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Economics Studies and Planning

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PART A

Section Id :	12820612
Section Number :	1
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	25
Number of Questions to be attempted:	25
Section Marks:	100
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number:	1
Sub-Section Id:	12820613
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 128206353 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 0

Consider an environmental production technology consisting of five firms labeled as A, B, C, D and E, who all produce both good outputs (g) and bad outputs (b) using the same level of input (x). The output vectors of these firms are A(1,2), B(4,4), C(7,3), D(6,5) and E (3,6) where the first and second terms in the brackets represent respectively, the bad and the good outputs. Which firms are environmental efficient?

a. A and D
b. D and E
c. B and E
d. A and E

Options :

1282061401. A

1282061402. B

1282061403. C

1282061404. D

Question Number : 2 Question Id : 128206354 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 0

Consider a production technology that comprises of six firms labeled as A(1, 8), B(2.5, 8), C(4, 5), D(8, 1), E(4, 2) and F(2,5). Each firm uses two inputs – assembly workers (L) and garage space (K) to produce 10 garden benches (Q). Assume that the techniques used by all the efficient firms can be used together. What is the efficiency score of firm C?

a. 0.63
b. 0.73
c. 0.83
d. 0.53

Options :

1282061405. A

1282061406. B

1282061407. C

1282061408. D

Question Number : 3 Question Id : 128206355 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 0

Consider a production technology that comprises of four firms labeled as A, B, C, and D who all exhibit variable returns to scale. Each firm uses one input, staff (L) to produce one output, sales (Q). Their input and outputs are A(5L,4Q), B(8L,6Q), C(2L,1Q) and D(3L,6Q). What is the efficiency score of firm A?

a. 0.50
b. 0.52
c. 0.54
d. 0.56

Options :

1282061409. A

1282061410. B

1282061411. C

1282061412. D

Question Number : 4 Question Id : 128206356 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 0

Assume that the consumption basket of a utility maximizing consumer consists of only two goods: x and y. Assume further that the own price elasticity of demand for good x is -1.5, and the income elasticity of demand for good x is 5. What is the cross-price elasticity of demand for good y?

a. 6.5
b. 3.5
c. -3.5
d. -6.5

Options :

1282061413. A

1282061414. B

1282061415. C

1282061416. D

Question Number : 5 Question Id : 128206357 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 0

Consider the following production function: $Q = 1/[1+(1/K)(1/L)]$ where Q, K and L represent, respectively, output, capital, and labor. This production function exhibits constant returns to scale for

a. $Q = 0.5$
b. $Q > 1.0$
c. $Q > 1.5$
d. $Q > 2$

Options :

1282061417. A

1282061418. B

1282061419. C

1282061420. D

Question Number : 6 Question Id : 128206358 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 0

Consider two technically efficient firms: A and B in an industry. A uses 2 assembly workers and 4 square feet garage space to produce 1 garden bench. B uses 4 assembly workers and 2 square feet garage space to produce 1 garden bench. Compute the accounting prices of assembly workers and garage space.

a. 1/6 and 2/3
b. 2/3 and 1/6
c. 1/6 and 1/6
d. 2/3 and 2/3

Options :

1282061421. A

1282061422. B

1282061423. C

24. D

Question Number : 7 Question Id : 128206359 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 0

If a firm's technical capacity utilization (TCU) is 0.20, technical efficiency (TE) is 0.50, economic capacity utilization (ECU) is 0.80, then its optimal capacity idleness (OCI) is

a. 1/5
b. 1/3
c. 1/4
d. 1/2

Options :

1282061425. A

1282061426. B

1282061427. C

1282061428. D

Question Number : 8 Question Id : 128206360 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 0

Assume that a firm's technology is depicted by the following production function: $Q = 10 + L^{0.5}K^{0.7}$. Returns to scale are increasing for

a. Q< 60

b. Q< 50

c. Q> 60

d. Q< 40

Options :

1282061429. A

1282061430. B

1282061431. C

1282061432. D

Question Number : 9 Question Id : 128206361 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 0

. . The GDP growth rate of our country is normally distributed with a mean of 6% and a standard deviation of 1%. What is the probability associated with at least 6.99 % growth rate?

a. 0.8389
b. 0.9612
c. 0.1611
d. 0.0388

Options :

1282061433. A

1282061434. B

1282061435. C

35. D

Question Number : 10 Question Id : 128206362 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 0

What is the probability of selecting female executives within executives who are having work-experience (exp) between 3 and 5 years?

