Booklet Serial No.   10921

| DO NOT BREAK THE SEAL OF THE BOOKLET UNTIL YOU ARE TOLD TO DO SO |

SERIES : I

QUESTION BOOKLET

Subjects : General English, General Studies & Aptitude and Mathematics

Full Marks : 300   **Time Allowed : 2½ Hours**

Read the following instructions carefully before you begin to answer the questions.

INSTRUCTIONS TO CANDIDATES

1. This Booklet contains **150 questions** to be answered in a separate OMR Answer Sheet using Black Ballpoint Pen in the following three Parts :

Part—A	:	General English	:	50 questions
Part—B	:	General Studies & Aptitude	:	50 questions
Part—C	:	Mathematics	:	50 questions

2. **All** questions are compulsory.

3. You will be supplied the Answer Sheet separately by the Invigilator. You must complete the details of particulars asked for.

4. Answer must be shown by completely blackening the corresponding circle in the Answer Sheet against the relevant question number by Black Ballpoint Pen. OMR Answer Sheet without marking Series shall not be evaluated.

   Example :

   Suppose the following question is asked :

   The Capital of Meghalaya is
   (A) Guwahati
   (B) Kohima
   (C) Shillong
   (D) Delhi

   You will have four alternatives in the Answer Sheet for your response corresponding to each question of the Question Booklet as below :

   Ⓐ Ⓑ Ⓒ Ⓓ

   In the above illustration, if your chosen response is alternative (C), i.e., Shillong, then the same should be marked on the Answer Sheet by blackening the relevant circle with a Black Ballpoint Pen only as below :

   Ⓐ Ⓑ ● Ⓓ

   The example shown above is the only correct method of answering.

5. Answer the questions as quickly and as carefully as you can. Some questions may be difficult and others easy. Do not spend too much time on any one question.

6. There will NOT be any negative marking for wrong answers.

7. The Answer Sheet must be handed over to the Invigilator before you leave the Examination Hall.

8. No Rough Work is to be done on the Answer Sheet. Space for Rough Work has been provided in the Question Booklet.

SEAL

PART—A : GENERAL ENGLISH

(*Marks* : 100)

Each question carries **2** marks

***Directions* (Q. Nos. 1–5) :**

Read the following passage and answer the questions by selecting the answer choices from the alternatives given.

If a person suddenly encounters any terrible danger, the change of nature one undergoes is equally great. Sometimes fear numbs our senses. Like animals, one stands still, powerless to move a step in fright or to lift a hand in defense of our lives, and sometimes one is seized with panic, and again, act more like the inferior animals than rational beings. On the other hand, frequently in cases of sudden extreme peril, which cannot be escaped by flight, and must be instantly faced, even the most timid men at once as if by miracle, become possessed of the necessary courage, sharp quick apprehension and swift decision. This is a miracle very common in nature. Man and the inferior animals alike, when confronted with almost certain death 'gather resolution from despair' but there can really be no trace of so debilitating a feeling in the person fighting, or prepared to fight for dear life. At such times the mind is clearer than it has ever been; the nerves are steel, there is nothing felt but a wonderful strength and daring. Looking back at certain perilous moments in my own life, I remember them with a kind of joy, not that there was any joyful excitement then, but because they broadened my horizon, lifted me for a time above myself.

1. The title that best suits the passage would be
   (A) The Will to Fight
   (B) The Miracle of Confronting Danger
   (C) The Change of Nature
   (D) Courage and Panic

2. A man may react to sudden danger in three different ways. What are they?
   (A) He may flee in panic, or fight back or stand still
   (B) He may be paralyzed with fear, seized with panic or act like an inferior animal
   (C) He may be paralyzed with fear, or seized with panic, or as if by miracle, become possessed of the necessary courage, and face the danger
   (D) He may be paralyzed with fear, run away or fight

3. What is the meaning of the word debilitating?
   (A) Enfeeble
   (B) Strengthen
   (C) Debase
   (D) Thriving

4. Explain the phrase 'gather resolution from danger'.
   (A) Find peace in times of difficulty
   (B) To remain calm and not to lose hope
   (C) To be enthusiastic and brave the odds
   (D) A state of utter hopelessness makes one determined to face the difficulty

5. The author feels happy in the recollection of dangers faced and overcome because

(A) they brought him a new experience

(B) they added a new perspective and lifted him above himself for a time

(C) these experiences boosted his confidence

(D) he felt elated as he was alive

Directions (Q. Nos. 6–10) :

From the given idioms, choose the best alternatives which express the closest meaning of the idioms.

