

SET – B

Maximum marks – 300

Time – 2:30 Hours

Note – Question paper contains three parts –

Part – A Mathematics	40 Questions	100 Marks
Part – B English	40 Questions	100 Marks
Part – C Science	25 Questions	50 Marks
Part – D Social Science	25 Questions	50 Marks

- All Questions are compulsory .
- There is No Negative Marking .
- Read the question paper carefully .

MATHEMATICS

1. The probability of getting an odd number when a dice is rolled is:

- (a) $\frac{1}{6}$ (b) $\frac{1}{3}$ (c) $\frac{1}{2}$ (d) $\frac{2}{3}$

2. If the mean of the following data is 8, then find the value of x

2, 4, 8, 6, x , 5

- (a) 17 (b) 23 (c) 48 (d) 25

3. If $a^2 + \frac{1}{a^2} = 27$, then the value of $a - \frac{1}{a}$ is:

- (a) ± 4 (b) ± 3
(c) ± 6 (d) ± 5

4. 16 men can reap a field in 30 days. How many men must engage to reap the same field in 24 days:

- (a) 18 (b) 20 (c) 22 (d) 24

5. Find the compound interest on ₹ 1,25,000 for 9 months at 8% p.a. compounded quarterly.

- (a) 7551 (b) 7651
(c) 7650 (d) 7655

6. On a certain sum the simple interest at the end of $6\frac{1}{4}$ year becomes $\frac{3}{8}$ of the sum. The rate percent is:

- (a) 7% (b) 6% (c) 5% (d) $5\frac{1}{2}\%$

7. The speed of a car is $54\frac{1}{2}$ km/hr. The distance travelled by it is $\frac{7}{2}$ h $\frac{35}{2}$ min is:

- (a) $\frac{999}{48}$ km (b) $\frac{9929}{48}$ km
(c) $\frac{9919}{48}$ km (d) $\frac{9919}{28}$ km

8. A train takes 25 seconds and 17 seconds to cross 2 bridges of 210 m and 122 m long respectively. Find out the length and speed of train?

- (a) 65m, 11 m/sec (b) 65 m, 22 m/sec
(c) 32.5 m, 11 m/sec (d) None of these

9. The value of machine is devalued at the rate of 10% per annum, it was purchased three years ago, if its present value is 1,45,800. How much was it bought year?

- (a) 1,80,000 (b) 2,00,000
(c) 2,10,000 (d) 1,75,800

10. If $A : B = 5 : 6$ and $B : C = 9 : 10$, then the value of $A : B : C$ is

- (a) 15: 18: 20 (b) 12: 15: 20
(c) 4: 5: 8 (d) 3: 6: 10

11. Simplify: $\left[3\frac{1}{4} \div \left\{ 1\frac{1}{4} - \frac{1}{2} \left(2\frac{1}{2} - \frac{1}{4} - \frac{1}{6} \right) \right\} \right] \div \left(4\frac{1}{3} \text{ of } \frac{1}{2} \right)$

- (a) 18 (b) 36 (c) 39 (d) 78

12. Simplify: $\frac{0.67 \times 0.67 \times 0.67 - 0.001}{0.67 \times 0.67 + 0.067 + 0.01}$ will be:

- (a) 0.57 (b) 0.66
(c) 0.68 (d) 0.77

13. Simplify: $\frac{\left(1-\frac{1}{4}\right)\left(1-\frac{1}{5}\right)\left(1-\frac{1}{6}\right)\left(1+\frac{1}{4}\right)\left(1+\frac{1}{5}\right)\left(1+\frac{1}{6}\right)}{\left(1-\frac{1}{2}\right)\left(1-\frac{1}{3}\right)\left(1-\frac{1}{7}\right)\left(1+\frac{1}{2}\right)\left(1+\frac{1}{3}\right)\left(1+\frac{1}{7}\right)}$