	Work exp < 3 years	3 years < Work exp < 5 years	Work exp > 5 years
Male sales-force	90	70	40
Female sales-force	60	50	40

a. 20%
b. 41.67%
c. 58.33%
d. 33.33%

Options :

1282061437. A

1282061438. B

1282061439. C

1282061440. D

Question Number : 11 Question Id : 128206363 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 0

The market analyst estimates that the probability of a product being popular after launch is 0.60. He also believes that for a popular product, it is 80% likely that the sales of that product will surpass the estimated demand. But if the product is not popular, he believes that it is 30% likely that the sales will surpass the estimates. If the sales have surpassed the estimated demand, what is the probability that it has come from a non-popular product.

a. 0.30
b. 0.12
c. 0.28
d. 0.40

Options :

1282061441. A

1282061442. B

1282061443. C

1282061444. D

Question Number : 12 Question Id : 128206364 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 0

Consider a production technology consisting of only two firms, A and B. From the same 1 unit of input, A produces 4 units of bad output and 5 units of good output and B produces 2 units of each. What is the (good) output efficiency of A?

a. 4/5
b. 5/4
c. 20
d. 1

Options :
1282061445. A
1282061446. B
1282061447. C
1282061448. D

Question Number : 13 Question Id : 128206365 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 4 Wrong Marks : 0

Consider a manufacturing industry characterized by the following Cobb-Douglas production function: $Q = 10L^{0.5}K^{0.5}$ where Q, L and K represent, respectively, the units of output (Q), labor (L) and capital (K). Assume that a firm operating in this industry uses 4 units of L and 25 units of capital to produce 80 units of Q. What are the returns to scale of this firm?

a. Increasing
b. Decreasing
c. Constant
d. Cannot be determined

Options :
1282061449. A
1282061450. B
1282061451. C
1282061452. D

Question Number : 14 Question Id : 128206366 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 4 Wrong Marks : 0

. Consider a manufacturing firm characterized by the following cost function: $C = 0.5Q^2 - 10Q$ where C and Q represent, respectively, the cost of output and the units of output. The returns to scale of this firm can be:

a. Increasing
b. Decreasing
c. Constant
d. Depends on the level of output

Options :
1282061453. A
1282061454. B
1282061455. C
1282061456. D

.Consider a manufacturing firm characterized by the following cost function: $C = 100 - 0.5Q_1Q_2 + (Q_1)^2 + (Q_2)^2$ where C represents the cost of producing outputs Q_1 and Q_2. The firm wishes to produce 5 units of Q_1 and 4 units of Q_2. What are the returns to scale of this firm?

a. Increasing
b. Decreasing
c. Constant
d. Cannot be said

Options :

1282061457. A

1282061458. B

1282061459. C

1282061460. D

Consider a manufacturing firm characterized by the following cost function: $C = 100 - 0.5Q_1Q_2 + (Q_1)^2 + (Q_2)^2$ where C represents the cost of producing outputs Q_1 and Q_2. The firm wishes to produce 5 units of Q_1 and 4 units of Q_2. What is the scale elasticity of Q_1 of this firm?

a. 131/40
b. 131/22
c. 131/62
d. Cannot be determined

Options :

1282061461. A

1282061462. B

1282061463. C

1282061464. D

sider the short-run production function for wheat industry: $Q = f(X_v; X_f)$ where Q represents wheat production in tonnes per hectare, the variable input X_v represents fertilizers per hectare, and the fixed input X_f represents area in hectares. Assume that $X_f = 1$. There are two firms A and B operating in this industry. The efficient firm A uses 40 kgs of fertilizers to produce 3 tons of wheat and the inefficient firm B uses the same 40 kgs of fertilizers to produce 2 tons of wheat. Assume that unit price of wheat (p) is 100 dollars per ton, and the unit price of fertilizer (w_v) is 2 dollars per kg. Let us assume that the profit maximizing level of wheat production is at 5 tons from 80 kgs of fertilizers and the capacity level of wheat production is at 6 tons from 200 kgs of fertilizers. What is the technological efficiency of firm B?

a. 1/3
b. 2/3
c. 3/5
d. 5/6

Options :

1282061465. A

1282061466. B

1282061467. C

1282061468. D

Question Number : 18 Question Id : 128206370 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 0