6. Beat a dead horse

(A) Exploit someone to the point of killing him/her

(B) To continue playing a game knowing very well that you are going to lose

(C) Show extreme level of cruelty especially to animals

(D) To uselessly dwell on a subject far beyond its point of resolution

7. Out of print

(A) A book no longer available from the publisher

(B) All publishers refuse to publish your book

(C) Not able to print due to being short on paper

(D) Intentionally not mention some items in the article or book

8. Keep under one's hat

(A) To take care of somebody else's valuables given to you for safe keeping

(B) To steal and hide something

(C) To keep something a secret

(D) To keep all your wealth in your home

9. The ball is in your court

(A) To request someone to return your belonging

(B) To tell someone politely about his/her mistake

(C) To put the blame on the other person

(D) It is up to you to make the next decision or step

10. To make one's flesh creep

(A) To flatter someone

(B) To frighten someone

(C) To confuse someone

(D) To abuse someone

In the following questions, substitute each group of words with a single word from among the given alternatives.

11. A person pretending to be somebody he is not
   (A) Magician
   (B) Rogue
   (C) Imposter
   (D) Liar

12. One who possesses many talents
   (A) Versatile
   (B) Nubile
   (C) Exceptional
   (D) Gifted

13. Words inscribed on tomb
   (A) Epitome
   (B) Epistle
   (C) Epilogue
   (D) Epitaph

14. Something that can be heard
   (A) Auditory
   (B) Audio-visual
   (C) Audible
   (D) Audition

15. Animal that feeds on plants
   (A) Carnivorous
   (B) Herbivorous
   (C) Insectivorous
   (D) Graminivorous

In the following questions, choose a word that is opposite in meaning with the given word from among the given alternatives.

16. Eminent
   (A) Noted
   (B) Acclaimed
   (C) Unknown
   (D) Leading

17. Impossible
   (A) Unfeasible
   (B) Unworkable
   (C) Attainable
   (D) Non-viable

18. Modest
   (A) Unhappy
   (B) Solemn
   (C) Glum
   (D) Conceited

19. Arrogance
   (A) Content
   (B) Sad
   (C) Sincere
   (D) Humility

20. Abundance
   (A) Happy
   (B) Prosperity
   (C) Poverty
   (D) Generous

Directions (Q. Nos. 21–25) :
In the following questions, choose a word or words that is most similar in meaning with the given word from among the given alternatives.

21. Descriptive
    (A) Obscurity
    (B) Creativity
    (C) Explanatory
    (D) Insanity

22. Bafflement
    (A) Confusion
    (B) Pleasure
    (C) Clarity
    (D) Cleanliness

23. Retaliate
    (A) Facilitate
    (B) Rotate
    (C) Clap
    (D) React

24. Overlook
    (A) Introduce
    (B) Take on
    (C) Skip
    (D) Stay

25. Retain
    (A) Share
    (B) Keep
    (C) Pass on
    (D) Give

Directions (Q. Nos. 26–30) :
In the following questions, a sentence is given in Direct/Indirect speech. Out of the four alternatives suggested, choose the one which best expresses the same sentence in Indirect/Direct speech.

26. Bok said to Meda, "Sara will leave for her village tomorrow."
    (A) Bok told Meda that Sara will leave for her village tomorrow.
    (B) Bok told Meda that Sara left for her village the next day.
    (C) Bok told Meda that Sara would be leaving for her village tomorrow.
    (D) Bok told Meda that Sara would leave for her village the next day.

27. He said to her, "What a cold day!"
    (A) He told her that it was a cold day.
    (B) He exclaimed that it was a cold day.
    (C) He exclaimed sorrowfully that it was a cold day.
    (D) He exclaimed to her that it was a very cold day.

28. The man exclaimed that his hat was stolen.

(A) "My hat was stolen!" the man said.

(B) "Somebody steal my hat!" exclaimed the man.

(C) The man exclaimed, "My hat was stolen!"

(D) The man cried, "My hat was stolen".

29. He told her, "I want to meet your mother."

(A) He told her that I want to meet your mother.

(B) He told her that he wanted to meet her mother.

(C) He told her that he wanted to meet your mother.

(D) He told her that she wanted to meet her mother.

