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

QUESTION BOOKLET | SERIES I

Subjects : General English, General Awareness & Aptitude, Mathematics

BOOKLET SERIAL NO.   009005

Marks : 350

Time : $2^1/_2$ hours

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

INSTRUCTIONS TO CANDIDATES

1. This booklet contains **175 questions** to be answered in a separate OMR Answer Sheet using Black Ball Pen in following three parts:

   Part-A-General English : 50 questions, Part-B-General Awareness & Aptitude : 75 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. Answers must be shown by completely blackening the corresponding circles in the Answer Sheet against the relevant question number by Black Ball Pen. OMR Answer Sheet without marking series/ double series marking shall not be evaluated.

Example :

   Supposing 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 Ball Point Pen only as below :-

   Ⓐ Ⓑ ⬤ Ⓓ

WHICH 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 : In the following sentences, a word/phrase is written in BOLD. From the given alternatives, find the word NEAREST in meaning to the one given in BOLD.

1. I doubt the **VERACITY** of your statement.
a) Tenacity
b) Wisdom
c) Truthfulness
d) Reliability

2. I found his crude manners **ABOMINABLE**.
a) Detestable
b) Flattering
c) Attractive
d) Sloppy

3. My neighbour is an **EXTRAVAGANT** person.
a) Pompous
b) Reckless
c) Prodigal
d) Miserly

4. He was **ADMONISHED** for the delay.
a) Admired
b) Advised
c) Censured
d) Dismissed

5. His style is quite **TRANSPARENT**.
a) Verbose
b) Involved
c) Lucid
d) Witty

6. His dress was **IMMACULATE**
a) Spotless
b) Coloured
c) Gorgeous
d) Simple

7. **WEIRD** noises came from the haunted house.
a) Beastly
b) Unpleasant
c) Frightening
d) Unnatural

8. He is known for his **COMPLIANT** nature.
a) Yielding
b) Complaining
c) Adamant
d) Livid

9. Dowry is a **PERNICIOUS** social practice.
a) Traditional
b) Prevalent
c) Painful
d) Injurious

10. He found it an **ARDUOUS** task to perform.
a) Boring
b) Ardent
c) Ordinary
d) Difficult

Directions : In the following sentences, a word/phrase is written in BOLD. From the given alternatives, find the word OPPOSITE in meaning to the one given in BOLD.

11. He has a passion for **INDIGENOUS** goods.
a) Native
b) Foreign
c) Silly
d) Cheap

12. He was in a **DEJECTED** mood.
a) Jubilant
b) Rejected
c) Irritable
d) Romantic

13. I like his **FRIENDLY** attitude.
a) Jealous
b) Envious
c) Hostile
d) Vicious

14. I liked the poem for its **LITERAL** meaning.
a) Deep
b) Complex
c) Fictitious
d) Figurative

15. He appears to be a **PHONY** person.
a) Beautiful
b) Unread
c) Genuine
d) Ugly

16. That man is known for his **ELEGANCE**.
a) Awkwardness
b) Indelicacy
c) Clumsiness
d) Savagery

17. The criminal was **DETAINED** by the police.
a) Deterred
b) Released
c) Dismissed
d) Protected

18. It was a **DREARY** day.
a) Drab
b) Dangerous
c) Beautiful
d) Bright

19. His **SERVILITY** makes him detestable.
a) Slavery
b) Insolence
c) Prudence
d) Bravery

20. Silence in this place is **MANDATORY**.
a) Optional
b) Compulsory
c) Imperative
d) Irritating

Directions : Four alternatives a, b, c, d are given. You are required to select the most suitable alternative to the given idioms and phrases :

