

Booklet Serial No. **11533****DO NOT BREAK THE SEAL OF THE BOOKLET UNTIL YOU ARE TOLD TO DO SO****QUESTION BOOKLET****SERIES : I****Subjects : General English, General Knowledge & 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 Knowledge & 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 :

(A) (B) (C) (D)

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 :

(A) (B) (C) (D)

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.

PART—A : GENERAL ENGLISH

(Marks : 100)

Each question carries 2 marks

Directions (Q. Nos. 1-10) : Choose the correct sentences.

1. (i) There was an error of judgement.
(ii) There were an error of judgements.
(iii) There was no error of judgement.
(A) i and ii
(B) i and iii
(C) ii and iii
(D) i, ii and iii
2. (i) We pining for a brief holiday.
(ii) We have not been pining for a brief holiday.
(iii) We have been pining for a brief holiday.
(A) i and ii
(B) i and iii
(C) ii and iii
(D) i, ii and iii
3. (i) He finished the work in ten days.
(ii) She will do the work within twelve days.
(iii) We will do the work since five days.
(A) i and ii
(B) i and iii
(C) ii and iii
(D) i, ii and iii
4. (i) The school is above the river.
(ii) The school is beyond the river.
(iii) The school stands between the valleys.
(A) i and ii
(B) i and iii
(C) ii and iii
(D) i, ii and iii
5. (i) The Director, Academic Staff (Upper Division) has made this announcement.
(ii) The Chief Justice of India has written to the President.
(iii) Justice Umesh Bhatt attend the conference.
(A) i and ii
(B) i and iii
(C) ii and iii
(D) i, ii and iii

6. (i) She called on me to enquire about my health.

(ii) Someone has been enquiring for you at the gate.

(iii) She enquire of the doctor the reason for her child's ill health.

(A) i and ii

(B) i and iii

(C) ii and iii

(D) i, ii and iii

7. (i) The police acquainted us with the facts of the matter.

(ii) They acquitted themselves from honour.

(iii) The magistrate acquitted him of all the charges.

(A) i and ii

(B) i and iii

(C) ii and iii

(D) i, ii and iii

8. (i) I was disgusted at him at his rudeness.

(ii) I was disgusted by his rudeness.

(iii) We are disgusted at her rude behaviour.

(A) i and ii

(B) i and iii

(C) ii and iii

(D) i, ii and iii

9. (i) She confided in her friend.

(ii) He could confide in his friend.

(iii) We confided our fears to our parents.

(A) i and ii

(B) i and iii

(C) ii and iii

(D) i, ii and iii

10. (i) She looked pleased with herself.

(ii) She looked displeased with herself.

(iii) The teacher was greatly pleased at the performance of her girls.

(A) i and ii

(B) i and iii

(C) ii and iii

(D) i, ii and iii

Directions (Q. Nos. 11-20) : Read the following passage and answer the questions given below following the instructions :

Willard Gibbs was a gentle spirit whose life was spent in his laboratory at Yale University, and who never dreamed that his work in mathematical physics might have even a remote relationship to war; and yet it is safe to say that his ideas gave added power to the armaments of all nations in both World War I and World War II.

I suspect that the way out of the dilemma is not as simple as the questions now being asked seem to imply. The good and the evil that flow from scientific research are more often than not indistinguishable at the point of origin. Generally they are by-products, or they represent distortions of original purpose, none of which could have been foreseen when the initial discovery was made. We are driven back to a question of human motives and desires. Science has recently given us radar, jet propulsion and power sources of unprecedented magnitude. What does society want to do with them? It can use them constructively to increase the happiness of mankind or it can employ them to tear the world to pieces. There is scarcely a scientific formula or a process or a commodity which cannot be used for war purposes, if that is what we elect to do with it. In brief, the gifts of science can be used by evil men to do evil even more obviously and dramatically than they can be used by men of goodwill to do good. I fear there is no easy way out of our dilemma. I would not absolve the scientists from some measures of responsibility, for they are men of superior training and insight and we are entitled to look to them for help and

leadership—more help and leadership, I venture to add, than have thus far been given. However, I note that a considerable number of scientists who were connected with the atomic bomb project have publicly expressed their apprehension of the consequences of their own creation. "All of us who worked on the atomic bomb", said Dr. Allison of the University of Chicago, "had a momentary feeling of elation when our experiment met with success; but that feeling rapidly changed to a feeling of horror, and a fervent desire that no more bombs would be dropped."

