Assessment-1

1. Which of the following is a statement?
   a) You can fly
   b) What time is it?
   c) I am a star
   d) Chlorine can cause skin rash

2. Regard the following statement: “If I am ready, I shall go to school.”
   a) It is a true statement.
   b) It is a false statement.
   c) It is neither true nor false.
   d) It is a conditional statement.

3. Which of the following is a contradiction?
   a) 2 + 5 = 7
   b) 2 + 5 = 10
   c) 3 - 2 = 1
   d) 4 - 4 = 8

4. The set of natural numbers
   a) Has a maximum element
   b) Has a minimum element
   c) Contains all real numbers
   d) Is not closed under subtraction

5. If (P) denotes the sentence x > 5, then the set of the following sentences is not a propositional function:
   a) x = 6
   b) x = 7
   c) x = 5
   d) x = 2

6. Can't be the extended set. Then the truth values of the following statements:
   a) x = a and y = b, a = 5, b = 5, 5 = 5 is true.
   b) x = a and y = b, a = 5, b = 5, 5 = 5 is false.
   c) x = a and y = b, a = 5, b = 5, 5 = 5 is true.
   d) x = a and y = b, a = 5, b = 5, 5 = 5 is false.

7. The negation of the proposition (P), P(x), is given by:
   a) P(x)
   b) ~P(x)
   c) P(x)
   d) ~P(x)

8. Let (P, Q) be the statement. Then the truth values of the following statement:
   a) (P → Q) (Q → P)
   b) (P → Q) (Q → P)
   c) (P → Q) (Q → P)
   d) (P → Q) (Q → P)

9. Let A, B, C be the truth values of the following statement:
   a) A = T, B = F, C = T
   b) A = F, B = T, C = F
   c) A = T, B = F, C = F
   d) A = F, B = T, C = T

10. Let (P, Q) be the statement. Then the truth values of the following statement:
    a) (P ↔ Q) (Q ↔ P)
    b) (P ↔ Q) (Q ↔ P)
    c) (P ↔ Q) (Q ↔ P)
    d) (P ↔ Q) (Q ↔ P)