30. Mrs. Chen asked the boy if he could tell her where the nearest police station is.

(A) "Where is the nearest police station?" Mrs. Chen asked the boy.

(B) Mrs. Chen asked the boy, "Can you tell me where the nearest police station is?"

(C) Mrs. Chen asked the boy, "Where is the nearest police station?"

(D) Mrs. Chen said to the boy, "Where is the nearest police station?"

Directions (Q. Nos. 31–35) :
In the following questions, some sentences have errors and some do not. The underlined words are the key words where you can identify whether the sentence is erroneous or not. From the given set of choices, choose the correct alternative for the identified errors. Where there is no error, choose the specified option (D).

31. The film *Slumdog Millionaire* <u>were</u> a great movie.

(A) was

(B) had

(C) are

(D) No error

32. The horse jumped smoothly <u>across</u> the fence.

(A) above

(B) under

(C) on

(D) No error

33. The plane was late <u>in</u> an hour.

(A) for

(B) by

(C) over

(D) No error

34. The notorious robbers were finally captured <u>with</u> the police.

(A) over

(B) under

(C) by

(D) No error

35. The boy trembled <u>on</u> fear of the deadly snake.

(A) by

(B) from

(C) with

(D) No error

Directions (Q. Nos. 36–40) :

In the given questions, there are jumbled up sentence parts. Rearrange these parts, which are labelled (a), (b), (c) and (d) to produce the correct sentence. Choose the correct sequence from the given set of alternatives.

36. $\underset{(a)}{\underline{\text{water supply}}}$ / $\underset{(b)}{\underline{\text{flats}}}$ / $\underset{(c)}{\underline{\text{these}}}$ /

$\underset{(d)}{\underline{\text{have a good}}}$

(A) (a), (b), (c), (d)

(B) (a), (b), (d), (c)

(C) (a), (c), (b), (d)

(D) (c), (b), (d), (a)

37. $\underset{(a)}{\underline{\text{the backyard}}}$ / $\underset{(b)}{\underline{\text{Dari}}}$ / $\underset{(c)}{\underline{\text{vegetables in}}}$ /

$\underset{(d)}{\underline{\text{grows}}}$

(A) (a), (c), (b), (d)

(B) (b), (d), (c), (a)

(C) (b), (a), (c), (d)

(D) (d), (c), (a), (b)

38. $\underset{(a)}{\underline{\text{memorize}}}$ / $\underset{(b)}{\underline{\text{all actors}}}$ / $\underset{(c)}{\underline{\text{every play}}}$ /

$\underset{(d)}{\underline{\text{the lines of}}}$

(A) (b), (a), (d), (c)

(B) (c), (d), (b), (a)

(C) (a), (d), (c), (b)

(D) (b), (d), (a), (c)

39. $\underset{(a)}{\underline{\text{work}}}$ / $\underset{(b)}{\underline{\text{on time}}}$ / $\underset{(c)}{\underline{\text{often leaves}}}$ /

$\underset{(d)}{\underline{\text{Teidor}}}$

(A) (c), (a), (b), (d)

(B) (c), (b), (a), (d)

(C) (d), (c), (a), (b)

(D) (d), (c), (b), (a)

40. $\underset{(a)}{\underline{\text{the}}}$ / $\underset{(b)}{\underline{\text{nightfall}}}$ / $\underset{(c)}{\underline{\text{their howling at}}}$ /

$\underset{(d)}{\underline{\text{wolves started}}}$

(A) (d), (c), (a), (b)

(B) (a), (d), (c), (b)

(C) (a), (b), (c), (d)

(D) (d), (c), (b), (a)

In the following cloze passage, there are blank spaces which are numbered. Against each number, choose the most appropriate choice in meaning from the set of given alternatives.

Childhood is a time when there are few responsibilities to make life difficult. If a child has good parents, he/she is fed, looked __41__ and loved, whatever he/she may do. It is improbable that he/she will ever again in his life be given so much without having to do anything in return. In addition, life is always __42__ new things to the child. A child finds __43__ in playing in the rain or in the snow. His/Her first visit to the seaside is a marvellous adventure. But a child has his/her pains; he/she is not so free to do as he/she wishes; he/she is continually being __44__ to do things or is being __45__ when he/she does the things he/she is not supposed to do. His/Her life is therefore not perfectly happy.