21. Deaf ear
a) Listen carefully
b) Deadly opposed
c) Indifferent
d) Paying no attention

22. High spirits
a) Talkative   b) Cheerful
c) Drunk   d) Uncontrollable

23. Green-eyed
a) Rich   b) Jealous
c) Handsome   d) Famous

24. Point blank
a) Directly   b) Pointedly
c) Absurdly   d) Briefly

25. On the wane
a) Growing more   b) At its peak
c) Growing less   d) At rock bottom

26. No love lost
a) Close friendship
b) Intense dislike
c) A love-hate relationship
d) Cool indifference

27. A mare's nest
a) A false invention   b) A noble thing
c) A success   d) A timely sleep

28. Turn the corner
a) Completely recover b) Become worse
c) Pass the crisis   d) Die

29. At odds
a) Act foolishly   b) In dispute
c) Unanimous   d) Behave childishly

30. A queer fish
a) Funny person
b) Sensitive person
c) Strange person
d) Quarrelsome person

Directions : Choose the most appropriate preposition :

31. Dishonesty is always detrimental _____ progress in life.
a) to   b) for
c) in   d) by

32. He made insulting remarks that are derogatory _____ his reputation.
a) for   b) to
c) in   d) with

33. Quinine is an effective antidote _____ Malaria.
a) to   b) against
c) for   d) with

34. At the sight of his former wife he flew _____ rage.
a) in   b) into
c) to   d) for

35. He is born _____ an intelligent mother.
a) from   b) to
c) of   d) with

36. The scheme of Rozgar Yojana was originated _____ the PM.
a) in   b) with
c) by   d) for

37. He decided to enter _____ a new course of life.
a) into   b) upon
c) for   d) by

38. He was vexed _____ the belated reply from his son.
a) at   b) with
c) on   d) to

39. The visit of the President has been advanced _____ two days.
a) for   b) by
c) with   d) to

40. We have decided to adhere _____ the original programme.
a) by   b) for
c) to   d) with

Directions : Choose the most suitable ONE WORD for the following phrases/expressions :

41. Lack of enough blood.
a) Amnesia   b) Insomnia
c) Anaemia   d) Allergy

42. People in a rowdy scene
a) Mob   b) Rabble
c) Crowd   d) Audience

43. A person who sneaks into a country
a) Infiltrator   b) Sniper
c) Invader   d) Aggressor

44. A person 70 to 79 years old
a) Nonagenarian   b) Centenarian
c) Octogenarian   d) Septuagenarian

45. Incapable of being wounded
a) Invulnerable   b) Invincible
c) Infallible   d) Impregnable

46. A song at a burial
a) Elegy   b) Sonnet
c) Ode   d) Dirge

47. One who draws maps and charts
a) Lexicographer   b) Mappier
c) Cartographer   d) Graphologist

48. Shelter for cows
a) Hutch   b) Byre
c) Hangar   d) Kennel

49. A sea abounding in islands
a) Strait   b) Archipelago
c) Ocean   d) Gulf

50. A verse letter
a) Epistle   b) Epitaph
c) Pantomime   d) Lay

PART - B - GENERAL AWARENESS & APTITUDE

Marks : 150

Each question carries 2 marks :

51. 'Red Square' is considered as the central square/place of which city ?
a) Paris, France
b) St. Petersburg, Russia
c) Moscow, Russia
d) Beijing, China

52. Who among the following was the Constitutional adviser to the Constituent Assembly of India ?
a) Dr. B.N.Rao
b) Dr. B.R. Ambedkar
c) K.M. Munshi
d) M. C. Setalvad

53. Which agency is responsible for estimation of poverty in India ?
a) Planning Commission now called NITI Aayog.
b) Rural Development Ministry.
c) Ministry of Food and Civil supplies
d) Indian Statistical Institute.

