

I. Choose the correct answer: 5x1=5

- The inventor of input-output analysis is
 a) Arthur Caylay b) Fisher c) Sir.Francis Galton
 d) Prof.Wassily W.Leontief
- If A is a matrix of order n the $\text{adj}(kA)$ is
 a) $K^{n-1}\text{adj} A$ b) $K^n\text{adj} A$ c) $K^{n+1} \text{adj} A$ d) $K \text{adj} A$
- If A is 3x3 matrix and $|A| = 4$ then $|A^{-1}|$ is equal to
 a) $\frac{1}{16}$ b) $\frac{1}{2}$ c) $\frac{1}{4}$ d) 4
- Inverse of $\begin{pmatrix} 3 & 1 \\ 5 & 2 \end{pmatrix}$ is _____.
 a) $\begin{pmatrix} 2 & -1 \\ -5 & 3 \end{pmatrix}$ b) $\begin{pmatrix} -2 & 5 \\ 1 & -3 \end{pmatrix}$ c) $\begin{pmatrix} 3 & -1 \\ -5 & -3 \end{pmatrix}$ d) $\begin{pmatrix} -3 & 5 \\ 1 & -2 \end{pmatrix}$
- If $\begin{vmatrix} 4 & 3 \\ 3 & 1 \end{vmatrix} = -5$ then the value of $\begin{vmatrix} 20 & 15 \\ 15 & 5 \end{vmatrix}$ is _____.
 a) -5 b) -125 c) -25 d) 0

II. Answer any 4 of the following: 4x2=8

6. Find the minor of all elements in the determinant

$$\begin{vmatrix} 1 & -2 \\ 4 & 3 \end{vmatrix}$$

7. Find λ if the matrix $\begin{bmatrix} 1 & 1 & 3 \\ 2 & \lambda & 4 \\ 9 & 7 & 11 \end{bmatrix}$ has no inverse.

8. Define scalar matrix with example.

9. Evaluate by using determinant property $\begin{vmatrix} 1 & 3 & 4 \\ 102 & 18 & 36 \\ 17 & 36 & 6 \end{vmatrix}$

10. Evaluate $\begin{vmatrix} x & x+1 \\ x-1 & x \end{vmatrix}$

III. Answer any 4 of the following: 4x2=8

11. Solve: $\begin{vmatrix} 2 & x & 3 \\ 4 & 1 & 6 \\ 1 & 2 & 7 \end{vmatrix}$

12. If $A = \begin{pmatrix} 2 & 3 \\ 1 & -6 \end{pmatrix}$ and $B = \begin{pmatrix} -1 & 4 \\ 1 & -2 \end{pmatrix}$ then verify
 $\text{adj}(AB) = (\text{adj} B) (\text{adj} A)$

13. If $B^{-1}A^{-1} = \begin{bmatrix} -1 & 3 \\ 1 & -2 \end{bmatrix}$ then AB.

14. The technology matrix of an economic system of two industries is $\begin{pmatrix} 0.8 & 0.2 \\ 0.9 & 0.7 \end{pmatrix}$ Test whether the system is viable as per Hawkins-Simon conditions.

15. Solve by using matrix inversion method $2x+5y=1; 3x+2y=7$

IV. Answer any 3 of the following:

$$3 \times 5 = 15$$

16. The cost of 4kg onion, 3kg wheat and 2kg rice is Rs.320. The cost of 2kg onion 4kg wheat and 6kg rice is Rs.560. The cost of 6kg onion, 2kg wheat and 3kg rice is Rs.380. Find the cost of each item per kg by matrix inversion method.

17. In an economy there are two industries P_1 and P_2 and the following table gives the supply and demand position in crores of rupees.

Production sector	Consumption sector		Final demand	Gross output
P1	P1	P2	15	50
	10	25		
P2	20	30	10	60

Determine the outputs when the final demand changes to 35 for P_1 and 42 for P_2 .

