

2(b)

a) $f_1(t) \Rightarrow$ discontinuous

$f_2(t) \Rightarrow$ continuous

b) $f_1(t) \Rightarrow$ odd function

$f_2(t) \Rightarrow$ even

c) Both possess half wave symmetry

$$\text{as } f\left(t - \frac{T}{2}\right) = -f(t)$$

d) quarter wave symmetry \Rightarrow

i) if it possess half wave symmetry and

(ii) Both have (odd or even) symm about quarter-period point)

$f_1(t)$ is quarter wave symmetry

$f_2(t)$ is not

2(g) For signal $f_1(t)$

The Fourier series diverges as the series $1/n$ diverges

For signal $f_2(t)$

The Fourier series converges as the series $1/n^2$ converges

24.) The order of Fourier series of continuous signal is greater than that of Discontinuous signal

→ For even signals the odd b_n coeff are zeroes
For odd signals the even b_n coeff are zeroes.