41. (A) after
 (B) at
 (C) up
 (D) around

42. (A) donating
 (B) displaying
 (C) granting
 (D) offering

43. (A) pain
 (B) progress
 (C) pleasure
 (D) pressure

44. (A) ordered
 (B) told
 (C) forbidden
 (D) restricted

45. (A) encouraged
 (B) penalized
 (C) disturbed
 (D) scolded

Directions (Q. Nos. 46–50) :

In the following questions, the sentences have blank spaces followed by four alternative answers. Choose the correct alternative from the given choices.

46. She _____ be hungry after all that running.
 (A) need (B) had
 (C) must (D) do

47. Rice and curry _____ a tasty dinner.
 (A) are (B) makes
 (C) do make (D) make

48. We _____ be considerate towards our neighbours.
 (A) ought to (B) dare
 (C) need (D) do

49. Wood _____ on water.
 (A) foams (B) flouted
 (C) fleet (D) floats

50. He has _____ friends. He is an introvert.
 (A) few (B) rare
 (C) several (D) man

PART—B : GENERAL STUDIES & APTITUDE

(*Marks* : 100)

Each question carries **2** marks

51. Who was the first Emperor of the Maurya Dynasty in ancient India?

(A) Chandragupta Maurya

(B) Ashoka the Great

(C) Bindusara

(D) Samudragupta

52. The Indian National Congress was founded in which year?

(A) 1885

(B) 1901

(C) 1920

(D) 1947

53. The Jallianwala Bagh massacre took place in which city?

(A) Lahore

(B) Amritsar

(C) Delhi

(D) Bombay

54. NATO, the North Atlantic Treaty Organization, was established for the purpose of

(A) economic cooperation

(B) cultural exchange

(C) military defence

(D) environmental protection

55. Who is the current Secretary-General of the United Nations (as in January 2022)?

(A) Angela Merkel

(B) Antonio Guterres

(C) Emmanuel Macron

(D) Justin Trudeau

56. The headquarters of the European Union is located in which city?

(A) Paris

(B) Berlin

(C) Brussels

(D) Rome

57. Which element is the primary component of natural gas?

(A) Helium

(B) Methane

(C) Oxygen

(D) Nitrogen

58. Which of the following is a halogen?

(A) Sodium

(B) Fluorine

(C) Calcium

(D) Iron

59. Which of the following is the SI unit of force?

(A) newton

(B) watt

(C) joule

(D) pascal

60. Which of the following is a vector quantity?

(A) Speed

(B) Distance

(C) Mass

(D) Velocity

61. What is the powerhouse of cell, responsible for energy production?

(A) Nucleus

(B) Chloroplast

(C) Mitochondria

(D) Endoplasmic reticulum

62. Which international agreement aims to address climate change by reducing greenhouse gas emissions?

(A) The Kyoto Protocol

(B) The Montreal Protocol

(C) The Paris Agreement

(D) The Rio Declaration

63. The Great Barrier Reef is located off the coast of which country?

(A) Brazil

(B) Australia

(C) Mexico

(D) Thailand

64. Which is the oldest mountain range in India?

(A) Aravalli

(B) Himalayas

(C) Eastern Ghats

(D) Western Ghats

65. What is the term for a set of individuals who share a common identity and interact with one another within a defined territory?

(A) Community

(B) Society

(C) Organization

(D) Institution

66. In the context of education, what does the acronym 'STEM' stand for?

(A) Sociology, Technology, Engineering and Mathematics

(B) Science, Technology, English and Mathematics

(C) Science, Technology, Engineering and Mathematics

(D) Sociology, Teaching, English and Music

67. In statistics, what is the measure of central tendency that represents the middle value of a dataset when it is ordered from least to greatest?