Nevertheless, in the long run I do not believe that we shall be successful in making science the arbiter of its discoveries. Somehow or other society itself must assume that responsibility. The towering enemy of mankind is not science but war. Science merely reflects the social forces by which it is surrounded. When there is peace, science is constructive; when there is war, science is perverted to destructive ends. The weapons which science gives us do not necessarily create war; they make war increasingly more terrible, until now it has brought us to the doorstep of doom.

Choose the appropriate meaning of the following words from the options given in the specific context of the passage :

11. Armaments

- (A) Military equipment
- (B) Company equipment
- (C) Appliances
- (D) War planes

12. Dilemma

- (A) Unwavering
- (B) Alternatives
- (C) Choice
- (D) Predicament

13. Indistinguishable

- (A) Considered trivial
- (B) Very dissimilar
- (C) Not clearly recognizable
- (D) Insignificant

14. Distortions

- (A) Appears balanced
- (B) Appears as an exaggeration
- (C) Appears valid
- (D) Appears different from its origin

15. Apprehension

- (A) Doubt
- (B) Fear
- (C) Anger
- (D) Hatred

Choose the appropriate antonyms of the following words :

16. Imply

- (A) Explicit
- (B) Implicit
- (C) Hinted
- (D) Unstated

17. Foreseen

- (A) Imminent
- (B) Unpredicted
- (C) Expected
- (D) Anticipated

18. Unprecedented

- (A) Singular
- (B) Familiar
- (C) Unparalleled
- (D) Unrivalled

19. Magnitude

- (A) Significance
- (B) Immensity
- (C) Smallness
- (D) Illustriousness

20. Perverted

- (A) Deprave
- (B) Vile
- (C) Debauch
- (D) Unblemished

Directions (Q. Nos. 21-35) : Choose the correct options to fill in the blanks.

21. I reflected _____ life in the Andaman and Nicobar Islands.
(A) for
(B) by
(C) on
(D) with
22. I explained that after graduating I had worked _____ two years as a Communications Engineer.
(A) for
(B) since
(C) in
(D) through
23. After the long sea voyage to Africa, he was taken _____ river boat to the village.
(A) in
(B) into
(C) by
(D) for
24. There was a storm _____ every evening.
(A) for
(B) since
(C) by
(D) almost
25. Two days later, _____ a Sunday afternoon, the lady arrived.
(A) in
(B) on
(C) by
(D) from
26. He pleaded _____ the government.
(A) by
(B) over
(C) upon
(D) against
27. We should never meddle _____ other people's affairs.
(A) with
(B) through
(C) in
(D) for
28. The two lines pass _____ each other at right angles.
(A) by
(B) within
(C) across
(D) at
29. You are not allowed to go _____ this point.
(A) by
(B) beyond
(C) through
(D) across
30. Your demand is _____ the rules.
(A) within
(B) at
(C) for
(D) by

31. There is no description of this equipment ____ this manual.

- (A) into
- (B) for
- (C) by
- (D) in

32. Hope is ____ in human nature.

- (A) immanent
- (B) imminent
- (C) eminent
- (D) ingenious

33. A judicial ____ has been ordered into the case.

- (A) inquiry
- (B) enquiry
- (C) ordinance
- (D) ordnance

34. There is no such ____ in history.

- (A) president
- (B) precedent
- (C) principle
- (D) progressive

35. We disliked his ____ way of life.

- (A) voracious
- (B) officious
- (C) posthumous
- (D) ceremonious

Directions (Q. Nos. 36–50) : Choose the correct meaning for the words or phrases given below.