Consider the following production function: $Q = K + L + 2K^{0.5}L^{0.5}$. What is the elasticity of substitution?

a. 1
b. 2
c. 3
d. 4

Options :

1282061469. A

1282061470. B

1282061471. C

1282061472. D

Question Number : 19 Question Id : 128206371 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 0

. Assume that the consumption basket of a utility maximizing consumer consists of only two goods: x and y. Assume further that the cross-price elasticity of demand for good x is 3.5, and the income elasticity of demand for good x is 2. What is the price elasticity of demand for good x?

a. -6.5
b. -5.5
c. -4.5
d. -3.5

Options :

1282061473. A

1282061474. B

1282061476. D

Question Number : 20 Question Id : 128206372 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 0

. Consider a production technology characterized by five firms – A, B, C, D and E. Each firm uses different combinations of two inputs – labor (L) and capital (K) to produce 1 unit of output. The input data are as follows: A (2L,12K), B (6L,4K), C (14L,2K), D (5L,10K) and E (12L,5K). What is the input technical efficiency of firm A?

a. 2/12
b. 1
c. 2/14
d. 12/14

Options :

1282061477. A

1282061478. B

1282061479. C

1282061480. D

Question Number : 21 Question Id : 128206373 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 0

Consider a production technology characterized by five firms – A, B, C, D and E. Each firm uses different combinations of two inputs – labor (L) and capital (K) to produce 1 unit of output. The input data are as follows: A (2L,12K), B (6L,4K), C (14L,2K), D (5L,10K) and E (12L,5K). What is the input technical efficiency of firm E?

a. 0.69
b. 0.72
c. 0.75
d. 0.78

Options :

1282061481. A

1282061482. B

1282061483. C

1282061484. D

Question Number : 22 Question Id : 128206374 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 4 Wrong Marks : 0

Consider a production technology characterized by five firms – A, B, C, D and E. Each firm uses different combinations of two inputs – labor (L) and capital (K) to produce 1 unit of output. The input data are as follows: A (2L,12K), B (6L,4K), C (14L,2K), D (5L,10K) and E (12L,5K). What are the accounting prices of labor (w) and capital (r) for firm D?

a. w = 1/16 and r = 1/8
b. w = 1/8 and r = 1/16
c. w = 1/5 and r = 1/5
d. w = 1/5 and r = 4/5

1282061485. A
1282061486. B
1282061487. C
1282061488. D

Question Number : 23 Question Id : 128206375 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 4 Wrong Marks : 0

Consider a production technology characterized by five firms – A, B, C, D and E. Each firm produces various combinations of two outputs – Q_1 and Q_2 from the same 1 unit of input. The output data are as follows: A ($2Q_1$,$16Q_2$), B ($8Q_1$,$12Q_2$), C ($12Q_1$,$4Q_2$), D ($3Q_1$,$9Q_2$) and E ($7Q_1$,$5Q_2$). What is the efficiency of firm C?

a. 4/12
b. 12/16
c. 4/16
d. 1

Options :
1282061489. A
1282061490. B
1282061491. C
1282061492. D

Question Number : 24 Question Id : 128206376 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 4 Wrong Marks : 0

. Consider a production technology characterized by five firms – A, B, C, D and E. Each firm produces various combinations of two outputs – Q_1 and Q_2 from the same 1 unit of input. The output data are as follows: A ($2Q_1$,$16Q_2$), B ($8Q_1$,$12Q_2$), C ($12Q_1$,$4Q_2$), D ($3Q_1$,$9Q_2$) and E ($7Q_1$,$5Q_2$). Compute the accounting prices p_1 and p_2 of Q_1 and Q_2 respectively for firm B.

a. $p_1 = 2/52$ and $p_2 = 50/52$
b. $p_1 = 1/52$ and $p_2 = 49/52$
c. $p_1 = 2/52$ and $p_2 = 3/52$
d. $p_1 = 50/52$ and $p_2 = 1/52$

Options :
1282061493. A
1282061494. B
1282061495. C
1282061496. D

Question Number : 25 Question Id : 128206377 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 4 Wrong Marks : 0

ime that the technology exhibits constant returns to scale. A firm experiences a productivity growth of 1.5 but experiences a technological regress of 0.5. At what rate will its efficiency be improved/deteriorated over time?

a. 1/3
b. 3
c. 0.75
d. Cannot be determined.

Options :

1282061497. A

1282061498. B

1282061499. C

1282061500. D