

B.Sc. (Part- III) (Semester – VI)

Examination October - 2020

MATHEMATICS

Paper - XIII, XIV, XV, XVI

1. Let $a \in \mathbb{R}_d$ be discrete metric space and $A = \{a\}$. Then A is
 - a) not open
 - b) not closed
 - c) closed but not open
 - d) both open and closed

2. Let T be a linear operator on a finite dimensional vector space V over F . Then $c \in F$ is an eigen value of T if and only if.....
 - a) $T - cI$ is regular
 - b) $T - cI$ is singular
 - c) $T - cI$ is non-singular
 - d) $T - cI$ is invertible

3. If $f(z)$ is analytic function within and on a closed contour C and if a is any point within C then the value of $\int_C \frac{f(z)dz}{(z-a)}$ = -----
 - a) $\pi i f(a)$
 - b) $-\pi i f(a)$
 - c) $2\pi i f(a)$
 - d) $f(a)$

4. $f(z) = e^{1/z}$ has singularity at $z = 0$.
 - a) pole
 - b) removable
 - c) essential
 - d) non isolated removable

5. $\Delta^2 f_0 = \dots$
 - a) $\Delta f_1 - \Delta f_2$
 - b) $\Delta f_1 - \Delta f_0$
 - c) $f_1 - f_0$
 - d) $f_1 - f_2$