(6 pages)

Reg. No. : 1 8 1 3 1 0 1 0 33110

OCTOBER 2018 **U/001/1899101/35105**

Paper I — ENGLISH

Time : Three hours Maximum : 100 marks

SECTION A — (20 marks)

I. Answer any FIVE of the following questions in 50 words each. (5 × 4 = 20)

1. Who are Dr. Kalam's role model?

2. Why did Hitler frown at Luz and Jesse?

3. Where did the narrator meet the knight at arms?

4. What is the conflict experienced by Ulysses?

5. What is the Verger's opinion on reading?

6. Why are Lil and Else Kelvey shunned by the other girls?

7. How was the bearded man wounded?

SECTION B — (40 marks)

II. Answer any FOUR questions in about 100 words each: (4 × 5 = 20)

8. Why does Dr. Kalam advice the young people to dream?

9. How should one handle a compliant at work place?

10. What are the different kind of bangles sold by the bangle sellers?

11. How does Walt Whitman relate himself to nature?

12. Describe the Doll's house.

III. Answer any ONE of the following questions in about 200 words each. (1 × 10 = 10)

13. Describe the professional rivalry and personal friendship of Owens and Long.

14. Draw a contrast between the past and present life of Ulysses.

15. Explain with examples how to avoid arguments according to Sam Horn.

IV. Answer any ONE of the following in 200 words:

(1 × 10 = 10)

16. Attempt a character sketch of the Verger?

17. Comment on the discrimination asput is the story The Doll's House.

18. How did the Hermit get the king to find the answers to his questions?

SECTION C — (40 marks)

V. Rewrite as directed: (10 × 1 = 10)

19. (a) A black old dirty cat is threatening everyone along the street (write the adjectives in the right order)

(b) They _____ always prepared for emergency (fill in with appropriate verb)

(c) She stood _____ her sister (fill in with an appropriate preposition)

(d) Either study hard _____ fail. (fill in with a conjunction)

(e) They often visit us (state the type of adverb).

(f) Write the full form of the acronym "SCUBA"

(g) Write the synonym and antonym of the word "ASSUME"

(h) I will be away for _____ hour. (fill in with appropriate article).

(i) Frame a sentence with the word "opinion'

(j) I wish I _____ (work) hard to win this competition (fill in the blank with an appropriate form of the verb given in the bracket)

20. Draft a notice to be put upon the library notice board regarding the changes made in the membership fees and book rental charges with effect from (2nd Dec. 2018). (1 × 10 = 10)

21. Draft a minute for the annual students meeting regarding Alumina celebration to be held on first of November in the college campus. (1 × 10 = 10)

22. Read the following passage and answer the following questions (5 × 2 = 10)

It is not luck but labour that makes man. Luck, says an American writer, is ever waiting for something to turn up; labour with keen eyes and strong will always turns up something. Luck lies in bed and wishes the postman would bring him news of a legacy; labour turns out at six and with busy pen and ringing hammer lays the foundation of competence. Luck whines, labour watches. Luck relies on chance, labour on character. Luck slips downwards to self-indulgence; labour strides

upwards and aspires to independence. The conviction, therefore, is extending that diligence is the mother of good luck. In other words, that a man's success In life will be proportionate to his efforts, to his industry, to his attention to small things.

(a) Which one of the following statements sum up the meaning of the passage?

(i) Luck waits without exertion, but labour exerts without waiting.

(ii) Luck waits and complains without working while labour achieves success although it complains.

(iii) Luck is self-indulgent, but labour is selfless.

(iv) Luck often ends in defeat but labour produces luck.

(b) Which one of the following words in the passage indicates that the writer does not ultimately reject the element of luck?

(i) 'Luck ..... is ever waiting.

(ii) 'Luck whines'

(iii) 'Diligence is the mother of good luck'

(iv) 'Luck .... wishes the postman would bring him news'.

(c) Which of the statements is true about the passage?

(i) Luck is necessary for success

(ii) Success depends entirely on hard work

(iii) Expectation of good luck always meets with disappointment.

(iv) Success is exactly proportionate to hard work.

(d) "_____ labour turns out at six and with busy pen and ringing hammer lays the foundation of competence. What does this statement mean.