36. To take fancy to

- (A) To develop hatred
- (B) To develop a fondness
- (C) To develop imagination
- (D) To develop a sense of duty

37. To be in the dark

- (A) Having no information about something
- (B) Having difficulty with sight
- (C) Having no feelings for others
- (D) Having a sense of bewilderment

38. To get cold feet

- (A) Stage fright
- (B) The feet are cold
- (C) To get nervous in the last moment
- (D) Contracting cold gradually

39. To meet someone halfway

- (A) Meeting at an appointed place midway
- (B) To take control halfway
- (C) To compromise with someone
- (D) To forget someone

40. To come to another country

- (A) Immigrate
- (B) Emigrate
- (C) Foreigner
- (D) Wanderer

41. Of sound which cannot be heard

- (A) Incurrigible
- (B) Ineffable
- (C) Inaudible
- (D) Audible

42. That which catches fire easily

- (A) Inflammable
- (B) Incombustible
- (C) Fireproof
- (D) Non-flammable

43. Of one who is all powerful

- (A) Omniscient
- (B) Omnipotent
- (C) Omnibus
- (D) Omnipresent

44. One who believes in fate

- (A) Fatalist
- (B) Faithless
- (C) Fated
- (D) Fastidious

45. Bibliophile

- (A) One who loves bibliographies
- (B) One who loves autobiographies
- (C) One who loves books
- (D) One who loves memories

46. One who believes in God

- (A) Atheist
- (B) Misogynist
- (C) Theist
- (D) Philanthropist

47. The art of collecting stamps

- (A) Philately
- (B) Stamp collector
- (C) Items collection
- (D) Postal art

48. A place for improving one's health

- (A) Infirmary
- (B) Resort
- (C) Park
- (D) Spa

49. A place for the storage of weapons

- (A) Fort
- (B) Arsenal
- (C) Barn
- (D) Storehouse

50. Notorious

- (A) Having a bad reputation
- (B) An objectionable person
- (C) A robber
- (D) A murderer

PART—B : GENERAL KNOWLEDGE & APTITUDE

(Marks : 100)

Each question carries 2 marks

51. Introducing a boy, a girl said, "He is the son of the daughter of the father of my uncle". How is the boy related to the girl?
- (A) Brother
(B) Nephew
(C) Uncle
(D) Son-in-law
52. A's son B is married to C whose sister D is married to E, the brother of B. How is D related to A?
- (A) Sister
(B) Daughter-in-law
(C) Sister-in-law
(D) Cousin
53. A, B, C, D and E are sitting on a bench. A is sitting next to B, C is sitting next to D, D is not sitting with E who is on the left end of the bench. C is on the second position from the right. A is to the right of B and E. A and C are sitting together. In which position is A sitting?
- (A) Between B and D
(B) Between B and C
(C) Between E and D
(D) Between C and E
54. A, P, R, X, S and Z are sitting in a row. Sand Z are in the centre. A and P are at the ends. R is sitting to the left of A. Who is to the right of P?
- (A) A
(B) X
(C) S
(D) Z
55. From his house, Lokesh went 15 km to the north. Then he turned west and covered 10 km. Then he turned south and covered 5 km. Finally turning to the east, he covered 10 km. In which direction is he from his house?
- (A) East
(B) West
(C) North
(D) South
56. The National Rural Employment Guarantee Scheme was named after
- (A) Rajiv Gandhi
(B) Mahatma Gandhi
(C) Indira Gandhi
(D) Jawaharlal Nehru

57. When was the Cooperative Movement launched in India?

- (A) 1904
- (B) 1907
- (C) 1905
- (D) 1920

58. Which of the following is popular as a plastic currency?

- (A) ATM card
- (B) Currency
- (C) Cheque
- (D) Draft

59. The Indian National Congress passed Quit India Resolution at the

- (A) Wardha Session, 1942
- (B) Bombay Session, 1934
- (C) Tripuri Session, 1939
- (D) Ramgarh Session, 1940