18. If $X = \begin{pmatrix} 8 & -1 & 3 \\ -5 & 1 & 2 \\ 10 & -1 & -4 \end{pmatrix}$ and $Y = \begin{pmatrix} 2 & 1 & -1 \\ 0 & 2 & 1 \\ 5 & p & q \end{pmatrix}$ then find p, q if

$$Y = X^{-1}$$

19. Prove that $\begin{vmatrix} -a^2 & ab & ac \\ ab & -b^2 & bc \\ ac & bc & -c^2 \end{vmatrix} = 4a^2b^2c^2$

I. பலவுள் தெரிக: $2 \times 1 = 2$

1. காவடிச் சிந்துக்குத் தந்தை என்று அழைக்கப்படுபவர் யார்?
அ) பாரதிதாசன் ஆ) அண்ணாமலையார் இ) முருகன்
ஈ) பாரதியார்
2. ஒப்புரவு என்பதன் பொருள், _____.
அ) அடக்கமுடையது ஆ) பண்புடையது இ) ஊருக்கு உதவுவது
ஈ) செல்வமுடையது

II. பின்வரும் சொற்களுள் எவையேனும் இரண்டினைப் பிரித்துப் பகுபத உறுப்பிலக்கணம் தருக: $2 \times 2 = 4$

3. பார்த்தான் 4. தோன்றி 5. நடந்தனன் 6. பிரிந்தோர்
- III. பின்வரும் சொற்களுள் எவையேனும் இரண்டுக்கு இலக்கணக்குறிப்பு தருக: $2 \times 1 = 2$

7. தாவி 8. நன்று நன்று 9. முயலா 10. சுடச்சுடரும்
- IV. பின்வரும் ஆங்கிலச் சொற்களுக்கு ஏற்ற கலைச்சொற்கள் தருக: $4 \times \frac{1}{2} = 2$

11. Suffix- 12. Cultural Elements - 13. Prefix -
14. Rockword Dictionary - 15. Ethnic Group -

V. பின்வரும் வினாக்களுக்கு குறுவிடை தருக: $3 \times 1 = 3$

16. தமிழர்கள் புகழ், பழியை எவ்வாறு ஏற்றதாகப் புறநானூறு கூறுகிறது?
 17. சீர்தூக்கி ஆராய வேண்டிய ஆற்றல்கள் யாவை?
 18. 'காவடிச்சிந்து' என்னும் நூலின் பாட்டுடைத்தலைவன் யார்?
- IV. பின்வரும் வினாக்களுள் ஏதேனும் ஒன்றனுக்குச் சிறுவிடை தருக: $1 \times 3 = 3$

19. மலை, மனித வாழ்வில் சிறப்பிடம் பெற்றுள்ளது என்பதை எடுத்துக்காட்டுகளுடன் விவரி.
20. 'பிரிந்தோர்ப் புணர்ப்போர் இருந்தனர்' - இடம் சுட்டிப் பொருள் விளக்கம் தருக.

VII. அணிவிளக்கம் தருக: $1 \times 3 = 3$

21. தீயினாற் சுட்டபுண் உள்ளாரும் ஆறாதே
நாவினாற் சுட்ட வடு.
இக்குறட்பாவில் பயின்று வரும் அணியை விளக்குக.
(அல்லது)

சொற்பொருள் பின்வருநிலையணியை விளக்கிக் கீழ்க்காணும் குறளுக்கு இவ்வணியைப் பொருத்தி எழுதுக. வினைவலியும் தன்வலியும் மாற்றான் வலியும் துணைவலியும் தூக்கிச் செயல்.

VIII. பின்வரும் வினாவிற்கு நெடுவிடை தருக: $1 \times 5 = 5$
22. 'அடக்கமுடைமை ஒருவரை' வாழ்வின் உயர்த்தும்' இக்கூற்றை முப்பால் வழி விளக்குக.