(i) Hard work of all kind makes people efficient

(ii) Labour lays the foundation of the building

(iii) The writer and the labourer are the two eyes of the society.

(iv) There is no worker who works so hard as the labourer who begins his day at six in the morning:

(e) Give a suitable title for the passage

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OCTOBER 2018

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தாள் – 1 –தமிழ் – செய்யுள், சிறுகதைகள், நாடகம், மொழிபெயர்ச்சி, இலக்கிய வரலாறு/ செய்யுள், இலக்கணம், மொழித்திறன், இலக்கிய வரலாறு, பொதுக்கட்டுரை

Time : Three hours Maximum : 100 marks

பகுதி அ — (10 × 2 = 20 மதிப்பெண்கள்)

எவையேனும் பத்து வினாக்களுக்கு 50 சொற்களுக்கு விடையளிக்க.

1. பாரதி கூறும் தமிழ்நாட்டைச் செழிக்கச் செய்யும் ஆறுகள் எவை?

2. வையகம் கலங்கக் கண்டு துள்ளும் நாள் எப்போது?

3. 'உச்சிபோய்த் தன்வால் பார்க்கும்' என பாரதிதாசன் எதனைக் குறிப்பிடுகிறார்?

4. நீண்ட ஆயுளைப் பெற எதனைப் பேண வேண்டும் எனக் கவிமணி கூறுகிறார்?

5. காதலுக்காக வானம் எதை எடுத்து வைத்தது?

6. 'தாலாட்டு' பெயர்க் காரணம் கூறுக.

7. பொருந்திய சொல் தருக.

(அ) களிறு–ஆண் யானை, பெண்யானை , யானை

(ஆ) துயில்–துக்கம், தூக்கம் ஆடை.

8. பிழை நீக்கி எழுதுக.

(அ) குதிறைக்கு கொல் பிடிக்கம்.

(ஆ) கண்னன் உரங்கினாள்.

9. தேசிய விருது பெற்ற விளையாட்டு வீரர் ஒருவரை நேர்க்காணல் செய்க.

10. தமிழில் வெளிவந்த முதல் சிறுகதை எது? ஆசிரியர் யார்?

11. 'கவிக்கோ' என சிறப்பிக்கப்படுபவர் யார்?

12. 'தமிழ் நாடகத்தின் தந்தை' என்ற சிறப்புக்குரியவரைச் சுட்டுக.

பகுதி ஆ — (5 × 7 = 35 மதிப்பெண்கள்)

எவையேனும் ஐந்து வினாக்களுக்கு 200 சொற்களுக்கு மிகாமல் விடையளிக்க.

13. ஆலமரத்தின் அழகுக் காட்சிகளாகப் பாரதிதாசன் காண்பனவற்றை எடுத்துரைக்க.

14. விரக்தியில் உள்ளவனுக்கு நம்பிக்கை கூறிய எழுச்சி உரைகளை கவிஞர் மு. மேத்தா துணை கொண்டு விளக்குக.

15. குழந்தையின்மை குறித்த தாயின் ஏக்கத்தைத் தாலாட்டு பாடல் வழி புலப்படுத்துக.

16. கலைச் சொல்லாக்கம் தருக.

(அ) UNIVERSITY

(ஆ) VOLTAGE

(இ) PENTAGAN

(ஈ) UNIT

(உ) MULTI MEDIA

(ஊ) NETWORK

(எ) BOILER.

17. சோசப்–எலிசபெத் தம்பதியின் மனபாரம் இறங்கிய சூழலை எடுத்துரைக்க.

18. நாட்டு மக்களிடம் சுதர்மன் நிகழ்த்திய எழுச்சி உரையை விவரிக்க.

19. தமிழ்ச் சிறுகதை வளர்ச்சிக் குறித்து எழுதுக.

பகுதி இ — ($3 \times 15 = 45$ மதிப்பெண்கள்)

எவையேனும் மூன்றனுக்கு 500 சொற்களுக்கு மிகாமல் விடையளிக்க.