- (a) $\frac{243}{526}$ (b) $\frac{342}{256}$

- (c) $\frac{43}{56}$ (d) $\frac{343}{256}$

14. If $2^{2x-1} = \frac{1}{8^{x-3}}$, then $x = ?$

- (a) -2 (b) -1 (c) 2 (d) 3

15. If $2^{2x-1} = 25 \times 5^{4x-1}$, then the value of x is:

- (a) -3 (b) -5 (c) 5 (d) 3

16. Which of the following is not a perfect square?

- (a) 19881 (b) 18971
(c) 17951 (d) 16831

17. The value of 10001^2 is:

- (a) 1002001 (b) 100201
(c) 100020001 (d) 1000201

18. If $\frac{1}{3}$ of a number is 75, then which of the following part of the number is 45?

- (a) $\frac{2}{3}$ (b) $\frac{1}{5}$ (c) $\frac{6}{5}$ (d) $\frac{3}{8}$

19. Find the least number which if divided by 24 and 36 the remainder will be 14 and 26 respectively.

- (a) 82 (b) 62 (c) 102 (d) 92

20. The product of all prime numbers between 80 and 90 is:

- (a) 83 (b) 89 (c) 7387 (d) 7200

21. A contractor can complete a certain piece of work, with certain number of men in 9 days, But 6 of them remained absent from the very first day, so the rest could finish the work in 15 days. How many men were originally employed?

- (a) 12 (b) 15 (c) 18 (d) 24

22. The standard form for 0.000064 is:

- (a) 64×10^4 (b) 64×10^{-4}
(c) 6.4×10^5 (d) 6.4×10^{-5}

23. One factor of $x^2 + \frac{1}{x^2} + 2 - 2x - \frac{2}{x}$ is:

- (a) $x - \frac{1}{x}$ (b) $x + \frac{1}{x} - 1$
(c) $x + \frac{1}{x}$ (d) $x^2 + \frac{1}{x^2}$

24. The difference between two whole number is

66. The ratio of the two numbers is 5:2. The two numbers are:

- (a) 60 and 6 (b) 100 and 33
(c) 110 and 44 (d) 99 and 33

25. There is food provision for 100 men for 30 days. If the number of men is reduced to 80, then the number of days the food could last for is:

- (a) 28 (b) 35 (c) $37\frac{1}{2}$ (d) 37

26. Which statement is true?

- (a) $-5 + 3 \neq 3 + (-5)$ (b) $\frac{-8}{12} = \frac{10}{-15}$
(c) 2 is not natural number (d) 17 is not prime number

27. A General arranges his soldiers in rows to form a perfect square. He finds that in doing so, 60 soldiers are left out. If the total number of soldiers be 8160. Then, the number of soldiers in each row is

- (a) 90 (b) 91 (c) 92 (d) 80

28. The value of $\left(\frac{1}{23}\right)^2$ is:

- (a) $\frac{1}{62}$ (b) $\frac{1}{64}$ (c) $\frac{1}{32}$ (d) None of these

29. If two quantities p and q vary inversely with each other, then

- (a) $\frac{p}{q}$ remains constant (b) p + q remains constant
(c) p x q remains constant (d) p - q remains constant

30. The ratio of the number of boys and girls in a school is 3:2. If 20% of the boys and 30% of the girls are scholarship holders, the percentage of the students who are not scholarship holder is
(a) 50% (b) 72% (c) 75% (d) 76%

31. On selling an article for ₹ 240, a trader loses 4%. In order to gain 10%, he must sell that article for

- (a) ₹ 264 (b) ₹ 275 (c) ₹ 250 (d) ₹ 280

32. Sunita reaches the coaching in 25 min with an average speed of 14 km/h. She wants to reach school 5 min later, then her speed should be

- (a) 11.67 km/h (b) 12 km/h
(c) 13 km/h (d) 13.5 km/h

33. Factors of $x^2yz + xy^2z + xyz^2$ are

- (a) $xyz(x + y + z)$ (b) $xyz(x - y - z)$
(c) $xy(x + y + z)$ (d) $xz(x^2 + y + z)$

34. Factorise $3x^2 + 7x - 6$

- (a) $(x + 3)(3x - 2)$ (b) $(x - 3)(3x + 2)$
(c) $(x + 3)(3x - 3)$ (d) $(x + 3)(3x - 4)$

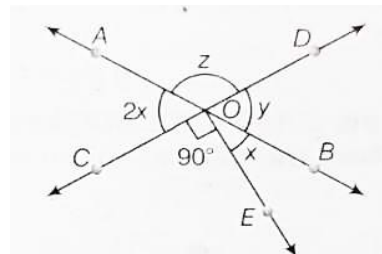
35. Which of the following is a linear expression?