60. Who called Subhas Chandra Bose as 'Desh Nayak'?

- (A) Lala Lajpat Rai
- (B) Rabindranath Tagore
- (C) Mahatma Gandhi
- (D) Bal Gangadhar Tilak

61. The most important sources of our information on ancient India's cultural history are

- (A) archaeological excavations
- (B) antiquities and monuments
- (C) literature and epics
- (D) inscriptions and coins

62. In his inscriptions, Ashoka called himself

- (A) Devanampriya Priyadarshi King
- (B) Ashoka Priyadarshi
- (C) Dhammasoka (Dharmashoka)
- (D) Daivaputra

63. Which of the following was **not** one of the ruling dynasties of South India in the Sangam Age?

- (A) Chola
- (B) Chera
- (C) Pandya
- (D) Pallava

64. How much time it took for the Constituent Assembly to finalize the Constitution?

- (A) 2 years 11 months 18 days
- (B) 2 years 9 months 8 days
- (C) 2 years 7 months 18 days
- (D) 2 years 5 months 20 days

65. "The Constitution should give India Dominion Status" was a proposal in the
- (A) Cabinet Mission Plan
 - (B) Cripps Mission
 - (C) Mountbatten Plan
 - (D) Simon Commission
66. The instrument which measures the intensity of solar radiation is called
- (A) barometer
 - (B) energy meter
 - (C) solarimeter
 - (D) speedometer
67. Mahe and Yanam are the parts of the Union Territory of
- (A) Dadra & Nagar Haveli and Daman & Diu
 - (B) Chandigarh
 - (C) Lakshadweep
 - (D) Puducherry
68. India's first Marine National Park is located in the
- (A) Gulf of Kutch
 - (B) Bay of Bengal
 - (C) Indian Ocean
 - (D) Gulf of Khambhat
69. Which mountain is known as the 'Roof of the World'?
- (A) Andes
 - (B) Himalaya
 - (C) Karakoram
 - (D) Pamir
70. Emu bird is found in the country of
- (A) New Zealand
 - (B) Japan
 - (C) Australia
 - (D) Thailand
71. Tetraethyl lead is used as
- (A) painkiller
 - (B) fire extinguisher
 - (C) mosquito repellent
 - (D) petrol additive
72. In which of the following activities is silicon carbide used?
- (A) Making cement and glass
 - (B) Disinfecting water of ponds
 - (C) Cutting very hard substances
 - (D) Making casts for statues

73. Galvanized iron sheets have a coating of

- (A) lead
- (B) chromium
- (C) zinc
- (D) tin

74. The 'Dronacharya Award' is given to

- (A) sportsmen
- (B) coaches
- (C) umpires
- (D) sports editors

75. Who among the following invented the smallpox vaccine?

- (A) Robert Koch
- (B) Edward Jenner
- (C) Robert Hooke
- (D) Louis Pasteur

76. The 'Operation Thirst' has been launched by which Indian organization?

- (A) Indian Army
- (B) ISRO
- (C) Indian Railways
- (D) BARC

77. Who among the following has been elected as the President of the European Parliament?

- (A) David Sassoli
- (B) Jan Zahradil
- (C) Ska Keller
- (D) Sira Rego

78. The Film Division of India (FDI) has launched a documentary film club 'KSHITIJ' in which city?

- (A) Pune
- (B) Mumbai
- (C) Delhi
- (D) Jaipur

79. Which Indian movie won the NETPAC Award for Best Asian Film at the 23rd Bucheon International Fantastic Film Festival, 2019?