54. Who has the authority to proclaim emergency in the States ?
a) The President
b) The Prime Minister
c) The Chief Minister
d) The Governor

55. The Constitution of India is
a) Unitary
b) Confederal
c) Perfectly federal
d) Federal with a strong centralising tendency

56. Devaluation means-
a) Converting rupee into gold
b) Lowering of the value of one currency in comparison of some foreign currency
c) Making rupee dealer in comparison to some foreign currency
d) None of these

57. The place where bankers meet and settle their mutual claims and accounts is known as
a) Treasury
b) Clearing house
c) Collection Centre
d) Dumping ground

58. From which country did Belgium break away to form an independent nation ?
a) Norway
b) France
c) The Netherlands
d) Denmark

59. Which among the following is the oldest Development Financial Institution of India ?
a) UTI
b) IDBI
c) ICICI
d) IFCI

60. Development expenditure of the Central Government does not include
a) Expenditure on economic services
b) Defence expenditure
c) Grant to states
d) Expenditure on social and community services

61. In terms of area, which is the smallest continent ?
a) South America
b) Asia
c) Australia
d) Europe

62. Which one of the following states does not share common frontiers with Bangladesh ?
a) Assam
b) Tripura
c) Manipur
d) Mizoram

63. The 'Sea of tranquility' can be found in
a) Mars
b) Saturn
c) Jupiter
d) Moon

64. Which of the following is an inland drainage area ?
a) Sambhar area
b) Chilka region
c) Mansarovar Lake
d) Rann of Kutch

65. The hill range that seperates the state of Manipur from the state of Nagaland is known as
a) Arakan Hills
b) Patkai Hills
c) Barail Hills
d) Manipur Hills

66. Khilafat Movement was organised to protest against the injustice done to

a) Persia　　　　　b) Turkey
c) Arabia　　　　　d) Egypt

67. 'Constitution Day' is observed in India on
a) 26th January　　　b) 26th November
c) 14th August　　　d) 19th April

68. What was the name of the Ashram built by Mahatma Gandhi near Johannesberg in South Africa ?
a) Satya Ashram　　　b) Ahimsa Ashram
c) Tolstoy Farm　　　d) Lenin Farm

69. The most common animal figure found at all the Harappan sites is
a) Unihorn Bull　　　b) Cow
c) Bull　　　　　　d) Tiger

70. The name Buddha means
a) Enlightened　　　b) Learned
c) Divine　　　　　d) Sacred

71. A tree's age can be found by ?
a) Counting the number annular rings.
b) Counting the number of branches
c) Measuring its height
d) Measuring its girth

72. An element that does not occur in nature but can be produced artificially is
a) Thorium　　　　　b) Radium
c) Plutonium　　　　d) Uranium

73. Which natural sugar is found in the milk ?
a) Lactose　　　　　b) Maltose
c) Fructose　　　　　d) Sucrose

74. Which of the following is also known as Laughing Gas ?
a) Nitrogen dioxide
b) Nitrogen tetraoxide
c) Nitrogen trioxide
d) Nitrous Oxide

75. Which of the following is an exception to "Cell Theory" ?
a) Lichens　　　　　b) Fungi
c) Bacteria　　　　　d) Virus

76. India invited which group of countries at the oath - taking ceremony of PM Narendra Modi ?
a) BIMSTEC　　　　b) SAARC

c) ASEAN　　　　　d) BRICS

77. The DRDO recently test-fired the new version of which surface-to-air missile ?
a) Prithvi　　　　　b) Akash
c) Agni　　　　　　d) Nirbhay

78. Which nation has been elected to the Executive Board of first UN-Habitat Assembly ?
a) Sri Lanka　　　　b) France
c) India　　　　　　d) Malaysia

79. Yellow Flags hoisted on ships indicate
a) That the vessel carries patients suffering from infectious diseases
b) "Save Our Souls"
c) Mutiny on board
d) Serious engine trouble

80. The World Health Organisation officially labelled which of the following as addictive disorder?
a) Excessive gaming
b) Excessive sleeping
c) Excessive eating
d) Excessive laughing

81. What is the full form of the term "USB", used in connection with computer technology ?
a) Universal System Bus
b) Unified Serial Bus
c) Unified System Bus
d) Universal Serial Bus