- (a) $x^2 + 1$ (b) $y + y^2$
(c) 4 (d) $1 + z$

36. If $\frac{3x+6}{8} - \frac{11x-8}{24} + \frac{x}{3} = \frac{3x}{4} - \frac{x+7}{24}$, then the value of x is:

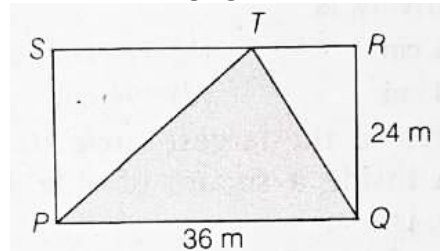
- (a) -3 (b) $\frac{3}{2}$ (c) 3 (d) $\frac{1}{3}$

37. In the given figure, if $\angle COE = 90^\circ$, then the value of x is



- (a) 120° (b) 60° (c) 45°
(d) 30°

38. find the figure area of the shaded portion. In the following figure,



- (a) 433m^2 (b) 432m^2
(c) 434m^2 (d) None of these

39. Find the volume of cylinder which is exactly fit into a cube of side 6 cm.

- (a) 171cm^3 (b) 169.71cm^3
(c) 173cm^3 (d) None of the above

40. What is the probability of choosing a vowel from the alphabets?

- (a) $\frac{21}{26}$ (b) $\frac{5}{26}$ (c) $\frac{1}{26}$
(d) $\frac{3}{26}$

41. Write Antonym of fleeting.

- (a) Glossy (b) Perpetual
(c) Aspiring (d) Sufficient

42. Write Antonym of Dissolution

- (a) Retribution (b) Establishment
(c) persuasion (d) compliance

43. Write synonym of Blaze.

- (a) Rage (b) Rush (c) Fire (d)

Mark

44. Write synonym of Soporific

- (a) Soothing (b) terrific
(c) Supreme (d) Sleep-inducing

45. To break the ice. (Choose suitable idioms and phrase)

- (a) Strong man
(b) to start a quarrel
(c) To break the awkward silence
(d) To become violent

46. Don't put _____ until tomorrow what can you do today. (Choose the suitable preposition)

- (a) up (b) of
(c) on (d) off

47. The baby is jumping _____ the bed. (Choose the suitable preposition)

- (a) up (b) upon
(c) on (d) off

48. He knows nobody in the class, _____? (Choose the suitable question tag)

- (a) does he (b) did he
(c) doesn't he (d) didn't he

49. Everybody knows him, _____? (Choose the suitable question tag)

- (a) Does he (b) do they
(c) don't they (d) does they

50. I wish I _____ a king. (Choose suitable verb)

- (a) was (b) were
(c) am (d) none of these

51. Either of two boys _____ intelligent. (choose suitable verb)

- (a) are (b) is
(c) have (d) had

52. The sun _____ in the east. (choose suitable verb)

- (a) is rising (b) rise
(c) rises (d) rose

53. It is high time we _____ home.

- (a) return (b) returned
(c) had returned (d) none of these

54. He usually _____ in his bath. (Choose suitable verb)

- (a) Sings (b) sang
(c) sing (d) has sang

55. Everybody but _____ was present for the meeting. (Choose suitable pronoun)

- (a) he (b) his
(c) him (d) himself

56. _____, _____ and _____ shall study for the examination. (Choose suitable pronoun)

- (a) You, he and I (b) I, you and he
(c) He, you and I (d) None of these

57. I know you as much as _____. (Choose suitable pronoun)

- (a) he (b) his
(c) him (d) himself

58. The builders have built a perfect dam across the stream. (Change into passive)

(a) A perfect dam has built by the builders across the stream.

(b) A perfect dam has been built by the builders across the stream.