(அல்லது)

- வாடிவாசல் கதை வாயிலாக நீங்கள் உணர்ந்த கருத்துகளை விளக்குக.
IX. அடிபிறழாமல் எழுதுக: $4 + 2 = 6$
23. 'உண்டால்' எனத் தொடங்கும் கடலுள் மாய்ந்த இளம்பெருவழுதியின் புறநானூற்றுப் பாடல்.
24. 'தாளாற்றித்' எனத் தொடங்கும் குறள்.

I. Choose the correct answer:

$5 \times 1 = 5$

1. If $|x + 2| \leq 9$, then x belongs to

- a)
- $(-\infty, -7)$
- b)
- $[-11, 7]$
- c)
- $(-\infty, -7) \cup (11, \infty)$
- d)
- $(-11, 7)$

2. Given that x, y and b real numbers $x < y, b > 0$, then

- a)
- $xb < yb$
- b)
- $xb > yb$
- c)
- $xb \leq yb$
- d)
- $x/b \geq y/b$

3. If $\frac{|x-2|}{x-2} \geq 0$ then x belongs to $x-2$

- a)
- $[2, \infty]$
- b)
- $(2, \infty)$
- c)
- $(-\infty, 2)$
- d)
- $(-2, \infty)$

4. The value of $\log_3 \frac{1}{81}$ is _____.

- a) -2 b) -8 c) -4 d) -9

5. The solution of $5x-1 < 24$ and $5x+1 > -24$ is _____.

- a) (4, 5) b) (-5, -4) c) (-5, 5) d) (-5, 4)

II. Answer any 4 of the following:

$4 \times 2 = 8$

6. Find a positive number smaller than $\frac{1}{2^{1000}}$. Justify.7. Solve: $|2x - 17| = 3$ 8. Find the condition that one of the roots of $ax^2 + bx + c$ may be reciprocal of the other.9. Find the values of p for which the difference between the roots of the equation $x^2 + px + q = 0$, is 2.10. If a and b are the roots of the equation $x^2 - px + q = 0$, find the value of $\frac{1}{a} + \frac{1}{b}$.

III. Answer any 4 of the following:

$4 \times 3 = 12$

11. Find all pairs of consecutive odd natural numbers both of which are larger than 10 and their sum is less than 40.

12. Prove that $\sqrt{3}$ is an irrational number.13. Solve $-x^2 + 3x - 2 \geq 0$ 14. A model rocket is launched from the ground. The height h of the rocket after t seconds from lift off is given by $h(t) = -5t^2 + 100t; 0 \leq t \leq 20$. At what time the rocket is 495 ft above the ground?15. If one root of the equation $3x^2 + Kx - 81 = 0$ is the square of the other then find K .

IV. Answer any 3 of the following:

$3 \times 5 = 15$

16. If one root of $K(x-1)^2 = 5x-7$ is double the other root, show that $K=2$ or -25 .17. Find all values of x for which $\frac{2x-3}{(x-2)(x-4)} < 0$.18. If α and β are the roots of the quadratic equation $x^2 + \sqrt{2}x + 3 = 0$ form a quadratic polynomial with zeroes $\frac{1}{\alpha}, \frac{1}{\beta}$.19. If $x=2$ is one roots of $x^3 + 2x^2 - 5x - 6 = 0$ then find the other roots of the equation.

EVERWIN MATRIC. HR. SEC. SCHOOL

27.08.19 Comprehensive Revision Programme -1 Marks: 40
STD: XI-E,F,H (AN) Commerce Time: 1.15 Hrs

I. Choose the correct answer: 5x1=5

- Hindrance of place is removed by _____.
a) Transport b) Warehouse c) Salesman
- In co-operative one fourth of the profit can be kept in _____.
a) Bank b) Reserve c) Cash Balance d) All of these
- A consumers co-operation was first successful in _____.
a) England b) USA c) Swiss
- Minimum how much amount can be transferred through RTGS?
a) 2 lakhs b) 5 lakhs c) 50,000
- A warehouse holds goods as a _____ center.
a) Marketing b) Sorting c) Distribution

II. Answer any 4 of the following: 4x2=8

- What is warehouse?
- List the various types of warehouse.
- What is mobile banking?
- What do you mean by co-operative organization?

