

## CHAPTER-3 | Production and Costs

QUIZ  
PART-02

1. Fixed factors of production are those which  
 A. Vary directly with the level of output  
 B. Remain unchanged regardless of output level  
 C. Always increase as production expands  
 D. Can be substituted freely with labour (D)

**Explanation :** Fixed factors such as land, factory space, or machinery remain constant in the short run, irrespective of output.

2. Variable factors of production include  
 A. Land and factory buildings  
 B. Labour, raw materials, and transport services  
 C. Machinery and managerial personnel  
 D. Technology and patents (B)

**Explanation :** Variable factors change with output and can be increased or decreased as needed, such as labour and raw materials.

3. The law of variable proportions states that as units of a variable factor increase while keeping others fixed,  
 A. TP rises at an increasing rate, then at a diminishing rate, and finally falls  
 B. TP falls continuously with more input  
 C. TP always rises at a constant rate  
 D. MP remains constant at all levels (A)

**Explanation :** The law of variable proportions highlights three phases: increasing returns, diminishing returns, and negative returns.

4. In Phase I of the law of variable proportions, total product (TP)  
 A. Rises at a decreasing rate  
 B. Rises at an increasing rate  
 C. Falls with more input  
 D. Remains constant (B)

**Explanation :** During Phase I, each additional unit of the variable factor increases TP at an increasing rate as MP also rises.

5. In Phase II of the law of variable proportions, marginal product (MP)  
 A. Rises continuously  
 B. Falls but remains positive  
 C. Becomes negative  
 D. Remains constant (B)

**Explanation :** In Phase II, TP increases at a diminishing rate, while MP decreases but stays positive.

6. In Phase III of the law of variable proportions,  
 A. MP becomes negative and TP falls  
 B. MP rises and TP increases at an increasing rate  
 C. TP is constant and MP is positive  
 D. Both TP and MP remain unchanged (A)

**Explanation :** In this stage, too many variable inputs reduce efficiency, MP turns negative, and TP declines.

7. The law of diminishing marginal returns states that increasing a factor beyond a certain point  
 A. Leads to constant increases in output  
 B. Results in smaller and smaller increases in output  
 C. Makes TP grow at an increasing rate  
 D. Eliminates fixed factors of production (B)

**Explanation :** The law of diminishing marginal returns shows that after a certain level, additional variable input adds less to output.

8. The law of variable proportions is applicable in the  
 A. Long run only  
 B. Short run only  
 C. Medium run only  
 D. Both short and long run (B)

**Explanation :** The law applies to the short run where at least one factor is fixed while others vary.

9. According to the law of variable proportions, producers never operate in Phase III because  
 A. TP increases at a diminishing rate  
 B. MP is still positive  
 C. TP falls and MP is negative  
 D. AP is constant (C)

**Explanation :** Phase III is economically irrational since additional inputs reduce total output; hence producers avoid it.

10. The main difference between returns to a factor and returns to scale is that  
 A. Returns to a factor apply when all inputs vary, while returns to scale keep inputs fixed  
 B. Returns to a factor vary one input with others fixed; returns to scale vary all inputs  
 C. Both apply only in the long run  
 D. Both always result in negative returns (B)

**Explanation :** Returns to a factor examine changes in output when one input changes while others remain fixed, whereas returns to scale study changes when all inputs vary.