82. Who among the following world leaders has become the first one to meet Japan's new emperor ?
a) Xi Jinping　　　　b) Narendra Modi
c) Theresa May　　　d) Donald Trump

83. Google announced suspension of its services with which technology giant ?
a) Huawei　　　　　b) Baidu
c) Xiaomi　　　　　d) Alibaba

84. What is the name of farthest place in universe where NASA's spacecraft has recently found evidence of water ?
a) Webar Galaxy　　　b) Giant Gracia
c) Wire Gross　　　　d) Ultima Thule

85. Prem Singh Golay took oath as the Chief Minister of which state ?

a) Tripura   b) Tamil Nadu
c) Odisha   d) Sikkim

86. Who became the first Indian Bowler to take an international wicket with a pink ball in test match held in November, 2019 in Kolkata ?
a) Md. Sammi
b) Ravindra Jadeja
c) Ravichandran Ashwin
d) Ishant Sharma

87. Which scientist discovered the radioactive element radium ?
a) Isaac Newton   b) Albert Einstein
c) Benjamin Franklin   d) Marie Curie

88. Who among the following invented the small pox vaccine ?
a) Robert Koch   b) Edward Jenner
c) Robert Hooke   d) Louis Pasteur

89. "Fridays for Future" is an international movement of school students started by which activist ?
a) Malala Yousafzai   b) Greta Thunberg
c) Nelson Mandela   d) Angelina Jolie

90. B.C. Roy Award is given in the field of
a) Music   b) Journalism
c) Medicine   d) Environment

91. The UNESCO's 'Prix Jules Verne' prize has been given to which of the following serials of Doordarshan ?
a) The World This Week
b) Surabhi
c) Eye Witness
d) Turning Point

92. Wadia Institute of Himalayan Geology is located at
a) Delhi   b) Shimla
c) Dehradun   d) Kulu

93. Ajanta-Ellora caves are situated near
a) Ajmer   b) Jaipur
c) Patna   d) Aurangabad

94. Sun Temple is situated at
a) Konark   b) Bangalore
c) Haridwar   d) Kerala

95. Who did "The Rock" beat to win his first

WWE Title ?
a) Triple H
b) Stone Cold Steve Austin
c) Mankind
d) Bret Hart

96. Who is the highest wicket taker in Test Cricket ?
a) Shane Warne
b) Brian Lara
c) Courtney Walsh
d) Muttiah Muralitharan

97. Who was the first Indian to win an individual medal in Olympics ?
a) Milkha Singh
b) P.T. Usha
c) Karnam Malleshwari
d) K.D. Jadhav

98. Which of the following is NOT written by Munshi Premchand ?
a) Gaban   b) Godan
c) Guide   d) Manasorovar

99. Which of the following was named as the "Word of the Year 2018" by Oxford dictionaries?
a) Avenger   b) Toxin
c) Decarbonisation   d) Toxic

100. The creator of 'Sherlock Holmes' was
a) Arthur Conan Doyle   b) Ian Fleming
c) Dr. Watson   d) Shakespeare

101. The length of the bridge, which a train 130 metres long and travelling at 45 km/hr can cross in 30 seconds, is
a) 200m   b) 225m
c) 245m   d) 250m

102. Which of the following is not a leap year ?
a) 700   b) 800
c) 1200   d) 2000

103. A jogger running at 9 kmph alongside a railway track in 240 metres ahead of the engine of a 120 metres long train running at 45 kmph in the same direction. In how much time will the train pass the jogger ?
a) 3.6 sec   b) 18 sec
c) 36 sec   d) 72 sec

104. A shopkeeper expects a gain of 22.5% on his cost price. If in a week, his sale was of Rs.392, what was his profit ?
a) Rs.18.20   b) Rs.70
c) Rs.72   d) Rs.88.25

