

Scheme of "Signals and Systems (17EC42)"

- 1 (i) Definition of Periodic and Non-Periodic with equations.
— $2\frac{1}{2} M$
- ii) Definition of Even and Odd signals with equations.
— $2\frac{1}{2} M$
- iii) Definition of Energy and Power signals with equations.
— $2\frac{1}{2} M$
- iv) Definition of Causal and Non-Causal signals with eqn.s.
— $2\frac{1}{2} M$

2. i) sketch of $y[n-2]$: ——— 1M

ii) sketch of $y[-n]$: ——— 1M

sketch of $x[-n]$: ——— 1M

sketch of $x[-n] \cdot y[-n]$: ——— 1M

iii) sketch of $y[n+2]$: ——— 1M

sketch of $y[2n+2]$: ——— 1M

sketch of $y[-2n+2]$: ——— 1M

iv) sketch of $x[n-2]$: ——— 1M

sketch of $y[n-2]$: ——— 1M

sketch of $x[n-2] + y[n-2]$: ——— 1M

3 (a) i) sketch of $x(t+1)$: 1M

sketch of $x(t+1) - y(t)$: 2M

ii) sketch of $y(t-1)$: 1M

sketch of $x(t) \cdot y(t-1)$: 2M.

3(b) sketch of $x(t)$: \rightarrow 2M

sketch of $x(t-1)$: \rightarrow 1M

sketch of $x(2t-1)$ \rightarrow 1M

4. (i) Calculation of Energy/power : 2M
(iv) conclusion : $\frac{1}{2}M$ } $\times 4 = 10M$

5. i) Calculation of T_1 and T_2 \rightarrow 1M
Find T_1/T_2 and Conclusion \rightarrow $\frac{1}{2}M$

ii) Calculation of ω \rightarrow 1M
Finding $T = \frac{2\pi}{\omega}$ and Conclusion : $1\frac{1}{2}M$

iii) Calculation of N_1 and N_2 after expanding the
equation using $(\cos A \cdot \cos B) = \frac{1}{2}M$

Finding $\frac{N_1}{N_2}$ and Conclusion : \rightarrow 1M

iv) sketch of $U[n] + U[-n]$: 2M
Conclusion : $\frac{1}{2}M$

6. Defining $x(t)$ mathematically : 4M.

writing Equation to calculate Energy : 1M

Calculation : 5M.

7(a) sketch of $u(t)$ and $u(-t)$: 1M.

writing Eqn of even part : ~~1~~ 1M

sketch of even part : 1M

writing eqn. of odd part : 1M

sketch of odd part : 1M

(b) Definition of $\delta(t)$: 2M, Properties of $\delta(t)$: 3M.