(A) Mean

(B) Median

(C) Mode

(D) Range

68. What does the acronym 'HTML' stand for in the context of web development?

(A) HyperText Markup Language

(B) High-level Text Management Language

(C) Hyperlink and Text Markup Language

(D) High-level Text Markup Language

69. Which programming language is most commonly used for Artificial Intelligence and machine learning applications?

(A) Java

(B) Ruby

(C) C++

(D) Python

70. Who won the Nobel Peace Prize in 2023?

(A) Malala Yousafzai

(B) Greta Thunberg

(C) Narges Mohammadi

(D) Jacinda Ardern

71. Who is the current Minister of External Affairs of India?

(A) Rajnath Singh

(B) Amit Shah

(C) S. Jaishankar

(D) Nirmala Sitharaman

72. Which country hosted the FIFA World Cup in 2022?

(A) Brazil

(B) Germany

(C) Russia

(D) Qatar

73. Which country won the ICC Cricket World Cup in 2019?

(A) England

(B) Australia

(C) India

(D) South Africa

74. What is the name of the festival celebrated in Meghalaya in honour of the Sun God?

(A) Behdienkhlam

(B) Wangala

(C) Shad Suk Mynsiem

(D) Nongkrem

75. What is the official language of Meghalaya?

(A) Hindi

(B) English

(C) Khasi

(D) Garo

76. *A* and *B* together can finish a work in 30 days. They worked for it for 20 days and then *B* left the work. The remaining work was done by *A* alone in 20 days more. In how many days can *A* alone finish the work?

(A) 48 days

(B) 50 days

(C) 54 days

(D) 60 days

77. If the percentage of profit made, when an article is sold for ₹ 78, is twice as when it is sold for ₹ 69, the cost price of the article is

(A) ₹ 49

(B) ₹ 51

(C) ₹ 57

(D) ₹ 60

78. A sum of ₹ 10,000 is lent partly at 8% and remaining at 10% per annum. If the yearly interest on the average is 9·2%, the two parts are

(A) ₹ 4,000, ₹ 6,000

(B) ₹ 4,500, ₹ 5,500

(C) ₹ 5,000, ₹ 5,000

(D) ₹ 5,500, ₹ 4,500

79. If the ratio of the lengths of two sides of a rectangle is 3 : 5 and the perimeter is 64 m, what is the area of the rectangle?

(A) 144 sq. m

(B) 96 sq. m

(C) 240 sq. m

(D) 180 sq. m

80. A train travels at a speed of 60 km/h for the first half of the distance and 40 km/h for the second half. What is the average speed of the train for the entire journey?

(A) 45 km/h

(B) 48 km/h

(C) 50 km/h

(D) 52 km/h

81. The product of two consecutive positive integers is 420. What are the integers?

(A) 20, 21

(B) 18, 19

(C) 15, 14

(D) 23, 22

82. If the area of a circle is 154 sq. cm, what is the circumference of the circle?

(A) 44 cm

(B) 33 cm

(C) 28 cm

(D) 22 cm

83. What is the missing number in the series 7, 11, 19, 31, ____, 67?

(A) 41

(B) 51

(C) 47

(D) 44

84. If the 5th date of month comes after 2 days from Tuesday, then which would be the day on the day before 19th of that month?

(A) Monday

(B) Sunday

(C) Thursday

(D) Wednesday

85. A, B and C together can do a work in 8 days. If A and B can do it in 20 days and 30 days respectively, in how many days C alone can complete it?

(A) 23 days

(B) 24 days

(C) 26 days

(D) 28 days

86. Navneet and Prabhat can complete a work in 20 days and 25 days respectively. They work for ₹ 4,500. Find their wages.

(A) ₹ 2,500, ₹ 2,000

(B) ₹ 1,500, ₹ 3,000

(C) ₹ 3,500, ₹ 1,000

(D) ₹ 2,000, ₹ 2,500

87. The ratio of ages of father and son is 7 : 2. Five years ago, the product of their ages was 150. What is the age of the father?

(A) 45 years

(B) 55 years

(C) 35 years

(D) 30 years

88. If the simple interest on a sum of money for 2 years at 5% per annum is ₹ 50, what is the compound interest on the same at the same rate and for the same time?

(A) ₹ 51·25

(B) ₹ 56

(C) ₹ 50·50

(D) ₹ 52·25

89. In an election between two candidates, one got 55% of the total valid votes and 20% of the votes were invalid. If the total number of votes was 7500, what was the number of valid votes that the other candidate got?

(A) 2400

(B) 2600

(C) 2500

(D) 2700

90. Which word does **not** belong with the others?

(A) Parsley

(B) Mayonnaise

(C) Rosemary

(D) Oregano

91. What number should come next in the series 2, 6, 18, 54, ____?

(A) 144

(B) 124

(C) 162

(D) 148

92. The ratio of two numbers is 3 : 4 and their HCF is 4. What is their LCM?

(A) 45

(B) 26

(C) 65

(D) 48

93. To fill a tank, 25 buckets of water is required. How many buckets of water will be required to fill the same tank if the capacity of the bucket is reduced to two-fifth of its present capacity?