- (A) *Gully Boy*
- (B) *Kabir Singh*
- (C) *Bharat*
- (D) *Super 30*

80. Which State Government has decided to produce its own seeds under the brand name 'Sah-Beej'?

- (A) Chhattisgarh
- (B) Uttar Pradesh
- (C) Rajasthan
- (D) Madhya Pradesh

81. Two trains, one from Howrah to Patna and the other from Patna to Howrah, start simultaneously. After they meet, the trains reach their destinations after 9 hours and 16 hours respectively. The ratio of their speeds is
- (A) 2:3
(B) 4:3
(C) 6:7
(D) 9:16
82. A train overtakes two persons who are walking in the same direction in which the train is going, at the rate of 2 kmph and 4 kmph, and passes them completely in 9 seconds and 10 seconds respectively. The length of the train is
- (A) 45 m
(B) 50 m
(C) 54 m
(D) 72 m
83. A person borrows ₹ 5,000 for 2 years at 4% p.a. simple interest. He immediately lends it to another person at 6.25% p.a. for 2 years. Find his gain in the transaction per year.
- (A) ₹ 112.50
(B) ₹ 125
(C) ₹ 225
(D) ₹ 167.50
84. What will be the ratio of simple interest earned by certain amount at the same rate of interest for 6 years and that for 9 years?
- (A) 1:3
(B) 1:4
(C) 2:3
(D) 1:6
85. The population of a town increased from 175000 to 262500 in a decade. The average percent increase of population per year is
- (A) 4.37%
(B) 5%
(C) 6%
(D) 8.75%
86. What percentage of numbers from 1 to 70 have 1 or 9 in the unit's digit?
- (A) 1%
(B) 14%
(C) 20%
(D) 21%

87. Two tailors X and Y are paid a total of ₹ 550 per week by their employer. If X is paid 120 percent of the sum paid to Y , then how much is Y paid per week?

- (A) ₹ 200
- (B) ₹ 250
- (C) ₹ 300
- (D) None of the above

88. On 8th December, 2007, Saturday falls. What day of the week was it on 8th December, 2006?

- (A) Sunday
- (B) Thursday
- (C) Tuesday
- (D) Friday

89. On dividing a number by 5, we get 3 as remainder. What will be the remainder when the square of this number is divided by 5?

- (A) 0
- (B) 1
- (C) 2
- (D) 4

90. How many of the following numbers are divisible by 3 but not by 9?

2133, 2343, 3474, 4131, 5286,
5340, 6336, 7347, 8115, 9276

- (A) 5
- (B) 6
- (C) 7
- (D) None of the above

91.
$$\frac{(963+476)^2 + (963-476)^2}{(963 \times 963 + 476 \times 476)} = ?$$

- (A) 1449
- (B) 497
- (C) 2
- (D) 4

92. $(51+52+53+\dots+100) = ?$

- (A) 2525
- (B) 2975
- (C) 3225
- (D) 3775

93. On dividing a number by 357, we get 39 as remainder. On dividing the same number by 17, what will be the remainder?

- (A) 0
- (B) 3
- (C) 5
- (D) 11

94. Which one of the following is the common factor of $(47^{43} + 43^{43})$ and $(47^{47} + 43^{47})$?

- (A) $(47-43)$
- (B) $(47+43)$
- (C) $(4743+4343)$
- (D) None of the above

95. The greatest number, which on dividing 1657 and 2037 leaves remainders 6 and 5 respectively, is

- (A) 123
- (B) 127
- (C) 235
- (D) 305

96. The price of 2 sarees and 4 shirts is ₹ 1,600. With the same money, one can buy 1 saree and 6 shirts. If one wants to buy 12 shirts, then how much shall he have to pay?

- (A) ₹ 1,200
- (B) ₹ 2,400
- (C) ₹ 4,800
- (D) Cannot be determined

97. Free notebooks were distributed equally among children of a class. The number of notebooks each child got was one-eighth of the number of children. Had the number of children been half, each child would have got 16 notebooks. Total how many notebooks were distributed?

- (A) 256
- (B) 432
- (C) 512
- (D) 640

98. A man has some hens and cows. If the number of heads is 48 and the number of feet equals 140, then the number of hens will be

- (A) 22
- (B) 23
- (C) 24
- (D) 26

99. A boat covers a certain distance downstream in 1 hour, while it comes back in 1.5 hours. If the speed of the stream is 3 kmph, then what is the speed of the boat in still water?