105. When a plot is sold for Rs.18,700, the owner loses 15%. At what price must that plot be sold in order to gain 15% ?
a) Rs.21,000   b) Rs.22,500
c) Rs.25,300   d) Rs.25,800

106. What least number must be added to 1056, so that the sum is completely divisible by 23 ?
a) 2   b) 3
c) 18   d) 21

107. A clock is started at noon. By 10 minutes past 5, the hour hand has turned through :
a) 145°   b) 150°
c) 155°   d) 160°

108. It has been established that
P : Einstein was
Q : although a great scientist
R : weak in arithmetic
S : right from his school days
The Proper sequence should be :
a) SRPQ   b) QPRS
c) QPSR   d) RQPS

109. What is the opposite of COMMISSIONED
a) Started   b) Closed
c) Finished   d) Terminated

110. I told him that he was not working hard. Convert in Direct Speech
a) I said to him, "You are not working hard."
b) I told to him, "You are not working hard."
c) I said, "You are not working hard."
d) I said to him, "He is not working hard."

111. Look at this series : 1.5, 2.3, 3.1, 3.9, ... What number should come next ?
a) 4.2   b) 4.4
c) 4.7   d) 5.1

112. Which word does NOT belong with the others ?
a) dodge   b) flee
c) duck   d) avoid

113. Pen is to poet as needle is to

a) thread   b) button
c) sewing   d) tailor

114. Statements : All film stars are playback singers. All film directors are film stars.
Conclusions :
I. All film directors are playback singers.
II. Some film stars are film directors.
a) only conclusion I follows
b) only conclusion II follows
c) either I or II follows
d) both I and II follow

115. If you're a fitness walker, there is no need for a commute to a health club. Your neighborhood can be your health club. You don't need a lot of fancy equipment to get a good workout either. All you need is a well-designed pair of athletic shoes.
        This paragraph best supports the statement that
a) fitness walking is a better form of exercise than weight lifting.
b) a membership in a health club is a poor investment.
c) walking outdoors provides a better workout than walking indoors.
d) fitness walking is a convenient and valuable form of exercise.

116. Find the statement that must be true according to the given information.

Vincent has a paper route. Each morning, he delivers 37 newspapers to customers in his neighborhood. It takes Vincent 50 minutes to deliver all the papers. If Vincent is sick or has other plans, his friend Thomas, who lives on the same street, will sometimes deliver the papers for him.
a) Vincent and Thomas live in the same neighborhood.
b) It takes Thomas more than 50 minutes to deliver the papers.
c) It is dark outside when Vincent begins his deliveries.
d) Thomas would like to have his own paper route.

117. Find the statement that must be inferred according to the given information.

Erin is twelve years old. For three years, she has been asking her parents for a dog. Her par-

ents have told her that they believe a dog would not be happy in an apartment, but they have given her permission to have a bird. Erin has not yet decided what kind of bird she would like to have.
a) Erin's parents like birds better than they like dogs.
b) Erin does not like birds.
c) Erin and her parents live in an apartment.
d) Erin and her parents would like to move.

118. A and B are children of D. Who is the father of A ? To answer this question which of the statements (1) and (2) is necessary ?
1. C is brother of A and the son of E.
2. F is the mother B.
a) only 1   b) only 2
c) either 1 or 2   d) 1 and 2 both

119. If A + B means A is the brother of B; A%B means A is the father of B and A x B means A is the sister of B. Which of the following means M is the uncle of P ?
a) M % N x P   b) N x P % M
c) M + S % R % P   d) M + K % T x P

120. Mark is working with a realtor to find a location for the toy store he plans to open in his town. He is looking for a place that is either in, or not too far from, the center of town and one that would attract the right kind of foot traffic. Which of the following locations should Mark's realtor call to his attention ?
a) a storefront in a new high-rise building near the train station in the center of town whose occupants are mainly young, childless professionals who use the train to commute to their offices each day.
b) a little shop three blocks away from the town's main street, located across the street from an elementary school and next door to an ice cream store.
c) a stand-alone storefront on a quiet residential street ten blocks away from the town's center.
d) a storefront in a small strip mall located on the outskirts of town that is also occupied by a pharmacy and a dry cleaner.

