

I. Do the following:

1. In an A.P, the first term is 2 and the sum of the first five terms is one-fourth of the next five terms. Show that 20<sup>th</sup> term is -112.
2. In an A.P if P<sup>th</sup> term is  $1/q$  and q<sup>th</sup> term is  $1/p$ , prove that the sum of first pq terms is  $\frac{1}{2}(pq + 1)$ , where  $p \neq q$ .
3. Sum of first p,q and r terms of an A.P are a,b and c, respectively. Prove that  $\frac{a}{p}(q - r) + \frac{b}{q}(r - p) + \frac{c}{r}(p - q) = 0$ .
4. The ratio of the sums of m and n terms of an A.P is  $m^2:n^2$ . Show that the ratio of m<sup>th</sup> and n<sup>th</sup> term is  $(2m-1) : (2n-1)$ .
5. If  $\frac{a^n+b^n}{a^{n-1}+b^{n-1}}$  is the A.M. between a and b, then find the value of n.

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TT –Micro Economics

STD:XI (Con)

Marks:25

I. One Mark Question:

2x1=2

1. Define Average Product.
2. When AP is maximum, MP is equal to:
  - a)TP
  - b)AP
  - c)One
  - d)Zero

II. Give Short Answer For:

1x3=3

3. Define Production function.

III. Answer in Brief:

2x4=8

4. Disting wish between Short Run and Long Run production functions.

5. a)Calculate TP and AP:

Variable factor (in units)	1	2	3	4	5	6	7
MP (Units)	20	16	12	8	4	0	-4

(OR)

- b) Giving Reasons, explain the Law of variable proportions.

IV. Answer in Detail:

2x6=12

6. Explain the law of diminishing returns with the help of a hypothetical schedule and diagram

7.a) Calculate TP and MP:

Variable Factor (units)	1	2	3	4	5	6
AP (Units)	50	48	45	42	39	35

(OR)

- b) State the relationship between marginal product and Average product. Use Diagram.