ECONOMICS

BOOKS - RADHA BHUGANA ECONOMICS (HINGLISH)

PRODUCER BEHAVIOUR AND SUPPLY

Example

1. Complete the following table :

Units of Labour	1	2	3	4	5	6
Average Product (units)	8	10	--	9	--	7
Marginal Product (units)	--	--	10	--	4	--

2. The following table gives total product schedule of labour. Find average product and marginal product schedules of labour.

Labour	0	1	2	3	4	5
TP of Labour(Units)	0	15	35	50	40	48

3. Calculate AP and MP from the following schedule :

Variable Factor	0	1	2	3	4	5
Total Product (TP) (Units)	0	8	20	28	28	20

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4. Calculate TP and AP :

Variable Factor	1	2	3	4	5	6	7
MP (in Units)	24	22	16	12	8	0	−8

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5. Following table gives the marginal product schedule of labour. It is given that the total product is zero at zero level of labour employment. Calculate total and average product schedules.

Labour	1	2	3	4	5	6
MP of Labour (Units)	3	5	7	5	3	1

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6. Following table gives the AP schedule of labour. Find the TP and MP schedules . It is

given that the TP is zero at zero level of labour employment.

Labour	1	2	3	4	5	6
AP of Labour (Units)	2	3	4	4.25	4	3.50

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7. Identify the three phases of the law of variable proportions from the following and also give reason behind each phase.

Units of Variable Input	1	2	3	4	5
TPP (Units)	10	22	30	35	30

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8. Identify the different output levels, which mark the three phases of the operation of the law of variable proportions, from the following table :

Units of Variable Factor	0	1	2	3	4	5
TP (in Units)	0	8	20	28	28	20

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9. Calculate the MP of variable factor and indicate the various phases of law of variable

proportions from the following schedule :

Units of Variable Factor	0	1	2	3	4	5	6
TP(in Units)	0	40	110	150	180	180	140

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10. Let the production function of a firm be $Q = 5L^{1/2}K^{1/2}$. Find the maximum possible output that the firm can produce with 100 units of L and 100 units of K.

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1. When TP increases at increasing rate, MP

A. falls

B. rises

C. remains constant

D. all of these

Answer: B

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2. When MP is more than AP

    A. AP rises

    B. AP falls

    C. AP remains constant

    D. none of these

Answer: A

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3. The time period in which production can be increased by increasing the quantity of variable factor only

A. very short period

B. long period

C. short period

D. none of these

Answer: C

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4. Production function refers to functional relationship between inputs and _____.

A. cost

B. output

C. revenue

D. profit.

Answer: B

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5. Total product falls when MP

    A. falls positively

    B. rises

    C. is zero

    D. is negative

Answer: D

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6. Identify the fixed factor in short run:

A. labour

B. raw material

C. land

D. none of these

Answer: C

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7. So long as Average product is increasing:

A. Marginal product is falling

B. Marginal product is rising

C. Marginal product is greater than average product

D. Marginal product is smaller than average product

Answer: C

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8. When TP curve is upward sloping and convex to X axis, MP curve is :

A. downward sloping

B. upward sloping

C. touches X axis

D. None of these

Answer: B

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1. What is meant by returns to a factor ?

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2. What are volume discounts ?

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3. What is meant by law of variable proportion ?

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4. What does division of labour mean ?

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5. Give meaning of increasing returns to a factor.

6. What is law of diminishing returns to a factor or diminishing marginal product ?

7. What are the three phases of law of variable proportions?

8. What is the relationship between TP and MP ?

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9. What is the relationship between AP and MP ?

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10. What is the relation of AP, when :

(i) MP is more than AP

(ii) MP is less than AP

(iii)MP is equal to AP ?

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11. Four units of labour produce 1000 units of output and 5 units of labour produce 1200 units of output. Calculate MP of the labour.

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12. What is the general shape of the TP, AP and MP curves ?

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13. Name the law expressing the relationship between the quantities of a variable factor and the quantities of output.

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14. Mention three reasons for occurrence of the phase of increasing returns to a factor.

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15. In which phase of law of variable proportions, a rational firm aims to operate ?

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Conceptual

1. What is production function ?

2. When APP is maximum, what is the relation between MPP and APP ?

3. What is meant by inputs ?

4. Wheel APP rises, what is the relation between MPP and APP ?

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5. What meant by output ?

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6. What happens to TPP when MPP of the variable input is negative ?

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7. What is meant by short run (short period) ?

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8. When APP falls, what is the relation between MPP and APP ?

9. What is meant by long run (long period) ?

10. When MPP is falling and is positive, at what rate TPP is changing ?

11. Nama any three fixed inputs

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12. When TPP maximum, what an you say about MPP ?

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13. State the behaviour of MPP, under Returns to a factor.

14. List any four inputs used in production.

15. What tuill you say about MPP of a factor when TPP rises at an increasing rate ?

16. Can there be fixed cost of a firm in the long run ?

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17. As the variable input is increased by one unit, total output falls What would you about marginal productivity of labour ?

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18. What is meant by total physical product (TPP) or total product ?

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19. What will you say about MPP of a factor when TPP is rising at diminishing rate?

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20. What is meant by average physical product (APP) or average product ?

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21. What will you say about MPP of a factor in TPP is falling ?

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22. What is meant by marginal physical product (MPP) or marginal product ?

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23. What is the general shape of APP curve ?

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24. How is TPP derived from MPP schedule ?