(A) 55

(B) 62·5

(C) 52

(D) 58

94. How many seconds will a 500 metres long train take to cross a man walking with a speed of 3 km/h in the direction of the moving train if the speed of the train is 63 km/h?

(A) 30 seconds

(B) 32 seconds

(C) 35 seconds

(D) 20 seconds

95. Two trains are running in opposite direction with the same speed. If the length of each train is 120 metres and they cross each other in 12 seconds, then the speed of each train (in km/h) is

(A) 32

(B) 30

(C) 36

(D) 25

96. The sum of the ages of 5 children born at the intervals of 3 years each is 50 years. What is the age of the youngest child?

(A) 4 years

(B) 8 years

(C) 10 years

(D) 12 years

97. A person's present age is two-fifth of the age of his mother. After 8 years, he will be one-half of the age of his mother. How old is the mother at present?

(A) 32 years

(B) 36 years

(C) 33 years

(D) 40 years

98. The average weight of A, B and C is 45 kg. If the average weight of A and B be 40 kg and that of B and C be 43 kg, what is the weight of B?

(A) 17 kg

(B) 31 kg

(C) 27 kg

(D) 25 kg

99. The average monthly income of P and Q is ₹ 5,050. The average monthly income of Q and R is ₹ 6,250 and the average monthly income of P and R is ₹ 5,200. The monthly income of P is

(A) ₹ 4,200

(B) ₹ 4,500

(C) ₹ 4,000

(D) ₹ 4,600

100. Three candidates contested an election and received 1136, 7636 and 11628 votes respectively. What percentage of the total votes did the winning candidate get?

(A) 55%

(B) 60%

(C) 57%

(D) 75%

PART—C : MATHEMATICS

(*Marks* : 100)

Each question carries **2** marks

101. If

$$x = (0 \cdot 08)^2, \ y = \frac{1}{(0 \cdot 08)^2}, \ z = (1 - 0 \cdot 08)^2 - 1$$

then out of the following, the true relation is

(A) $y < x$ and $x = z$

(B) $x < y$ and $x = z$

(C) $y < x < z$

(D) $z < x < y$

102. If $\sqrt{6} \times \sqrt{15} = x\sqrt{10}$, then the value of x is

(A) 3   (B) ± 3

(C) -3 (D) 6

103. If $x^4 + \dfrac{1}{x^4} = 23$, then the value of

$\left(x - \dfrac{1}{x}\right)^2$ is

(A) 7   (B) -7

(C) 3   (D) -3

104. If $a + b + 1 = 0$, then the value of $(a^3 + b^3 + 1 - 3ab)$ is

(A) 3   (B) 0

(C) -1 (D) 1

105. If $(a - b) = 3$, $(b - c) = 5$ and $(c - a) = 1$, then the value of $\dfrac{a^3 + b^3 + c^3 - 3abc}{a + b + c}$ is

(A) 17·5   (B) 20·5

(C) 10·5   (D) 15·5

106. The ratio of two numbers is $4 : 5$. If the HCF of these numbers is 6, what is their LCM?

(A) 30   (B) 60

(C) 90   (D) 120

107. The greatest number which on dividing 1223 and 2351 leaves remainders 90 and 85 respectively is

(A) 1100   (B) 1133

(C) 42   (D) 127

108. Three numbers which are coprime to each other are such that the product of the first two is 119 and that of the last two is 391. What is the sum of the three numbers?

(A) 43   (B) 53

(C) 47   (D) 51

109. The simple interest on a certain sum of money for 4 years at 5% per annum is half the compound interest on ₹ 3,000 for 2 years at 10% per annum. The sum placed on simple interest is

(A) ₹ 1,625   (B) ₹ 1,575

(C) ₹ 1,200   (D) ₹ 2,200

110. A sum of money on compound interest amounts to ₹ 8,240 in 2 years and ₹ 9,888 in 3 years. The rate of interest is

(A) 10%   (B) 12%

(C) 20%   (D) 25%

111. If $\log_2\{\log_3(\log_2 x)\} = 1$, x is equal to

(A) 512

(B) 525

(C) 636

(D) 655

112. If $\log_{10} 2 = a$, what is the value of

$$\log_{10}\left(\frac{1}{200}\right)?$$

(A) $(a+2)$

(B) $-(a+2)$

(C) a

(D) $-a$

113. The price of a car is ₹ 3,25,000. It was insured to 85% of its price. The car was damaged completely in an accident and the insurance company paid 90% of the insurance. What was the difference between the price of the car and the amount received?