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- What is warehouse?
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- What is mobile banking?
- What do you mean by co-operative organization?

10. What is meant by Nallangadi?

11. Define Economic Activity.

III. Answer any 4 of the following: 4x3=12

12. Differentiate the warehouse warrant from the warehouse receipt.

13. Write a short note on RTGS.

14. Write a note on housing co-operative.

15. Explain the meaning of the term vanigam.

16. What do you mean by human activity?

17. Explain the classification of Business.

IV. Answer any 3 of the following: 3x5=15

18. Explain any 5 types of co-operative society.

19. What are the hindrance of commerce?

20. Explain the characteristics of Business.

21. What are the principles of Co-operatives?

22. Discuss the various primary functions performed by the Commercial Banks.

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27.08.19 Comprehensive Revision Programme -1 Marks: 40

STD: XI-A,C,D (AN)

Physics

Time: 1.15 Hrs

I. Choose the correct answer:

10x1=10

1. An object is dropped in an unknown planet from height 50m, it reaches the ground in 2s. The acceleration due to gravity in this unknown planet is _____.

- a) $g=20\text{m/s}^2$ b) $g=25\text{m/s}^2$ c) $g=15\text{m/s}^2$ d) $g=30\text{m/s}^2$

2. Identify the unit vector in the following

- a) $\hat{i}+\hat{j}$ b) $\frac{\hat{i}}{\sqrt{2}}$ c) $\hat{k}-\frac{\hat{j}}{\sqrt{2}}$ d) $\frac{\hat{i}+\hat{j}}{\sqrt{2}}$

3. Which one of the following physical quantities cannot be represented by a scalar?

- a) Mass b) Length c) Momentum d) Magnitude of acceleration

4. The dimensional formula for acceleration is _____.

- a) $M^0L^{-1}T^{-2}$ b) $M^0L^1T^{-2}$ c) $M^0L^3T^1$ d) L^3T^{-2}

5. Movement of a swing is an example for _____.

- a) Vibrating motion b) Rotational motion c) Linear motion
d) None of the above

6. When a given vector $\vec{A}=\hat{i}+3\hat{j}+6\hat{k}$ find the magnitude of \vec{A} _____.

- a) $\sqrt{46}$ b) $\sqrt{49}$ c) $\sqrt{50}$ d) $\sqrt{51}$

7. If an object is dropped from the top of a building and it reaches the ground at $t=4\text{s}$, then the height of the building is _____.

- a) 77.3 m b) 78.4 m c) 80.5 m d) 79.2 m

8. Given the vector $\vec{A}=7\hat{i}+6\hat{j}+3\hat{k}$ what is $5\vec{A}$?

- a) $26\hat{i}+30\hat{j}+21\hat{k}$ b) $11\hat{i}+12\hat{j}+13\hat{k}$ c) $35\hat{i}+30\hat{j}+15\hat{k}$
d) $30\hat{i}+21\hat{j}+11\hat{k}$

9. Two objects of masses m_1 and m_2 fall from one heights h_1 and h_2 respectively. The ratio of the magnitude of their momenta when they hit the ground is _____.

- a) $\sqrt{\frac{h_1}{h_2}}$ b) $\sqrt{\frac{m_1 h_1}{m_2 h_2}}$ c) $\frac{m_1}{m_2} \sqrt{\frac{h_1}{h_2}}$ d) $\frac{m_1}{m_2}$

10. If the two bodies A and B are moving at right angles to each other then the relative velocity of V_{AB} is given by _____.