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25. Wat is the general shape of MPP curve ?

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Hots

1. Giving reasons , state whether the following statements are true or false :

(i)When there are diminishing returns to a factor, total product always decreases

(ii)Total product will increase only when marginal product increases

(iii)Increase in total product always indicates that there are increasing returns to a factor

(iv)When there are diminishing returns to a factor, marginal and total product both always fall

(vi)AP rises only when MP rises

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2. Why MP curve curs AP curve at maximum point ?

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3. Can AP rise when MP starts declining ?

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4. Is it possible to postpone the law of variable proportion ?

5. Cut of 1st,2nd and 3rd phases, which phase of production will the producer stop at ?

Or

Till which point should a producer keep increasing the variable factor to get maximum profit ?

6. Calculate TP from the following data :

Units of Variable Factor	1	2	3	4	5
MP (in Units)	20	18	15	0	−10

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Value Based

1. A company plans to expand its operations in the coming year. It is situated near a town where there is availability of labour at reasonable rates, Also the effective machinery

for production can be obtained easily. The company as caught between the choice of technique of production. What do you suggest ?

2. Firm A decides to increase its production and produce the goods in the different plants. In the existing plant labour is in excess and its marginal production is negative. The firm decides to shift some labour from the existing

plant to the second plant. Should this transfer

be facilitated ? What will be the outcome ?

3. (a)What is the relation between average

production and marginal production ?

(b)What should be an ideal measure to

determine wage rate of labour in a

competitive economy

1. Explain the concept of production function.

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2. Define Total Product, Average Product and Marginal Product.

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3. Explain the relationship between the Marginal Product and Total Product of an input.

4. Explain the concept of short run and the long run

5. What is the law of diminishing marginal product ?

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1. What is meant by production ?

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2. Give the meaning of production function

Or

Define production function

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3. In which period, some factors of production are fixed and other variable ?

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4. What do you mean by variable factors ?

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5. What do you mean by fixed factors ?

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6. Can marginal product be zero or negative ?

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7. Define marginal physical product/marginal product.

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8. What change will take place in marginal product, when total product increases at a diminishing rate ?

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9. As the variable input is increased by one unit total output falls. What can you say about the marginal productivity of variable input ?

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10. What will happen to MP, when TP increases at diminishing rate ?

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11. What is law of diminishing marginal product ?

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12. When MP is zero, what can you say about TP ?

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13. How will AP change, when TP rises at a diminishing rate ?

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14. Give meaning of 'retuns to a factor'.

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Short Answer

1. Explain the concept of production function

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2. What is meant by variable factor and fixed factor ? Give Two examples of each.

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3. Define the following terms: (i) Total product (ii) Average product (iii) Marginal product

4. What is meant by returns to a factor ? State the law of diminishing returns to a factor

5. Briefly discuss the relationship between AP and MP.

6. What is meant by returns to a factor ? What leads to increasing returns to a factor ? Explain

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7. What is meant by diminishing returns to a factor? Why does it occur ?

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8. In which phase a rational producer will operate in the short run ?

9. Giving reasons explain the Law of Variable Proportions

10. Relate TP and MP using a schedule.

11. Complete the following table :

Units of Labour	1	2	3	4	5	6
AP (Units)	8	10	–	9	–	7
MP (Units)	–	–	10	–	4	–

12. State the behaviour of marginal product in the law of variable proportions. Explain the causes of this behaviour.

13. State different phases of the law of variable proportions on the basis of TP. Use diagram.

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14. Explain the changes that take place in total product and marginal product under increasing/diminishing returns to a factor.

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15. Define marginal product, state the behaviour of marginal product when only one input is increased and other inputs are held constant.

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16. Give the behaviour of marginal product and total product as more and more units of only one input are employed while keeping other inputs as constant.

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1. Explain the law of variable proportions with the help of total and marginal physical product curves.

2. Discuss the relationship between (i) MP and TP (ii) AP and MP

3. Distinguish between: (i)Variable factors and fixed factors (ii) Short run and long run

4. Explain the reasons for : (i)Increasing returns to a factor (ii) Diminishing returns to a factor.

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

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6. Explain the likely behaviour of total product and marginal product when for increasing production only one input is increased while all other inputs are kept constant.

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7. Giving reason, state whether the following statements are true or false

(i) AP will increase only when MP increases.

(ii) Under diminishing returns to a factor TP continues to increase till MP reaches zero.

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8. What are the different phases in the law of variable proportions in terms of marginal

product ? Give reason behind each phase. Use diagram.

Unsolved Numericals

1. Calculate TP and AP from the folllowing data :

Units of Labour Employed	1	2	3	4	5
Marginal Product	20	10	8	6	4

2. Calculate TP and MP from the following table :

Level of Employment	1	2	3	4	5
Average Product	10	12	14	20	24

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3. Calculate TP and AP from the followig :

Level of Employment	1	2	3	4	5
Marginal Product	20	16	14	0	−10

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4. Calculate the AP and MP from the following

Units of Variable Factor	1	2	3	4	5
Total Product	20	42	60	76	90

5. Calculate the following schedule :

Units Produced	TPP (Units)	APP (Units)	MPP (Units)
1	100	—	—
2	—	—	140
3	—	140	—
4	480	—	—

1. Calculate TP and MP from the following data. Indicate the various phases of law of variable proportions. In which phase, a rational firm will try to operate ?

Qt.	1	2	3	4	5	6	7	8
AP	2	3	4	4	3.6	3	2	1

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