Project 1 Phase 1a

Aidan Chin

TOTAL POINTS

5 / 5

QUESTION 1

1 Phase 1a 5 / 5

✓ **- 0 pts** *Correct*

- 5 pts Your formula does not account for the change in the sign (+/-)

- 5 pts Hand calculation is incorrect, or is not justified (e.g., include your steps)

- 5 pts You did not include a formula for $$a_n$$.

- 5 pts Your formula for $$a_n$$ should depend only on the variable $$n$$ and constants 7, 20

- 5 pts You did not include the table of values for $$n$$, $$f^{(n)}(t)$$, $$f^{(n)}(0)$$.

- 5 pts You should not change the definition of $$n$$ to bypass the odd terms.

1 include a_n formula also

$7\cos(20t)$

- $n = 0, 1, 2, 3, 4$

@0 $\frac{f(0)}{0} \cdot t^0$ ⑦

@1 $\frac{f'(0)}{1} \cdot t$ $\frac{-140\sin(20t)t}{n!\ 1}$ → 0 $\frac{-140\sin(20)t}{1}$

@2 $\frac{f''(0)}{2} \cdot t^2$ $\frac{-2800\cos(20t)}{2} t^2$

@3 $\frac{f'''(0)}{6} \cdot t^3$ $+\frac{56000\sin(20t)}{6} \cdot t^3$ → 0

@4 $\frac{f''''(0)}{24} \cdot t^4$ $\frac{1120000\cos(20t)}{24} \cdot t^3$

$f(n)(0)$ odd = 0

even = $\frac{7 \cdot 20^n \cdot \cancel{\cos(20t)}}{n!} t^n \cdot (-1)^{n/2}$

$f(n)(0)$ odd = $\frac{7 \cdot 20^n \cdot \sin(20t)}{n!} t^n \cdot (-1)^{\left(\frac{-1+n}{2}\right)}$

even $\frac{7 \cdot 20^n \cdot \cos(20t)}{n!} \cdot t^n \cdot (-1)^{n/2}$

1 Phase 1a 5 / 5

✓ **- 0 pts** *Correct*

- **- 5 pts** Your formula does not account for the change in the sign (+/-)
- **- 5 pts** Hand calculation is incorrect, or is not justified (e.g., include your steps)
- **- 5 pts** You did not include a formula for $$a_n$$.
- **- 5 pts** Your formula for $$a_n$$ should depend only on the variable $$n$$ and constants 7, 20
- **- 5 pts** You did not include the table of values for $$n$$, $$f^{(n)}(t)$$, $$f^{(n)}(0)$$.
- **- 5 pts** You should not change the definition of $$n$$ to bypass the odd terms.

1 include a_n formula also