- a) $V_{AB}=\sqrt{V_A^2 - V_B^2}$ b) V_A-V_B c) $V_{AB}=\sqrt{V_A^2 + V_B^2}$ d) V_B-V_A

II. Answer any 4 of the following:

4x2=8

11. Define displacement and distance.

12. Define a radian.

13. Define angular displacement and angular velocity.

14. Two vectors are given as $\vec{r}=2\hat{i}+3\hat{j}+5\hat{k}$ and $\vec{F}=3\hat{i}-2\hat{j}+4\hat{k}$. Find the resultant vector $\vec{r}=\vec{r} \times \vec{F}$

15. Two vectors \vec{A} and \vec{B} of magnitude 7 units and 9 units make an angle of 60° with each other. Find the magnitude of the difference vector $\vec{A} - \vec{B}$ and its direction with respect to the vector \vec{A} .

III. Answer any 4 of the following:

4x3=12

16. The position vector of a particle is given $\vec{r}=2t\hat{i}+3t^2\hat{j}-5\hat{k}$

a) Calculate the velocity and speed of the particle at any instant.

b) Calculate the velocity and speed of the particle at time $t=2\text{s}$.

17. Derive tangential acceleration.

18. A particle moves in a circle of radius 10m. Its linear speed is given by $v=3t$ where t is the second and v is in ms^{-1} .

a) Find the centripetal and tangential acceleration at $t=2\text{s}$.

b) Calculate the angle between the resultant acceleration and the radius vector.

19. Define a) equal vectors b) unit vector orthogonal unit vectors.

20. What are the types of motion?

IV. Answer in detail:

2x5=10

21. Explain in detail the triangle law of addition.

(or)

22. Discuss the properties of scalar products.

23. Derive the kinematic equations of motion for constant acceleration.

(or)

24. Derive the equations of motion for a particle

- a) falling vertically b) projected vertically

1. निम्नलिखित वैकल्पिक प्रश्नों के सही उत्तर लिखिए : 10x1 = 10

(क) कबीरदास जी _____ परम्परा के प्रमुख कवि हैं।

- (i) ज्ञान परम्परा (ii) भक्ति परम्परा

(ख) सूरदास जी की _____ प्रमुख रचना है।

- (i) भूखण्ड (ii) सूरदावार

(ग) समास का अर्थ _____ है।

- (i) सामासिक शब्द (ii) संक्षिप्तिकरण

(घ) उभयार्थकार _____ पर आधारित होता है।

- (i) शब्द और अर्थ (ii) शब्द

(ङ) दीर्घ का उल्टा _____ छन्द है।

- (i) उपमा (ii) झोरठा

(च) सूरदास ने _____ की जीवन लीला का वर्णन किया है।

- (i) कृष्ण (ii) राम

(छ) कबीरदास के काव्य में _____ की प्रधानता है।

- (i) प्रेमपक्ष (ii) हृदयपक्ष

(ज) वाच्य के _____ भेद हैं।

- (i) दो (ii) तीन

(झ) श्री तुलसी का हिन्दी काव्य का नाम _____ है।

- (i) भरतमुक्तिकाव्य (ii) मधुसूदन

(ञ) भ्रम करने वाला _____ माना जाता है।

- (i) छोटा (ii) गुच्छ

2. निम्नलिखित प्रश्नों के उत्तर दीजिए : 3x2 = 6

(i) पत्थर पर लीर चलाने का नतीजा क्या होता है?

(ii) हिंसों का पहला चरण क्या है?

(iii) युद्ध कब होता है?

3. कबीरदास जी के किन्हीं दो दोहों को लिखिए : 4

4. निम्नलिखित प्रश्नों के उत्तर दीजिए : 12

(i) समास विग्रह कीजिए : अथासम, चरणकमल

(ii) समस्तपद (समास) बनाइए : जात्र और हानि, दिन-दिन

(iii) वाक्य में प्रयोग कीजिए : समझौता करना, शालीनता

(iv) पत्राभिवान्ची शब्द लिखिए : विकास, परिणाम

(v) वाच्य बदलिए : (क) ममला खाना पका रही है।

(ख) क्रोध से मिठाई लाई जासगी।

(vi) पद परिचय : शेर में जंगल में रहता है।

(vii) पदों के नाम लिखिए : Secretary, Principal, Chairman, Translator.

