



SSC CHSL- MODEL PAPER

ENGLISH COMPREHENSION

Q1.Directions: In these questions the sentences have been given in **Active/ Passive Voice**. From the given alternatives choose the one which best expresses the given sentence in Passive/Active Voice.

They threw away the rubbish.

- (a)The rubbish will be thrown away.
- (b)The rubbish was being thrown away.
- (c)The rubbish was thrown away.
- (d)The rubbish thrown away.

Q2.Directions: In these questions the sentences have been given in **Active/ Passive Voice**. From the given alternatives choose the one which best expresses the given sentence in Passive/Active Voice.

Can we send this big parcel by air?

- (a)Can this big parcel be sent by air ?
- (b)Can this big parcel sent by air ?
- (c)Could this big parcel be sent by air?
- (d)Could this big parcel sent by us by air ?

Q3.Directions : In these questions choose the word opposite in meaning to the word given in bold.

GRUESOME

- (a) attractive
- (b) beneficial
- (c) gracious
- (d) amicable

Q4.Directions : In these questions choose the word opposite in meaning to the word given in bold.

EXAGGERATE

- (a)underwrite
- (b)understate
- (c) ignore
- (d)condemn

Q5.Directions: In the following questions, a sentence has been given in **Direct/Indirect Speech**. Out of the four alternatives suggested, select the one which best expresses the same sentence in Indirect/Direct Speech.

He said, "How lovely the scene is"

- (a)He exclaimed that the scene is very lovely.
- (b)He exclaimed that how the scene was lovely.
- (c)He exclaimed that the scene was very lovely.
- (d)He exclaimed that the scene is indeed lovely.

Q6.Directions: In the following questions, a sentence has been given in **Direct/Indirect Speech**. Out of the four alternatives suggested, select the one which best expresses the same sentence in Indirect/Direct Speech.

I asked my brother if he had returned the money to his friend.

- (a)Had you returned the money to my friend

(b)I said to my brother "Have you return the money to his friend?"

(c)I said to my brother "Have you returned the money to your friend?"

(d)Do you return the money to his friend.

Q7. Directions : In each questions read each sentence to find out the whether there is **any error** in it. The error if any will be in one part of the sentence. The number of that part is the answer. Ignore the errors of punctuations if any.

A part of the training (1)/they offered was (2)/real good (3)/No error (4)

- (a) A part of the training
- (b) they offered was
- (c) real good
- (d)No error

Q8. Directions : In each questions read each sentence to find out the whether there is **any error** in it. The error if any will be in one part of the sentence. The number of that part is the answer. Ignore the errors of punctuations if any.

Our efforts are (1)/ aimed to bring about (2) / a reconciliation (3)/No error (4)

- (a) Our efforts are
- (b) aimed to bring about
- (c) a reconciliation
- (d)No error

Q9. Ten miles _____ a long way to walk

- (a)are
- (b)is
- (c)are being
- (d)are not

Q10.Don't depend _____ others you must stand on your own feet

- (a) upon
- (b)on
- (c) to
- (d)for

Q11.Directions: In the following questions, four alternatives are given for the **Idiom/Phrase** printed in bold in the sentence. Choose the alternative which best expresses the meaning of the Idiom/ Phrase.

My close friend got the sack from his first job recently.

- (a)resigned
- (b)got rid of
- (c)was demoted from
- (d)was dismissed from

Q12.Directions: In the following questions, four alternatives are given for the **Idiom/Phrase** printed in bold in the sentence. Choose the alternative which best expresses the meaning of the Idiom/ Phrase.

to put Up with



- (a) to accommodate
- (b) to adjust
- (c) to understand
- (d) to tolerate

Q13. Directions: Out of the four alternatives, choose the one which can be **substituted** for the given words/sentence.

A hater of mankind

- (a) Misanthrope
- (b) Misogynist
- (c) Philanthropist
- (d) Misogamist

Q14. Directions: Out of the four alternatives, choose the one which can be **substituted** for the given words/sentence.

An object or portion serving as a sample

- (a) Specification
- (b) Spectra
- (c) Spectacle
- (d) Specimen

Q15. Directions : In these questions, the first and last sentence of the passage are numbered 1 and 6. The rest of the passage is split into four parts and named P,Q,R,S. These four parts are not given in proper order. Read the sentences and find out which of the four combinations is correct.