121. Find the cause and effect
i) The private medical colleges have increased the tuition fees in the current year by 200 per cent over the last year's fees to meet the expenses.
ii) The Government medical colleges have not

increased their fees in spite of price escalation.
a) Statement (i) is the cause and statement (ii) is its effect
b) Statement (ii) is the cause and statement (i) is its effect
c) Both the statements (i) and (ii) are independent causes
d) Both the statements (i) and (ii) are effects of independent causes

122. Read the paragraph carefully and determine the main point the author is trying to make. What conclusion can be drawn from the argument ?

Today's workforce has a new set of social values. Ten years ago, a manager who was offered a promotion in a distant city would not have questioned the move. Today, a manager in that same situation might choose family happiness instead of career advancement. This paragraph best supports the statement that
a) most managers are not loyal to the corporations for which they work.
b) businesses today do not understand their employees needs.
c) employees social values have changed over the past ten years.
d) career advancement is not important to today's business managers.

123. If 6 x 4 = 18; 7 x 8 = 49; and 9 x 2 = 9, what will be 7 x 6 ?
a) 35   b) 42
c) 45   d) 36

124. Here are some words translated from an artificial language.
    tamceno means sky blue
    cenorax means blue cheese
    aplmitl means star bright
Which word could mean "bright sky" ?
a) cenotam   b) mitltam
c) raxmitl   d) aplceno

125. At what rate of compound interest per annum will a sum of Rs.1200 become Rs.1348.32 in 2 years ?
a) 6%   b) 6.5%
c) 7%   d) 7.5%

Each question carries 2 marks :

126. The square of $\sqrt{5} - 2$ is
a) 1
b) 9
c) $9 - 4\sqrt{5}$
d) $9 + 4\sqrt{5}$

127. If $m = \dfrac{1}{3 - 2\sqrt{2}}$ and $n = \dfrac{1}{3 + 2\sqrt{2}}$, then the value of mn is

a) 1
b) $\dfrac{1}{17}$
c) $17 + 12\sqrt{2}$
d) $17 - 12\sqrt{2}$

128. The compound interest on Rs.10000 at 8% per annum and in 1 year, interest being compounded half yearly is
a) 861
b) 816
c) 186
d) 168

129. The compound interest calculated yearly at 10% on a certain sum of money amounts to Rs.665.50 in the fifth year. The compound interest for the sixth year at the same rate and on the same sum is
a) Rs.975.50
b) Rs.803.20
c) Rs.750.30
d) Rs.732.05

130. In how many years will Rs.2000 amount to Rs.2662 at 10% C.I. ?
a) 3 years
b) 4 years
c) 5 years
d) 6 years

131. The total number of industries in a particular area is 1600. If the government has decided to increase the number of industries in the area by 20% every year ; find the number of industries after 2 years.
a) 1405
b) 4502
c) 3200
d) 2304

132. The sum of two numbers is 7 and the sum of their cubes is 133, then the sum of their squares is
a) 29
b) 49
c) 126
d) 140

133. The value of
$$\dfrac{1.2 \times 1.2 + 1.2 \times 0.3 + 0.3 \times 0.3}{1.2 \times 1.2 \times 1.2 - 0.3 \times 0.3 \times 0.3}$$ is