20. தமிழினப் பெருமைகளாகப் பாவேந்தர் 'எந்நாளோ'? என்னும் கவிதையில் கூறும் கருத்துக்களைத் தொகுத்துரைக்க.

21. 'தெற்கு வளவு பாட்டையா' வின் நினைவுகளாகச் சிற்பி பாலசுப்பிரமணியன் கூறுவனவற்றை விவரிக்க.

22. 'வீரத்தாய்' நாடகத்தின் சேனாதிபதி பாத்திரப்படைப்பை ஆராய்க.

23. 'ஒரு பிடி சோறு' சிறுகதை காட்டும் சமூக அவலங்களைப் புலப்படுத்துக.

24. தமிழ்க்கவிதை வளர்ச்சியில் இருபதாம் நூற்றாண்டு கவிஞர்களின் பங்கு குறித்துக் கட்டுரைக்க.

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OCTOBER 2018 **U/906/14–18/08106**

Allied Paper I — MATHEMATICAL FOUNDATIONS

(For B.C.A. Candidates)

Time : Three hours Maximum : 100 marks

SECTION A — ($10 \times 2 = 20$ marks)

Answer any TEN questions.

1. Define skew-symmetric matrix.

2. Find x, y, z and w if $3\begin{bmatrix} x & y \\ z & w \end{bmatrix} = \begin{bmatrix} x & 6 \\ -1 & 2w \end{bmatrix} + \begin{bmatrix} 4 & x+y \\ z+w & 3 \end{bmatrix}$.

3. If $A = \begin{bmatrix} 3 & -2 & 0 \\ 1 & 0 & 4 \end{bmatrix}$ and $B = \begin{bmatrix} 3 & 2 & 1 \\ -1 & 2 & 3 \\ 4 & 1 & 1 \end{bmatrix}$ find AB.

4. Define contradiction.

5. Find the truth table for $\sim (p \vee \sim q)$.

6. If $A = \{1, 2, 3\}$, $B = \{3, 4, 5\}$, $C = \{2, 3, 4, 6\}$ find (a) $A \cup B$ (b) $A - (B \cap C)$.

7. If $A = \{1, 2, 3\}$, $B = \{3, 4, 5\}$ find $A \times B$ and $B \times A$.

8. Define identify function.

9. Find $\frac{dy}{dx}$ if $y = x^2(2x - 1)$.

10. Find $\frac{d^2y}{dx^2}$ if $y = x^2 - 3x + 2$.

11. Evaluate $\int (3x^3 + 7x^2 - 2x + 1)\, dx$.

12. Evaluate $\int \left(x + \frac{1}{x}\right)^2 dx$.

SECTION B — (5 × 7 = 35 marks)

Answer any FIVE out of Seven questions.

13. Show that the matrix $\frac{1}{3}\begin{bmatrix} -1 & 2 & 2 \\ 2 & -1 & 2 \\ 2 & 2 & -1 \end{bmatrix}$ is orthogonal.

14. Find the truth table for each of the following :

(a) $(p \leftrightarrow \sim q) \rightarrow (\sim p \wedge q)$

(b) $(\sim q \vee p) \leftrightarrow q \sim p$

15. Given that $A = \{0, 1, 3, 5\}$, $B = \{1, 2, 4, 7\}$, $C = \{1, 2, 3, 5, 8\}$, prove that $(A \cup B) \cup C = A \cup (B \cup C)$.

16. Find $\frac{d^2y}{dx^2}$ if $y = \left(x + \frac{1}{x}\right)^3$.

17. Evaluate $\int x e^x \, dx$.

18. Prove that $(p \rightarrow q) \wedge (q \rightarrow p) = p \leftrightarrow q$.

19. Find matrices X and Y of order two such that $2X - 3Y = \begin{bmatrix} 2 & 5 \\ 7 & 1 \end{bmatrix}$, $3X + 2Y = \begin{bmatrix} 7 & 1 \\ 4 & 5 \end{bmatrix}$.

SECTION C — (3 × 15 = 45 marks)

Answer any THREE out of Five questions.

20. Solve the equations by Cramer's rule
$x + y + z = -1$, $x + 2y + 3z = -4$,
$x + 3y + 4z = -6$.

21. (a) Verify that $(p \wedge q) \rightarrow p \vee q$ is a tautology.