1. Freedom is first of all a personal matter.

P. A man who will not submit to the discipline of his chosen occupation is not free to be a great surgeon, an engineer, or a golfer or an executive.

Q. Life imposes a drastic discipline on all living things, including human beings.

R. We are free to eat poison or jump off a tall building, but not to escape the consequences.

S. We are bound by the laws of cause and effect.

6. Nature, moreover, binds the arbitrary limits of mind and body we are not free to do, by whatever effort, what is beyond our capacity.

- (a) QRSP
- (b) RSPQ
- (c) PQRS
- (d) SRQP

Q16. Directions : In these questions, the first and last sentence of the passage are numbered 1 and 6. The rest of the passage is split into four parts and named P,Q,R,S. These four parts are not given in proper order. Read the sentences and find out which of the four combinations is correct.

1. Albert Edward had never liked the, new vicar.

P. He wasn't the type of man they wanted, with a classy congregation.

Q. And now, he straightened himself a little.

R. He knew his value.

S. He'd said from the beginning that they had made a mistake.

6. He wasn't going to allow himself to be put upon.

- (a) PSQR
- (b) QRPS
- (c) SPQR
- (d) SRPQ

Q17. Directions: In the following questions, a sentence/ part of the sentence is printed in bold. Below are given alternatives which may **improve the bold part**. Choose the correct alternative. In case no improvement is needed, your answer is No Improvement.

He is fond of saving money.

- (a) hoarding
- (b) not spending
- (c) spending carefully
- (d) No improvement

Q18. Directions: In the following questions, a sentence/ part of the sentence is printed in bold. Below are given alternatives which may **improve the bold part**. Choose the correct alternative. In case no improvement is needed, your answer is No Improvement.

The servant was disturbed as her son was now out of sight due to bad company.

- (a) out of bounds
- (b) out of control
- (c) out of reach
- (d) No improvement

Q19. Directions: In the following questions out of the four alternatives, choose the one which best expresses, the meaning of the given word.

BECKONED

- (a) accused
- (b) called
- (c) sent
- (d) acquitted

Q20. Directions: In the following questions out of the four alternatives, choose the one which best expresses, the meaning of the given word.

GENIAL

- (a) cordial
- (b) unselfish
- (c) careful
- (d) specific

Q21. DIRECTIONS : YOU HAVE ONE BRIEF PASSAGE WITH LIVE QUESTIONS. READ THE PASSAGE CAREFULLY AND CHOOSE THE BEST ANSWER TO EACH QUESTION OUT OF THE FOUR ALTERNATIVES.

In May 1966 the World Health Organisation was authorized to initiate a global campaign to eradicate smallpox. The goal was to eradicate the disease in one decade. Because similar projects for malaria and yellow fever had failed few believed that smallpox could



actually be eradicated but eleven years after the initial organisation of the campaign no cases were reported in the field. The strategy was not only to provide mass vaccinations but also to isolate patients with active small-pox in order to contain the spread of the disease and to break the chain of human transmission. Rewards for reporting small-pox assisted in motivating the public to aid health workers. One by one each small-pox victim was sought out removed from contact with others and treated. At the same time the entire village where the victim had lived was vaccinated. Today small-pox is no longer a threat to humanity. Routine vaccinations have been stopped worldwide.

Which of the following is the best title for the passage ?

- (a) The World Health Organisation
- (b) The Eradication of Small-pox
- (c) Small-pox Vaccinations
- (d) Infectious Diseases

Q22. What was the goal of the campaign against smallpox ?

- (a) To decrease the spread of small-pox worldwide.
- (b) To eliminate small-pox worldwide in ten years.
- (c) To provide mass vaccinations against small-pox worldwide.
- (d) To initiate worldwide projects for small-pox malaria and yellow fever at the same time.

Q23. According to the paragraph what was the strategy used to eliminate the spread of small-pox ?

- (a) Vaccination of the entire village
- (b) Treatment of individual victims.
- (c) Isolation of victims and mass vaccinations.
- (d) Extensive reporting of outbreaks.

Q24. Which statement doesn't refer to small-pox ?

- (a) Previous projects had failed
- (b) People are no longer vaccinated for it.
- (c) The World Health Organisation mounted a worldwide campaign to eradicate the disease.
- (d) It was a serious threat.