a) 1
b) $1\dfrac{1}{9}$
c) $2\dfrac{2}{9}$
d) 4

134. If $a - 2b + 3c = 0$, then the value of $a^3 - 8b^3 + 27c^3$ is
a) 0
b) 6abc
c) -18abc
d) 18abc

135. $15^3 - 8^3$ is divisible by
a) 2
b) 5
c) 7
d) 11

136. If $2x + y = 23$ and $4x - y = 19$, then the value of $x - 3y$ is
a) 20
b) -20
c) 16
d) -16

137. The sum of two numbers is 12 and their difference is 2. The greater number is
a) 4
b) 5
c) 6
d) 7

138. If the numerator of a fraction is decreased by 1 its value becomes $\dfrac{2}{3}$, but if the denominator is increased by 5 its value becomes $\dfrac{1}{2}$. The fraction is

a) $\dfrac{7}{9}$
b) $\dfrac{1}{3}$
c) $\dfrac{5}{6}$
d) $\dfrac{3}{5}$

139. The sum of the digits of a two digit number is 7. If the digits are reversed, the new number increased by 3, equal 4 times the original number. Find the number
a) 61
b) 52

c) 16   d) 12   d) none of these

140. The value of $(27)^{\frac{4}{3}} + (32)^{0.8} + (0.8)^{-1}$ is

a) 81   b) 98.25
c) 1.25   d) 16

141. If $1960 = 2^a.5^b.7^c$, then the value of $2^{-a}.7^b.5^{-c}$ is

a) $\dfrac{200}{7}$ b) $\dfrac{7}{200}$

c) $\dfrac{1}{70}$ d) 1

142. $\dfrac{a+b+c}{a^{-1}b^{-1}+b^{-1}c^{-1}+c^{-1}a^{-1}}$ is equal to

a) abc   b) a
c) b   d) 1

143. If $\log_{10}(x+5) = 1$ then the value of x is

a) 5   b) 4
c) 3   d) 1

144. If log 2 = 0.3010 and log 3 = 0.4771, then the value of log 6 is

a) 0.1436   b) 0.1761
c) 0.7781   d) 1.5850

145. If the diagonal of a quadrilateral bisect each other at right angle, then the quadrilateral is a

a) rhombus   b) rectangle
c) trapezium   d) none of these

146. If equal sides of an isosceles triangle are produced, the exterior angles so formed are

a) complimentary   b) supplementary
c) equal   d) unequal

147. If all the three altitudes of a triangle are equal, then the triangle is

a) a right angled triangle
b) an obtused angle triangle
c) an isosceles triangle
d) an equilateral triangle

148. The difference between the lengths of any two sides of a triangle is always

a) greater than the third side
b) equal to the third side
c) less than the third side

149. In every trapezium, the length of the line segment joining the midpoints of the non-parallel sides is _____ the sum of lengths of the parallel sides.

a) twice   b) one-fourth of
c) half of   d) equal to

150. A ladder reaches a window which is 15 metres above the ground on one side of the street. Keeping its foot at the same point, the ladder is turned to the other side of the street to reach a window 8 metre high. If the length of the ladder is 17 metres, find the width of the street.

a) 20 metres   b) 21 metres
c) 22 metres   d) 23 metres

151. Which one among the following are Pythagorean triplets ?

a) 5, 11, 13   b) 1, 2, 5
c) 7, 8, 10   d) 3, 4, 5

152. In a polygon of n, sides, the sum of the interior angles is equal to

a) 2(n - 4) right angle
b) (2n - 4) right angle
c) $\dfrac{1}{2}$ (n - 4) right angle
d) (n - 4) right angle

153. The ratio between the exterior angle and an interior angle of a regular polygon is 2 : 3. Find the number of sides in the polygon

a) 4   b) 5
c) 6   d) 7

154. A chord of length 6cm is drawn in a circle of radius 5cm. Its distance from the centre of the circle is

a) 4cm   b) 5cm
c) 6cm   d) 7cm

155. The mean of the first ten odd natural numbers is

a) 11   b) 10
c) 9   d) 8

156. The mean of 15 observations is 32. Find the resulting mean, if each observation is divided by 0.5.

a) 15.5   b) 31.5
c) 64   d) 16

157. Find the median of 233, 173, 189, 208, 194, 204, 194, 185, 200 and 220.
a) 186   b) 201
c) 194   d) 197

158. In 10 numbers, arranged in ascending order, the 7th number is increased by 8, how much will the median be changed ?
a) increased by 8   b) decreased by 8
c) no change   d) none of these

