

**1) True**

| p | q | $\sim q$ | $p \rightarrow q$ |
|---|---|----------|-------------------|
| T | T | F        | <b>F</b>          |
| T | F | T        | <b>T</b>          |
| F | T | F        | <b>T</b>          |
| F | F | T        | <b>T</b>          |

**2) True**

| q | p | $q \rightarrow p$ |
|---|---|-------------------|
| T | T | <b>T</b>          |
| T | F | <b>F</b>          |
| F | T | <b>T</b>          |
| F | F | <b>T</b>          |

**3) True**

| p | q | $p \leftrightarrow q$ |
|---|---|-----------------------|
| T | T | <b>T</b>              |
| T | F | <b>F</b>              |
| F | T | <b>F</b>              |
| F | F | <b>T</b>              |

**4)  $\sim p \wedge \sim q$** **4) True**

| p | q | $\sim p$ | $\sim q$ | $\sim p \wedge \sim q$ |
|---|---|----------|----------|------------------------|
| T | T | F        | F        | <b>F</b>               |
| T | F | F        | T        | <b>F</b>               |
| F | T | T        | F        | <b>F</b>               |
| F | F | T        | T        | <b>T</b>               |

**5) False**

| p | q | $\sim p$ | $\sim p \wedge q$ |
|---|---|----------|-------------------|
| T | T | F        | <b>F</b>          |
| T | F | F        | <b>F</b>          |
| F | T | T        | <b>T</b>          |
| F | F | T        | <b>F</b>          |

**Question no 2:**

Write the following statement in symbolic form.

**Statement**

If I am a fast bowler then I am famous.

Therefore I am famous

**symbolically**

$$q \rightarrow r$$

**Question no 3:**

---

1)  $\sim p \wedge \sim q$

1) Price of gold is not rise and import will not increase.

2)  $q \leftrightarrow p$

2) Import increase if and only if price of gold rise.

---