Q25. It can be inferred that

- (a) no new cases of small-pox have been reported this year.
- (b) malaria and yellow fever have been eliminated
- (c) (3) small-pox victims no longer die when they contract the disease.
- (d) small-pox is not transmitted from one person to another.

NUMERICAL APTITUDE

Q26. 31% of employees pay tax in the year 20

08. Non-tax employees are 207

00. The total number of employees is;

- (a) 31160

- (b) 64750
- (c) 30000
- (d) 66775

Q27. Find the difference between the compound interest and the simple interest on 32,000 at 10% p.a. for 4 years.

- (a) Rs.2051.20
- (b) Rs. 2050.50
- (c) Rs. 2025.20
- (d) Rs. 2501.20

Q28. The angle of elevation of sun changes for 30° to 45° , the length of the shadow of a pole decreases by 4 meters, the height of the pole is (Assume $\sqrt{3} = 1.732$)

- (a) 1.464m
- (b) 9.464 m
- (c) 3.648 m
- (d) 5.464 m

Q29. In a circle with center at O and radius 5 cm, AB is a chord of length 8 cm. if OM is perpendicular to AB then , the length of OM is:

- (a) 3cm
- (b) 4cm
- (c) 1cm
- (d) 2.5 cm

Q30. Five bells begin to toll together and toll respectively at intervals of 6, 7, 8, 9 and 12 seconds, After how many seconds will they toll together again ?

- (a) 72 sec.
- (b) 612 sec.
- (c) 504 sec.
- (d) 318 sec.

Q31. If $\sin \frac{\pi x}{2} = x^2 - 2x + 2$, then the value of x is :

- (a) 0
- (b) 1
- (c) - 1
- (d) None of the above

Q32. The value of $\left[\frac{\cos^2 A (\sin A + \cos A)}{\csc^2 A (\sin A - \cos A)} + \frac{\sin^2 A (\sin A - \cos A)}{\sec^2 A (\sin A + \cos A)} \right]$

- (a) 1
- (b) 3
- (c) 2
- (d) 4

Q33. The difference between the length and breadth of a rectangle is 23 m. If its perimeter is 206 m , then its area is

- (a) 1520m²
- (b) 2420m²
- (c) 2480m²
- (d) 2520m²



Q34. If $\cos \theta + \sin \theta = \sqrt{2} \cos \theta$, then the value of $\cos \theta - \sin \theta$ is :

- (a) $\sqrt{2} \tan \theta$
- (b) $-\sqrt{2} \cos \theta$
- (c) $-\sqrt{2} \sin \theta$
- (d) $\sqrt{2} \sin \theta$

Q35. $\sqrt{64009}$ is equal to:

- (a) 352
- (b) 523
- (c) 253
- (d) 532

Q36. If $5\sqrt{5 \times 5^3 \div 5^{3/2}} = 5^{a+2}$, then the value of a is

- (a) 4
- (b) 5
- (c) 6
- (d) 8

Q37. A student goes to school at the rate of $5/2$ Km/hr and reaches 6 minutes late. If he travels at the speed of 3Km/hr he is 10 minutes early. What is the distance to the school?

- (a) $10/3$ km
- (b) 4 km
- (c) $7/2$ km
- (d) 1 km

Q38. If $\frac{x}{y} = \frac{4}{5}$, then the value of $\left(\frac{4}{7} + \frac{2y-x}{2y+x}\right)$ is :

- (a) $3/7$
- (b) $8/7$
- (c) 1
- (d) 2

Q39. The simple interest on a sum for 5 years is one fourth of the sum, The rate of interest per annum is

- (a) 5%
- (b) 6%
- (c) 4%
- (d) 8%

Q40. In a school there were 1554 students and the ratio of the number of the boys and girls was 4 : 3. After few days, 30 girls joined the school but few boys left: as a result the ratio of the boys and girls became 7 : 6. The number of boys who left the school is:

- (a) 76
- (b) 84
- (c) 86
- (d) 74

Q41. In two days A, B and C together can finish $1/2$ of a work and in another 2 days B and C together can finish $3/10$ part of the work. Then A alone can complete the whole work in

- (a) 15 days
- (b) 10 days

- (c) 12 days
- (d) 14 days

Q42. A man purchases 150 pens at the rate of Rs. 12 per pen. He sold 50 pens at a gain of 10%. The percentage gain at which he must sell the remaining pens so as to gain 15% on the whole outlay is