(A) ₹ 70,000

(B) ₹ 82,150

(C) ₹ 34,000

(D) ₹ 76,375

114. A got 30% of the maximum marks in an examination and failed by 10 marks. However, B who took the same examination got 40% of the total marks and got 15 marks more than the passing marks. What was the passing marks in the examination?

(A) 75

(B) 85

(C) 95

(D) 120

115. If $2^{x+y} = 128$ and $2^{x-y} = 8$, then the value of $(5x + 3y)$ is

(A) 29

(B) 30

(C) 31

(D) 32

116. If $(7 + 5\sqrt{\delta})$ is one root of the equation

$$ax^2 + bx + c = 0$$

then the sum of roots is

(A) 12

(B) 10

(C) 2

(D) 14

117. The difference between a positive fraction and its reciprocal is $\frac{5}{6}$. The sum of that fraction and its reciprocal is

(A) $\frac{13}{5}$

(B) $\frac{13}{6}$

(C) $\frac{12}{5}$

(D) $\frac{11}{3}$

118. Which of the following numbers will completely divide $(3^{19} + 3^{20} + 3^{21} + 3^{22})$?

(A) 11

(B) 12

(C) 13

(D) 14

119. What is the digit in the unit place of the number represented by $(7^{95} - 3^{58})$?

(A) 2

(B) 3

(C) 4

(D) 6

120. A student divides a number by 5 and gets 3 as remainder. If his friend divides the square of the number by 5, what will be the remainder?

(A) 4   (B) 5

(C) 9   (D) 12

121. The ratio of the 7th term to the 10th term of a geometric series is $1 : 125$. If 100 is the 3rd term, then the 2nd term is

(A) 15

(B) 20

(C) 25

(D) 30

122. If the sum of the 1st and 2nd terms of an AP is 30 and the difference between the 9th term and the 5th term is 24, then the 11th term of the AP is

(A) 54   (B) 66

(C) 72   (D) 84

123. If A and B are complementary angles, then the value of

$$\sin A \cos B + \cos A \sin B$$
$$- \tan A \tan B + \sec^2 A - \cot^2 B$$

is

(A) 2

(B) 1

(C) 0

(D) −1

124. P and Q are two points observed from the top of a building $10\sqrt{3}$ m high. If the angles of depression of the points are complementary and $PQ = 20$ m, then the distance of P from the building is

(A) 25 m   (B) 45 m

(C) 30 m   (D) 40 m

125. If (a, b) and $(a + 3, b + k)$ are two points on the line defined by the equation $x = 3y - 7$, then the value of k is

(A) $\dfrac{1}{4}$

(B) $\dfrac{1}{3}$

(C) 3

(D) 1

126. Two perpendicular lines pass through the origin. If $y = \dfrac{1}{3}x$ is one of them, then the other line passes through which of the following points?

(A) (1, 0)

(B) (0, 1)

(C) (2, −6)

(D) (−6, 2)

127. If the average of 39, 48, 51, 63, 75, 83, x and 69 is 60, then the value of x is

(A) 52   (B) 53

(C) 50   (D) 51

128. The population of a town is 15000. If the number of males increases by 8% and that of females by 10%, then the population would increase to 16300. The number of females in the town is

(A) 4000

(B) 6000

(C) 3000

(D) 5000

129. The present age of a father is 3 years more than three times the age of his son. Three years hence, father's age will be 10 years more than twice the age of the son. What is father's present age?

(A) 29 years   (B) 33 years

(C) 39 years   (D) 42 years

130. A man goes to his office from his house at a speed of 3 km/h and returns at a speed of 2 km/h. If he takes 5 hours in going and coming, what is the distance between his house and office?

(A) 6 km   (B) 7 km

(C) 9 km   (D) 12 km

131. Walking $\frac{6}{7}$th of his usual speed, a man is 12 minutes late. What is the usual time taken by him to cover that distance?

(A) 1 hour

(B) 1 hour 12 minutes

(C) 1 hour 20 minutes

(D) 1 hour 15 minutes

132. 10 men can complete a work in 7 days. But 10 women need 14 days to complete the same work. How many days will 5 men and 10 women need to complete the work?

(A) 7 days   (B) 8 days

(C) 9 days   (D) 10 days

133. P and Q can complete a work in 20 days and 12 days respectively. P alone started the work and Q joined him after 4 days till the completion of the work. How long did the work last?