- (A) 12 kmph
- (B) 13 kmph
- (C) 14 kmph
- (D) 15 kmph

100. Excluding stoppages, the speed of a bus is 54 kmph and including stoppages, it is 45 kmph. For how many minutes does the bus stop per hour?

- (A) 9 minutes
- (B) 10 minutes
- (C) 12 minutes
- (D) 20 minutes

PART—C : MATHEMATICS

(Marks : 100)

Each question carries 2 marks

101. Find two consecutive natural numbers whose squares have the sum 85.
(A) 4, 5
(B) 5, 6
(C) 6, 7
(D) None of the above
102. The perimeter of a rectangular field is 82 m and its area is 400 sq. m. The breadth of the rectangle is
(A) 25 m
(B) 16 m
(C) 30 m
(D) None of the above
103. The ratio of the volumes of two cubes is 8 : 27. The ratio of their surface areas is
(A) 4 : 9
(B) 9 : 4
(C) 16 : 81
(D) 81 : 16
104. A can complete a piece of work in 12 days. A and B together can complete the same piece of work in 8 days. In how many days can B alone complete the same piece of work?
(A) 15 days
(B) 18 days
(C) 24 days
(D) 28 days
105. Najia types 540 words during half an hour. How many words would she type in 6 minutes?
(A) 118
(B) 115
(C) 110
(D) 108
106. Three friends Aamir, Alok and Aditya jog around a circular stadium and complete one round in 12 seconds, 18 seconds and 20 seconds respectively. In how many minutes will all the three meet again at the starting point?
(A) 5 minutes
(B) 8 minutes
(C) 12 minutes
(D) 3 minutes
107. Inside a square plot, a circular garden is developed which exactly fits in the square plot and the diameter of the garden is equal to the side of the square plot which is 28 m. What is the area of the space left out in the square plot after developing the garden?
(A) 98 m^2
(B) 146 m^2
(C) 84 m^2
(D) 168 m^2

108. By how much is $\frac{5}{12}$ th of 516 lesser than $\frac{4}{9}$ th of 495?

- (A) 20
- (B) 15
- (C) 10
- (D) 5

109. Father's age is 30 years more than son's age. Ten years hence, the father's age will become three times the son's age at that time. The son's present age is

- (A) 8 years
- (B) 7 years
- (C) 5 years
- (D) None of the above

110. One-fourth of a herd of deer have gone to the forest. One-third of the total number are grazing in a field and remaining 15 are drinking water on the bank of a river. The total number of deer is

- (A) 24
- (B) 36
- (C) 40
- (D) 44

111. A tempo travels at the speed of 36 km/hr. How much distance will it travel in 20 seconds?

- (A) 180 m
- (B) 200 m
- (C) 220 m
- (D) 240 m

112. A car can finish a journey in 10 hours at the speed of 48 km/hr. By how much should its speed be increased so that it may take only 8 hours to cover the same distance?

- (A) 12 km/hr
- (B) 15 km/hr
- (C) 20 km/hr
- (D) None of the above

113. If the HCF of 336 and 54 is 6, then the LCM is

- (A) 3023
- (B) 3024
- (C) 3025
- (D) None of the above

114. The surface area of a sphere is 616 cm^2 . Its radius is

- (A) 3.5 cm
- (B) 2.5 cm
- (C) 14 cm
- (D) 7 cm

115. $\sqrt[3]{148877}$ is equal to

- (A) 43
- (B) 73
- (C) 63
- (D) 53

116. The speed of a boat when travelling downstream is 32 km/hr, whereas when travelling upstream is 28 km/hr. What is the speed of the boat in still water?