159. The area of an equilateral triangle is numerically equal to its perimeter. A side of the triangle is (Take $\sqrt{3} = 1.73$)
a) 6.92   b) 6.29
c) 9.62   d) 9.26

160. The sides of a triangle containing the right angle are 5x cm and (3x-1) cm. If the area of the triangle is 60 cm², calculate the lengths of these two sides of the triangle.
a) 10 cm and 5 cm   b) 15 cm and 8 cm
c) 20 cm and 11 cm   d) 25 cm and 14 cm

161. The area of a square field is 484m², the length of its side is
a) 22 m   b) 31.11 m
c) 11 m   d) 44 m

162. Area of a square is same as that of a rectangle. The length and breadth of the rectangle are respectively 5 cm more and 4 cm less than the side of the square. The length of the side of the square is
a) 10 cm   b) 20 cm
c) 15 cm   d) 25 cm

163. A rectangular sheet of paper is 35 cm long and 28 cm wide. Find the area of the largest circle that can be cut from this sheet. (Take $\pi = \dfrac{22}{7}$)
a) 481 cm²   b) 962.5 cm²
c) 305.5 cm²   d) 616 cm²

164. The radius of the wheel of a car is 28 cm. Find the number of rotations made by the wheel in order to cover a distance of 4.4 km? (Take $\pi = \dfrac{22}{7}$)
a) 2000   b) 2500
c) 3000   d) 3500

165. A cube of a metal of 5 cm edge is melted and casted into a cuboid whose base is 2.50 cm x 0.50 cm. The height of the cuboid is
a) 40 cm   b) 60 cm
c) 80 cm   d) 100 cm

166. How many litres of water flows out of a pipe of cross-section area 5 cm² in 1 minute, if the speed of the water in the pipe is 30 cm/sec? (1 litre = 1000cm³)
a) 7 litres   b) 8 litres
c) 9 litres   d) 10 litres

167. A beam 9 m long, 40 cm wide and 20 cm high is made up of iron which weights 50 kg per cubic metre. The weight of the beam is
a) 18 kg   b) 22 kg
c) 27 kg   d) 36 kg

168. The volume of a sphere of diameter 14 cm is
a) 1437.33 cm³   b) 1347 cm³
c) 1734.77 cm³   d) 4137 cm³

169. If $\tan\theta + \cot\theta = 2$, then the value of $\tan^2\theta + \cot^2\theta$ is
a) 1   b) 2
c) 4   d) 8

170. If tan A = cot A and $0^0 \leq A \leq 90^0$, then the value of A is
a) 0^0 b) 30^0
c) 45^0 d) 60^0

171. If $4\sin^2 x^0 - 3 = 0$ and x^0 is an acute angle; then x^0 is equal to
a) 0^0 b) 30^0
c) 45^0 d) 60^0

172. The angle of elevation of the top of the tower, from a point on the ground and at a distance of 160 m from the foot is found to be 60°.

Find the height of the tower. (Take $\sqrt{3} = 1.732$)
a) 277.12 m   b) 92.37 m
c) 1.73 m   d) 160 m

173. Which point on the y - axis is equidistant from the points (12, 3) and (-5, 10)

a) (0, -1) b) (0, -2)

c) (0, 1) d) (0, 2)

174. When an unbiased dice is tossed once, what is the probability of getting an even number.

a) 0 b) 1

c) $\dfrac{1}{2}$ d) $\dfrac{1}{6}$

175. The sum of the first 30 terms of the arithmetic progression 1, 3, 5, 7, ... is

a) 900 b) 450

c) 600 d) 756

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