

**2021**  
**MATHEMATICS – GENERAL**  
**SEMESTER-2**  
**INTERNAL ASSESSMENT**  
**Full Marks: 10**

*The figures in the margin indicate full marks.*  
*Symbols and notations used here carry their usual meaning.*  
*Candidates are required to give their answers in their own words as far as practical.*

**Course: CC2/ GE2**

Choose the correct alternative:

5x2=10

1. If  $f(x) = |x|$ , then the minimum value of  $f(x)$  is  
(a) 1      (b) -1      (c) 0      (d) None of the above
2. The degree of the partial differential equation  $\frac{\partial^2 z}{\partial^2 x} = \sqrt{1 + \frac{\partial z}{\partial y}}$  is  
(a) 1      (b) 3      (c)  $\frac{1}{2}$       (d) 2
3. Find the value of  $\log_{x \rightarrow 0} \frac{\log(1+x)}{x}$ .  
(a) 1      (b) 0      (c) -1      (d) Does not exists
4. If  $\vec{a} = \hat{i} - 2\hat{j} + 2\hat{k}$  then  $|\vec{a}|$  is  
(a) 9      (b) 3      (c) 5      (d) None of the above
5. If  $(n^3 - 1)$  be a prime integer, then the value of  $n$  is  
(a) 8      (b) 4      (c) 2      (d) None of the above