- (A) 27 km/hr
- (B) 29 km/hr
- (C) 31 km/hr
- (D) 30 km/hr

117. The area of a rhombus is 240 cm^2 and one of the diagonals is 16 cm. The other diagonal is

- (A) 8 cm
- (B) 32 cm
- (C) 30 cm
- (D) 15 cm

118. The height of the cylinder, whose volume is 1.54 m^3 and diameter of the base is 140 cm, is

- (A) 2 m
- (B) 3 m
- (C) 1.5 m
- (D) 1 m

119. A man goes 10 km due west and then 30 km due south. His distance from the starting point is

- (A) 31.62 km
- (B) 30.52 km
- (C) 28.50 km
- (D) None of the above

120. If $x = \sqrt{5} - 2$, then $x + \frac{1}{x}$ is equal to

- (A) $\sqrt{5}$
- (B) $2\sqrt{5}$
- (C) 4
- (D) $4\sqrt{5}$

121. Evaluate

$$\left(\frac{64}{125}\right)^{-\frac{2}{3}} \div \frac{1}{\left(\frac{256}{625}\right)^{\frac{1}{4}}} \times \frac{\sqrt{25}}{\sqrt[3]{64}}$$

- (A) $\frac{16}{25}$
- (B) $\frac{25}{16}$
- (C) $\frac{30}{17}$
- (D) $\frac{33}{19}$

122. If $x + 3y + 2z = 0$, then $x^3 + 27y^3 + 8z^3$ is

- (A) $9xyz$
- (B) $6xyz$
- (C) $18xyz$
- (D) xyz

123. In how many years will ₹ 2,000 amount to ₹ 2,662 at 10% compound interest?

- (A) 2 years
- (B) $2\frac{1}{2}$ years
- (C) 3 years
- (D) $3\frac{1}{2}$ years

124. A sum of ₹ 64,000 earns a compound interest of ₹ 1,008.80 in 18 months, when the interest is received half yearly. The rate of interest is

- (A) 10%
- (B) 12%
- (C) 14%
- (D) 16%

125. The value of $\frac{1}{\sqrt{2}+1} + \frac{1}{\sqrt{3}+\sqrt{2}} + \frac{1}{2+\sqrt{3}}$ is

- (A) -1
- (B) 1
- (C) 0
- (D) -2

126. A 200 m long train crosses a platform of double its length in 36 seconds. The speed of the train in km/hr is

- (A) 30
- (B) 45
- (C) 55
- (D) 60

127. The capacity of a tank is 80 kilolitres. If the length and breadth of the tank are respectively 5 m and 4 m, its depth is

- (A) 3.5 m
- (B) 4 m
- (C) 4.5 m
- (D) 5 m

128. Mr. David's salary increases every year by 10% in June. If there is no other increase or reduction in the salary and his salary in June 2022 was ₹22,385, what was his salary in June 2020?

- (A) ₹14,500
- (B) ₹15,000
- (C) ₹18,500
- (D) ₹22,000

129. A godown measures 40 m × 25 m × 15 m. The maximum number of wooden crates, each measuring 1.5 m × 1.25 m × 0.5 m, that can be stored in the godown is

- (A) 15000
- (B) 16000
- (C) 17000
- (D) 18000

130. The age of a man is twice the square of the age of his son. Eight years hence, the age of the man will be 4 years more than three times the age of his son. The present age of the man is

- (A) 62 years
- (B) 52 years
- (C) 42 years
- (D) 32 years

131. The simple interest on ₹3,125 at 15% per annum for 73 days is

- (A) ₹90.20
- (B) ₹93.75
- (C) ₹95.75
- (D) ₹98.75

132. If $\frac{p}{q} = \left(\frac{3}{2}\right)^{-2} + \left(\frac{6}{7}\right)^0$, the value of $\left(\frac{p}{q}\right)^{-3}$ is

- | | |
|----------------------|----------------------|
| (A) $\frac{8}{9}$ | (B) $\frac{64}{729}$ |
| (C) $\frac{729}{64}$ | (D) $\frac{64}{81}$ |

