

S.R. FATEPURIA COLLEGE
INTERNAL ASSESSMENT - 2020
PHYSICS (HON)
4th SEMESTER

Full Marks - 10

Answer any two question :

- ① Define singular point of a complex function $f(z)$?
Write a short notes on "Branch point", "Essential-singularity".

1+2+2

- ② Find the Laplace transformation of the functions -
 $\cosh wt$; $\sin wt$; $t^{\frac{1}{2}}$; $\delta(t-a)$; e^{at}

1+1+1+1+1

- ④ The radius of convergence of Taylor series expansion of the function $f(z) = \frac{1}{\cosh(z)}$ around $z=0$ is —

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- ⑤ Find out the value of the integration -

$$\int_{-\infty}^{\infty} e^{-mx^2} e^{nx} dx ; n, m \text{ are } +ve \text{ constants}$$

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