(c) A perfect dam have been built by the builders across the stream.

(d) A perfect dam was being built by the builders across the stream.

59. The news surprised us. (Choose suitable passive voice)

- (a) We were surprised at the news.
(b) We were surprised by the news.
(c) We were surprised with the news.
(d) We were surprised on the news.

60. Gopan said to me, "can you do these sums for me?" (Change into indirect speech)

- (a) Gopan asked me If I could do those sums for him.
(b) Gopan asked me If I could do these sums for me.
(d) Gopan asked me If I can do these sums for me.
(d) Gopan asked If I could do these sums for him.

61. Dashi said to his wife, "Please select one of these necklaces."

- (a) Dashi requested his wife to select one of these necklaces.
(b) Dashi said to his wife to please select one of these necklaces.
(c) Dashi told his wife to please to select one of these necklaces.
(d) Dashi requested his wife to select one of those necklaces.

62. She is _____ excellent. (Choose suitable article)

- (a) No article (b) A
(c) An (d) The

63. I saw _____ ewe grazing in the field. (Choose suitable article)

- (a) No article (b) A
(c) An (d) The

Question 64 – 69 Choose suitable adjective**64. He is _____ than intelligent.**

- (a) Wiser (b) more wise
(c) the most wisest (d) more wiser

65. The doctor advised him to rest for _____ days.

- (a) Few (b) a few
(c) the few (d) a little

66. He is the _____ of two players.

- (a) good (b) better
(c) best (d) more better

67. Daimond is more precious than _____.

- (a) any metal (b) any other metal
(c) all other metal (d) most other metal

68. I rarely went to meet _____. (Choose suitable adverb)

- (a) Somebody (b) anybody
(c) nobody (d) none of these

69. He behaved _____.

- (a) miser (b) miserly
(c) in a miserly manner (d) none of these

Question (70 -74) Spot the error**70. Ten miles are/ a long distance/ to cover on foot/**

- (a) (b) (c)

No error.

(d)

71. My cousin sister is/ taller than/ I/ no error.

- (a) (b) (c) (d)

72. A strong breeze/ blew his/ cap off/ no error.

- (a) (b) (c) (d)

73. The two first to arrive/ were the lucky recipients/

- (a) (b)

of a surprise gift/ no error

- (c) (d)

74. (a) A body of volunteers/ (b) have helped in/ (c) making this celebration a great success/ (d) no error.**75. An inscription on tomb. (Choose suitable one word substitution)**

- (a) epitaph (b) crypt
(c) obituary (d) legacy

DIRECTIONS (Qs. 76 – 80): Read the passage given below and answer the questions that follow.

Buddhism, as a religion, gained prominence in the ancient kingdom of Magadha (now in Bihar). It was based on the teachings of Siddhartha Gautama, who was deemed as "Buddha" ("Awakened One"). Even though the practice of Buddhism, as a distinct and organised religion, lost influence after the Gupta reign and declined from the land of its origin, it continued to prosper in several parts of South Asia located at the crossroads of significant routes; Bamiyan emerged as a major hub for Buddhist activities. The artistic and architectural remains of Bamiyan valley are a testimony to the interchange of Indian, Hellenistic, Roman and Sasanian influence as the basis for the development of a particular artistic expression on the Gandharan School. The region exemplified a cultural landscape and a significant period in Buddhism. The Buddha statues of Bamiyan coexisted with numerous stupas; scattered in the Afghan mountains were built to house relics of the Buddha and later saints.

The statues were destroyed by dynamites over several weeks, starting on March 2, 2001. Initially, the statues were fired at for several days using anti-aircraft guns and artillery. This caused severe damage, but did not topple them. Later, the Taliban placed anti-tank mines at the bottom, so that when fragments of rock broke off from artillery fire, the statues would crumble. In 2003, the UNESCO declared the valley a world heritage site and archaeologists flocked to it. What they found were two enormous empty caverns and a pile of debris littered with unexploded mines.

76. Which of the following is false?

- (a) Buddhism lost its influence after the Gupta reign.
(b) It prospered in several parts of South Asia.
(c) Stupas were built to house the travellers.
(d) Bamiyan emerged as a major hub of Buddhist activities.