5. अनुप्रास और यमक या उपमा और रूपक अलंकार को सौदाखण लिखिए : 2x2 = 4

6(i) धर्म की हत्या का अर्थ स्पष्ट कीजिए ? 4

(ii) सूरदास प्रभु के या अपने उद्धार की मांग किस तर्क पर करते हैं?

I. Choose the correct answer: 10x1=10

1. A 12cm diameter disc with single sided, single layer has ____ capacity.
a. 4.7GB b. 8.5GB c. 1.5GB d. none of these
2. Clock speed is measured in ____.
a. MHZ b. GHZ c. THZ d. a or b
3. Which of the following is bi-directional?
a. address bus b. control bus c. uni bus d. data bus
4. MAR stands ____.
a. Memory Address Register b. Memory Arithmetic Register
c. Memory Adapter Register d. Memory Archive Register
5. Which is the smallest size of the data represent in a CD?
a. blocks b. sectors c. pits d. tracks
6. Word processing consists of ____.
a. create b. edit c. manipulate d. all of these
7. ____ is the shortcut key to close a document.
a. ctrl+x b. ctrl+w c. ctrl+c d. ctrl+Alt+X
8. Match the following:
(i) To the beginning of document - ctrl + X
(ii) Undo - ctrl + shift + V
(iii) One word left - ctrl + z
(iv) Paste special - ctrl + home
a. i,iii,iv,ii b. iv,iii,i,ii c. i,ii,iii,iv d. iv,ii,i,iii

9. DDE stands

- a. Dynamic Data Exchange b. Digital Data Exchange
- c. Decimal Data Exchange d. Dynamic Digital Exchange

10. To select multiple file or folders press

- a. ctrl+M b. ctrl+click c. ctrl+A d. ctrl+Q

II. Answer any 4 from the following, Q.No:13 is compulsory:4x2=8

11. How will you differentiate a flash memory and a EEPROM?
12. What are the types of Microprocessor based on the data width?
13. Mention the types of paragraph alignments, write the shortcuts key of each?
14. How do you merge cells in a table?
15. What is Registers?

III. Answer any 4 from the following, Q.no:18 is compulsory:

4x3=12

16. What is RISC and CISC?

17. What are the two types of RAM? Differentiate them?

18. What is page orientation? Mention its types.

19. Write a note on Tamil word processor.

20. Differentiate copying and moving the text in open office writer.

IV. Answer in detail of the following question: 2x5=10

21. Explain the types of ROM? OR

What are the different methods to change margins in writer?

22. What are the characteristics of a microprocessor? OR

Explain. How you will add or remove bullets and numbering to a list in writer document?

I. Choose the correct answer: 5x1=5

1. Product obtained from additional factors of production is termed as ____.
a. total product b. marginal product c. annual product
2. The incentive in respect of land is called _____.
a. rent b. wages c. profit
3. Who said that one of the key of an entrepreneur is 'uncertainty bearing' _____.
a. knight b. J.B Clark c. Adam smith
4. The cost of self-owned resources are termed as ____ costs.
a. implicit b. money c. explicit
5. Revenue received from the sale of products is known as ____ revenue.
a. average b. total c. marginal

II. Answer the following: [Any 4] 4x2=8

1. Define cost.
2. What is 'Floating Cost'?
3. Define cost function.
4. Define Labour.
5. What are the reasons for upward sloping supply curve?

III. Answer the following: [Any 4] 4x3=12

1. Distinguish between explicit and implicit cost.
2. Define opportunity cost and provide an example.
3. Bring out the relationship among total, average and marginal products.
4. Illustrate the concept of Producer's Equilibrium.
5. What are the characteristic of labour?

IV. Answer in detail: [Any 3] 5x3=15

1. Examine the law of variable proportions with the help of a diagram.
2. State the Cobb-Douglas production function.
3. If total cost = $10+Q^3$, find out AC, AVC, TFC, AFC when $Q=5$.
4. Explain relationship between TR, AR, MR and Elasticity of demand.