

Mid-West University  
Examinations Management Office  
Surkhet, Nepal

End Semester Examination 2080

B.Ed. Level /VI Semester

Sub: Principles of Real Analysis (Math 462)

Roll No. ....

Group 'A'

10×1=10

Tick (✓) the Best Answer.

1. A subset  $B$  of  $R^n$  is open if,
  - a)  $R^n | B$  is open
  - b)  $R^n | B$  is closed
  - c)  $B$  contains all limit points of  $B$
  - d) all of the above
2. For  $a, b$  and  $c \in R$ , then the associative law for multiplication is ...
  - a)  $a(bc) = (ab)c$
  - b)  $a(b+c) = (a+b)c$
  - c)  $a(b+c) = ab+ac$
  - d)  $a+(b+c) = (a+b)+c$
3. If the number of elements of two sets  $A$  and  $B$  are equal then
  - a)  $A = B$
  - b)  $A \neq B$
  - c)  $A \subset B$
  - d)  $A \sim B$
4. The set of all adherent points of a set  $S$  is called the closure of  $S$  and denoted by  $\bar{S}$  where,
  - a)  $\bar{S} \leq S \cup S'$
  - b)  $\bar{S} \neq S \cup S'$
  - c)  $\bar{S} = S \cup S'$
  - d)  $\bar{S} \geq S \cup S'$
5. Which one of the followings is a property of metric space?
  - a)  $d(x, y) = 0$
  - b)  $d(x, y) > 0$  if  $x \neq y$
  - c)  $d(x, y) = d(x+y)$
  - d)  $d(x, y) < 0$  if  $x \neq y$

6. The set of all accumulation points of a set  $A$  is called...

- a) empty set
- b) open set of  $A$
- c) universal set
- d) derived set of  $A$

7. If the function  $f$  is monotonic on  $[a, b]$ , then  $f$  is ...

- a) bounded variation on  $[a, b]$
- b) denumerable
- c) bounded Variation
- d) bounded only

8. A set  $B$  is closed if and only if

- a)  $B \neq \bar{B}$
- b)  $B = \bar{B}$
- c)  $B \leq \bar{B}$
- d)  $B \geq \bar{B}$

9. If the functions  $f$  and  $g$  are bounded variation on  $[a, b]$  then

- a)  $V_{f \pm g} \geq V_f + V_g$
- b)  $V_{f \pm g} > V_f + V_g$
- c)  $V_{f \pm g} < V_f + V_g$
- d)  $V_{f \pm g} \leq V_f + V_g$

10. An integral that contains the upper and lower limits then it is called... definite integral

- a) improper integral
- b) indefinite integral
- c) definite integral
- d) proper integral