77. What method was used to destroy the statues?

- (a) Dynamite (b) Anti-tank mines
(c) Anti-aircraft guns (d) All of these

78. What do you understand by artillery?

- (a) Tanks (b) Munitions
(c) Heavy weaponry (d) Army

79. What did the archaeologists discover at Bamiyan?

- (a) Buddha statues
(b) Empty caverns and debris

- (c) Mines
- (d) Relics of Buddha and later saints

80. What is the meaning of caverns?

- (a) Tunnel
- (b) Corridor
- (c) Gallery
- (d) A small cave

SCIENCE

81. The combination of an alga and Fungus is a—

- (a) Saprophyte
- (b) Lichen
- (c) Parasite
- (d) Legume

82. Bile Juice is stored in Human Body in —

- (a) Lungs
- (b) Liver
- (c) Gall Bladder
- (d) Heart

83. Baby silkworm is known as —

- (a) Caterpillar
- (b) Tadpole
- (c) Silk Baby
- (d) Joey

84. On Fahrenheit Scale the Freezing point of water is

- (a) 212 F
- (b) 100 F
- (c) 0 F
- (d) 32 F

85. Sodium Bicarbonate (NaHCO_3) is also known as —

- (a) Caustic Soda
- (b) Washing Soda
- (c) Baking Soda
- (d) None of these

86. The average weather condition for a place over a long period of time is known as —

- (a) Climate
- (b) Weather
- (c) Tundra
- (d) Season

87. Pitcher Plant falls in the category of :

- (a) Herbivores
- (b) Insectivores
- (c) Carnivores
- (d) Decomposers

88. The process of depositing a layer of zinc on iron is called :

- (a) Vulcanisation
- (b) Galvanisation
- (c) Crystallisation
- (d) Neutralisation

89. Which of the following statements are not correct about Ozone:

- (a) It absorbs ultraviolet rays
- (b) It is used as disinfectant to purify water
- (c) Its proportion in air is 78%
- (d) Its chemical formula is O_3 .

90. Which of the following event in the reproduction is flowering plants can be carried out by a butterfly?

- (a) germination
- (b) fertilisation
- (c) pollination
- (d) seed formation

91. The splitting up of white light into seven colour on passing through a glass prism is called

- (a) refraction
- (b) deflection
- (c) dispersion
- (d) scattering

92. A concave mirror cannot be used as:

- (a) a magnifying mirror
- (b) a torch reflector
- (c) a dentist's mirror
- (d) a rear view mirror

93. The image of an object formed by a plane mirror is:

- (a) virtual
- (b) real
- (c) diminished
- (d) upside-down

94. The sound produced in a door bell is due to the :

- (a) chemical effect of current

- (b) heating effect of current

- (c) magnetic effect of current

- (d) sound effect of current

95. The reproductive part of a plant is the :

- (a) leaf
- (b) stem
- (c) root
- (d) flower

96. The blood vessel which carries oxygenated blood from the lungs to the heart is:

- (a) main artery
- (b) pulmonary artery
- (c) main vein
- (d) pulmonary vein

97. The animal which can breathe through the lungs as well as through skin is:

- (a) fish
- (b) dolphin
- (c) frog
- (d) crocodile

98. Yeast converts glucose into:

- (a) starch
- (b) alcohol
- (c) lactic acid
- (d) yogurt

99. Which of the following is not a part of the human respiratory system?

- (a) lungs
- (b) oesophagus
- (c) trachea
- (d) diaphragm

100. During heavy exercise, we get cramps in the legs due to the accumulation of:

- (a) carbon dioxide
- (b) lactic acid
- (c) alcohol
- (d) water

101. The removal of fertile top soil from land by wind or water is called soil:

- (a) corrosion
- (b) erosion
- (c) effusion
- (d) diffusion

102. The acid produced naturally in our stomach is:

- (a) acetic acid
- (b) citric acid
- (c) hydrochloric acid
- (d) Sulphuric acid

103. A hot utensil is kept away from the flame to cool down, transfers heat to the surroundings by which process:

- (a) Conduction
- (b) Convection
- (c) Radiation
- (d) Both (a) and (b)