(b) Prove by truth table $p \rightarrow (q \vee r) = (p \rightarrow q) \wedge (p \rightarrow r)$.

22. (a) Out of a group of 50 teachers in a high school, 30 teach mathematics, 20 teach English and 25 teach science, 10 teach both mathematics and science and none of teach mathematics and English (i) How many teach Science and English (ii) How many teach only English.

(b) If the function $f : R \to R$ given by $f(x) = 4x - 1$ and the function $g : R \to R$ be given by $g(x) = x^2 + 2$, find $(g \circ f)x$ and $(f \circ g)x$, R being the set of real numbers.

23. (a) If $y = e^{ax} \log x$ find y_2.

(b) Find $\frac{dy}{dx}$ if $x^y y^x = k$ where k is a constant.

24. (a) Evaluate $\int \frac{x^3 dx}{(x^2 + 1)^3}$.

(b) Evaluate $\int x^n \log x \, dx$.

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OCTOBER 2018 **U/803/1807101**

Core Paper I — FUNDAMENTALS OF DIGITAL ELECTRONICS

Time : Three hours Maximum : 100 marks

SECTION A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Convert $(1101011.1011)_2$ into Decimal number.

2. Explain the use of Don't care conditions.

3. Explain the encoder in detail.

4. Explain the principle of shift registers.

5. Explain the types of memory in detail.

6. Write down steps involved in BCD Subtraction.

7. Explain the significance of Multiplexers.

8. Write the characteristics of Ripple counters.

SECTION B — (5 × 15 = 75 marks)

Answer ALL questions with internal choice.

9. (a) Discuss various Binary codes with suitable examples.

Or

(b) Discuss Design and construction of universal gates.

10. (a) Discuss about the SOP and POS methods with example.

Or

(b) Simplify using Karanaugh map

$$F(W, X, Y, Z) = \pi(3, 5, 7, 11, 13, 15) + \pi_d(0, 1, 4, 8, 10).$$

11. (a) Explain the functionality of Decoder.

Or

(b) Discuss the steps involved in Binary addition and subtraction with suitable examples.

12. (a) Discuss the construction and implementation of Serial-in-parallel out shift register.

Or

(b) Discuss the design and construction of RS flip flop.

13. (a) How 4-bit Binary down counters are designed? Explain.

Or

(b) Discuss the features of design of synchronous and synchronous counters.

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OCTOBER 2018 **U/804/1807102**

Core Paper II – PROBLEM SOLVING TECHNIQUES

Time : Three hours Maximum : 100 marks

SECTION A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Define Computer. Explain about the various types of computers.

2. Write short notes on interpreters and compilers.

3. Explain about the hierarchy of operators.

4. What is an algorithm? Write an algorithm to add two numbers.

5. Explain about the Nested Loops with example.

6. What is an array? Write an algorithm to find the maximum of a given list.

7. Define Subprogram? Write a subprogram to swap two numbers.

8. Discuss about the high level languages in detail.

SECTION B — (5 × 15 = 75 marks)

Answer ALL the questions with internal choice.

9. (a) (i) What are the characteristics of a computer? (5)

(ii) Write short notes on :

(1) Block diagram of a computer. (5)

(2) Assembly language. (5)

Or

(b) Explain about

(i) Secondary storage devices

(ii) Input and output devices.

10. (a) Write short notes on :

(i) Structured Programming. (5)

(ii) Features, Benefits and drawbacks of an algorithm. (10)

Or

(b) Explain about

(i) Pseudo Code (8)

(ii) Modular programming. (7)

11. (a) Write short notes on :

(i) Relational and Logical operators. (5)

(ii) Entry and Exit controlled loops. (10)

Or

(b) Write an algorithm to display the result of a student using different alternatives. If average mark <40 result is fail, otherwise

between 40 – 50, III class

between 50 – 60, II class

between 60 – 75 I class and

above 75 – Distinction.

12. (a) What is a strings? Explain about functions of strings.

Or

(b) Define an array and its types write a suitable program.

13. (a) Explain about DFD with examples.

Or

(b) Discuss in detail about sequential files.
