

Parshvanath Charitable Drusi's

A. P. SIVII INSHIMUND OF THEIR INDICEN

(Approved by AICTE New Delhi & Govt. of Maharashtra, Affiliated to University of Mumbai) (Religious Jain Minority)

Subject: Applied Mathematics IV

SEM:IV

$$Z = \frac{3}{2}$$

$$2 = 4B$$

$$= \frac{3}{2} = -4A$$

$$= \frac{1}{2^{2} + 3} = \frac{1}{2(z+1)} + \frac{1}{2(z+3)}$$

$$= \frac{1}{2(z+3)} + \frac{1}{2(z+3)}$$

$$= \frac{1}{2(z+$$

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$$f(z) = \frac{1}{2(1+z)} + \frac{1}{2(2-1)}$$

$$= \frac{1}{2(1+z)} - \frac{1}{2(1+z)} - \frac{1}{2(1-z/3)}$$

$$= \frac{1}{2(1+z)} - \frac{1}{2(1-z/3)} + \frac{1$$

ii)
$$|z| |z| / 3$$

$$= \int |z| > 1 |z| |z$$



Parthyaneth Chartents tracks

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(iii)
$$|z| > 3$$

$$= |z| > 1$$

$$\therefore f(z) = \frac{1}{0(z+1)} + \frac{1}{0(z-3)}$$

$$= \frac{1}{0z} (1+\frac{1}{z}) + \frac{1}{0x_3(1-3|z)}$$

$$= \frac{1}{0z} (1+\frac{1}{z})^{-1} + \frac{1}{0} (1-\frac{3}{z})^{-1}$$

$$= \frac{1}{0z} (1-\frac{1}{z} + (\frac{1}{z})^2 - (\frac{1}{z})^3 + \cdots)$$

$$+ \frac{1}{0z} (1+\frac{3}{z} + (\frac{3}{z})^2 + (\frac{3}{z})^3 + \cdots)$$

HW
1) Expand
$$f(z) = \frac{1}{\chi^2 - 3z^2 + 2z}$$
 as Laurent's series
about $z = 0$ for i) $|z| \ge 1$
iii) $|z| > 2$.