104. Heat always flows —

- (a) From colder object to a hotter object
- (b) From a hotter object to a colder object
- (c) in both the directions
- (d) Heat never flows from one object to another

105. A simple pendulum is an example of :

- (a) Circular Motion
- (b) Linear Motion
- (c) Periodic Motion
- (d) Rectilinear Motion

SOCIAL SCIENCE

106. Who was the founder of the Chola empire?

- a. Vijayalaya
- b. Rajaraja
- c. Rajendra
- d. Krishna Devarai

107. Which author composed a long Sanskrit poem containing the history of kings of Kashmir in the 12th century?

- a. Al Biruni
- b. Kalhana
- c. Kalidas
- d. Chandra Bardai

108. Name the famous work of 'Al Biruni'.

- a. Kitab al-Hind
- b. Rihla
- c. Matlus Sadain
- d. None of the above

109. Who was the founder of the Slave dynasty?

- a. Shamsuddin Iltutmish
- b. Ghiyasuddin Balban
- c. Alauddin
- d. Qutbuddin Aybak

110. The Delhi Sultans levied "Kharaj" as tax on

- a. cultivation
- b. houses
- C. cattle
- d. markets

111. Name the religion founded by Akbar.

- a. Din-i-Ilahi
- b. Sulh-i kul
- c. Akbar Nama
- d. Rehla

112. Where did Babur defeat the Ibrahim Lodi army?

- a. Chanderi
- b. Khanua
- c. Panipat
- d. Kabul

113. During the Chola administration Nadu was a popular term used for

- a. the king.
- b. groups of villages.
- c. a village assembly of all classes of people who owned land within the village.
- d. associations of traders.

114. Why do you think towns grew around temples?

- a. People were very religious
- b. Temples were essential for the economy and society
- c. Kings liked spending on building of temples
- d. Temples were the administrative unit

115. Why did European sailors undertake voyages to the Indian subcontinent in the 15th century?

- a. To find ways of reaching the Indian subcontinent

- b. To obtain spices and textiles
- c. To obtain raw material for tea industry
- d. Both a and b

116. What are hagiographies?

- a. A biography of a saint or saintly person
- b. The holy scripture of the Sikhs
- c. A family of Sufi teachers
- d. Holy law of Muslims developed by the Muslim scholars

117. Which of the following is not an erosional feature of sea waves?

- a. Cliff
- b. Sand dunes
- c. Sea cave
- d. Delta

118. The depositional feature of a glacier is

- a. Flood plain
- b. Beach
- C. Moraine
- d. Meanders

119. A vent in the earth's crust through which another material erupts suddenly is called

- a. Volcano
- b. Folding
- C. Flood plain
- d. Block mountain

120. Which one of the following gases protects us from the harmful rays of the sun?

- a. Carbon dioxide
- b. Nitrogen
- C. Ozone
- d. Argon

121. What is needed by plants to make food?

- a. Carbon dioxide
- b. Nitrogen
- c. Oxygen
- d. Hydrogen

122. How much fresh water is present on the earth's surface?

- a. 3.0%
- b. 2.5%
- C. 2.8%
- d. 2.7%

123. When the sun, the moon and the earth are in the same line and tides are the highest, it is called

- a. High tide
- b. Spring tide
- C. Low tide
- d. Moderate tide

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125. What is a tropical region?

- a. The region that is neither very far nor very close to the equator
- b. The region that lies very close to the equator
- C. The region that lies very far from the equator
- d. None of the above

126. River Mississippi drains.

- a. Canada
- b. Africa
- C. USA
- d. Asia

127. Hemis in the Ladakh is a famous...

- a. Temple

- b. Church
- c. Monastery
- d. Mosque

128. 'Untouchability' is abolished according to

- a. Article 16
- b. Article 17
- d. Article 19
- C. Article 18

129. Which of the following is not a movement of the ocean water?

- a. Waves
- b. Tides
- c. Crest
- d. Currents

130. State Assembly elections are held every

- a. six years
- b. five years
- c. two years
- d. three years