(A) 8 days

(B) 9 days

(C) 10 days

(D) 12 days

134. P can do a work in 24 days. Q can do the same work in 9 days and R can do the same in 12 days. Q and R start the work and leave after 3 days. P finishes the remaining work in

(A) 7 days

(B) 8 days

(C) 9 days

(D) 10 days

135. Two trains, one from P to Q and the other from Q to P, start simultaneously. After they meet, the trains reach their destinations after 9 hours and 16 hours respectively. The ratio of their speeds is

(A) 3 : 5   (B) 4 : 3

(C) 5 : 3   (D) 2 : 5

136. A train overtakes two persons who are walking in the same direction to that of the train at 2 kmph and 4 kmph and passes them completely in 9 seconds and 10 seconds respectively. What is the length of the train?

(A) 50 m

(B) 52 m

(C) 60 m

(D) 65 m

137. A man takes twice as long to row a distance against the stream as to row the same distance in favour of the stream. The ratio of the speed of the boat (in still water) and the stream is

(A) $1:3$ (B) $3:1$

(C) $2:5$ (D) $5:2$

138. In a river flowing at 2 km/hour, a boat travels 32 km upstream and then returns downstream to the starting point. If its speed in still water be 6 km/hour, find the total journey time.

(A) 5 hours

(B) 8 hours

(C) 10 hours

(D) 12 hours

139. A merchant has 1000 kg of sugar, part of which he sells at 8% profit and the rest at 18% profit. He gains 14% on the whole. The quantity sold at 18% profit is

(A) 400 kg

(B) 500 kg

(C) 600 kg

(D) 700 kg

140. A 16-litre mixture of milk and water contains 10% water. How many litres of water must be added to make it 20% water in it?

(A) 2 litres

(B) 4 litres

(C) 5 litres

(D) 6 litres

141. If $x = \dfrac{\sqrt{3}+1}{\sqrt{3}-1}$, $y = \dfrac{\sqrt{3}-1}{\sqrt{3}+1}$, then the value of $(x^2 + y^2)$ is

(A) 10   (B) 12

(C) 14   (D) 16

142. Two pipes can fill a tank in 25 minutes and 30 minutes respectively and a waste pipe can empty 3 gallons per minute. All the three pipes working together can fill the tank in 15 minutes. The capacity of the tank is

(A) 420 gallons

(B) 450 gallons

(C) 480 gallons

(D) 530 gallons

143. A tap can fill a tank in 4 hours. After half the tank is filled, three more similar taps are opened. What is the total time taken to fill the tank completely?

(A) 2 hours

(B) 2 hours 15 minutes

(C) 2 hours 20 minutes

(D) 2 hours 30 minutes

144. How many 3-digit numbers can be formed from the digits 2, 3, 5, 6, 7 and 9 which are divisible by 5 and none of the digits is repeated?

(A) 20   (B) 23

(C) 25   (D) 32

145. A company has 5 software engineers and 3 civil engineers. In how many ways can they be seated around a round table so that all civil engineers are together?

(A) 650

(B) 720

(C) 750

(D) 760

146. A letter is chosen at random from the word 'ASSASSINATION'. What is the probability that it is a vowel?

(A) $\dfrac{13}{6}$

(B) $\dfrac{6}{13}$

(C) $\dfrac{5}{12}$

(D) $\dfrac{12}{5}$

147. The percentage profit earned by selling an item for ₹ 1,920 is equal to the percentage loss incurred by selling the same item for ₹ 1,280. At what price (in ₹) should the item be sold to make 25% profit?

(A) 1,500   (B) 1,800

(C) 2,000   (D) 2,200

148. A trader keeps the marked price of an item 35% above its cost price. The percentage of discount allowed to gain 8% is

(A) 12%

(B) 15%

(C) 18%

(D) 20%

149. A shopkeeper marks the prices at 15% higher than the original price. Due to increase in demand, he further increases the price by 10%. How much percentage profit will he get?

(A) 20%

(B) 24·5%

(C) 25%

(D) 26·5%

150. From a vessel containing 100 litres of wine, 10 litres are drawn out and an equal amount of water is added. From the mixture, 10 litres is again drawn out and the same quantity of water is added. What is the final ratio of wine and water?

(A) 91 : 9

(B) 81 : 19

(C) 80 : 20

(D) 90 : 10