- 133.** If 3 is added to the first of the two numbers, their ratio becomes 1 : 2, while the ratio becomes 1 : 3 when 1 is subtracted from the second number. The numbers are
- (A) 4, 10 (B) 3, 12
(C) 2, 8 (D) 5, 16
- 134.** If the list price of a toy is reduced by ₹2, a person can buy two toys more for ₹360. The original price of a toy is
- (A) ₹15 (B) ₹20
(C) ₹30 (D) ₹35
- 135.** The difference between the length and width of a rectangle is 7 cm. The perimeter of the rectangle is 50 cm. The length and width of the rectangle are
- (A) 12 cm, 7 cm
(B) 14 cm, 9 cm
(C) 15 cm, 7 cm
(D) 16 cm, 9 cm
- 136.** A body falls 8 m in the 1st second of its motion, 20 m in the 2nd second of its motion and 32 m in the 3rd second of its motion and so on. How far does it fall during the 11th second of its motion?
- (A) 120 m
(B) 128 m
(C) 132 m
(D) None of the above
- 137.** A cistern can be filled by two pipes in $33\frac{1}{3}$ minutes. If the larger pipe takes 15 minutes less than the smaller to fill the cistern, find in what time the smaller pipe will fill the cistern.
- (A) 35 minutes
(B) 45 minutes
(C) 75 minutes
(D) 80 minutes
- 138.** What is 25% of 35% of $\frac{6}{7}$ of 4200?
- (A) 210 (B) 225
(C) 315 (D) 320
- 139.** What is the greater of the two numbers whose product is 1092 and the sum of the two numbers exceeds their difference by 42?
- (A) 48 (B) 44
(C) 52 (D) 54
- 140.** Which of the following numbers should be added to 6659 to make it a perfect square?
- (A) 230 (B) 65
(C) 98 (D) 56
- 141.** The diameter of a circular wheel is 1.4 m. How many revolutions will it make in travelling 22 km?
- (A) 5000
(B) 500
(C) 2500
(D) None of the above

- 142.** There is a rectangular garden $220\text{ m} \times 70\text{ m}$. A path of width 4 m is built around the garden. What is the area of the path?
- (A) 2472 m^2
 (B) 2162 m^2
 (C) 1836 m^2
 (D) 2384 m^2
- 143.** If the mean of $6, 8, 5, 7, 4$ and x is 7 , then x is equal to
- (A) 24 (B) 12
 (C) 18 (D) 30
- 144.** A man invested x rupees for 20 years at a rate of 9% simple interest. If the amount he received after 20 years was $\text{₹}37,03,000$, find the amount he invested.
- (A) $\text{₹}13,25,500$
 (B) $\text{₹}13,20,500$
 (C) $\text{₹}13,22,500$
 (D) $\text{₹}13,10,500$
- 145.** Three numbers are in the ratio $11 : 19 : 20$. If the difference between the largest and the smallest number is 45 , find the average of the numbers.
- (A) 75 (B) 77.25
 (C) 83.33 (D) 87.50
- 146.** 30% of a number is 21 . What percent of the number is 49 ?
- (A) 50% (B) 65%
 (C) 70% (D) 72%
- 147.** On selling 17 balls at $\text{₹}720$, there is a loss equal to the cost price of 5 balls. The cost price of a ball is
- (A) $\text{₹}45$
 (B) $\text{₹}50$
 (C) $\text{₹}55$
 (D) $\text{₹}60$
- 148.** The cost of a flower vase is $\text{₹}120$. If a shopkeeper sells it at a loss of 10% , then the selling price of the vase is
- (A) $\text{₹}100$
 (B) $\text{₹}110$
 (C) $\text{₹}108$
 (D) $\text{₹}105$
- 149.** Three numbers are in the ratio $3 : 4 : 5$ and their LCM is 2400 . Their HCF is
- (A) 40
 (B) 80
 (C) 120
 (D) 200
- 150.** The average age of 25 men is 28 years. Five new men of average age 25 years join them. The average age of all men together is
- (A) 26.5 years
 (B) 28.5 years
 (C) 29.5 years
 (D) 27.5 years