- (a) $43\frac{1}{2}\%$
- (b) 20%
- (c) 17%
- (d) $35\frac{1}{2}\%$

Q43. Base of a right pyramid is a square of side 10 cm. If the height of the pyramid is 12 cm, then its total surface area is

- (a) 360 cm^2
- (b) 400 cm^2
- (c) 460 cm^2
- (d) 260 cm^2

Q44. If the arithmetic mean of $3a$ and $4b$ is greater than 50, and a is twice b , then the smallest possible integer value of a is

- (a) 20
- (b) 21
- (c) 18
- (d) 19

Q45. The marked price of an article is 10% higher than the cost price. A discount of 10% is given on the marked price. In this kind of sale, the seller bears.

- (a) No loss, no gain
- (b) a loss of 5%
- (c) a gain of 1%
- (d) a loss of 1%

Q46. A solid cylinder has total surface area of 462 sq. cm . Its curved surface area is one third of the total surface area. Then the radius of the cylinder is:

- (a) 7cm
- (b) 3.5cm
- (c) 9cm
- (d) 11cm

Q47. If the volume of two cubes are in the ratio 27 : 64, then the ratio of their total surface area is:

- (a) 27 : 64
- (b) 3 : 4
- (c) 9 : 16
- (d) 3 : 8

Q48. If $0 < x < \frac{\pi}{2}$ and $\sec x = \csc y$ then the value of $\sin(x+y)$ is :

- (a) 0
- (b) 1
- (c) $1/2$
- (d) $1/\sqrt{3}$



Q49. If $a = 7$, $b = 5$ and $c = 3$, then the value of $a^2 + b^2 + c^2 - ab - bc - ca$ is :

- (a) 12
- (b) -12
- (c) 0
- (d) 8

Q50. In an examination 70% of the candidates passed in English, 80% passed in Mathematics 10% failed in both the subjects if 144 candidates passed in both, the total number of candidates was :

- (a) 125
- (b) 200
- (c) 240
- (d) 375

GENERAL INTELLIGENCE & REASONING

Q51.Direction: In each of the following questions, select the related word from the given alternatives.

Thermometer : Temperature :: Hygrometer : ?

- (a) Pressure
- (b) Density
- (c) Stress
- (d) Humidity

Q52.Direction: In each of the following question, select the related number from the given alternatives.

24 : 126 :: 48 : ?

- (a) 433
- (b) 192
- (c) 240
- (d) 344

Q53.Direction: In each of the following questions, select the related letter from the given alternatives.

YWUS : BDFH :: WUSQ : ?

- (a) DFHJ
- (b) FHJL
- (c) JLNP
- (d) RTVX

Q54. Looking at the portrait of a man, Ram said, His mother is the wife of my father's son. Brothers and sisters I have none. Whose portrait was Ram looking at ?

- (a) His grandfather
- (b) His son
- (c) His brother
- (d) His cousin

Q55. Find the odd man out from the given responses ?

- (a) YVX
- (b) QNO
- (c) EBD
- (d) IFH

Q56. Find the odd man out from the given responses ?

- (a) Gallon

- (b) Ton
- (c) Quintal
- (d) Kilogram

Q57. Find the odd man out from the given responses ?

- (a) Rain
- (b) Cloud
- (c) Mist
- (d) Fog

Q58. Find the odd man out from the given responses ?

- (a) Duck
- (b) Avoid
- (c) Dodge
- (d) Flee

Q59. Ashok wants to book a ticket to Madurai. He starts and covers 5 kms to reach the Booking Office which is in the East of his house. From there he turns to the North towards the market by travelling 3 kms. From there he turns left to his friend Sandeep's house which is 5 kms away. Now he has to get back to his house. How many kms. He has to cover to reach his house ?

- (a) 8 kms
- (b) 3 kms
- (c) 5 kms
- (d) 6 kms

Q60. A man is facing South. He turns 135 degree in the anticlockwise **direction** and then 180 degree in the clockwise **direction**. Which **direction** is he facing now?

- (a) South-East
- (b) South - West
- (c) North - East
- (d) North - West

Q61.Directions: In each of the following questions a series is given with one term missing. Choose the correct alternative from the given ones that will complete the series

34, 18, 10, ?

- (a) 8
- (b) 5
- (c) 7
- (d) 6

Q62.Directions: In each of the following questions a series is given with one term missing. Choose the correct alternative from the given ones that will complete the series

480, ?, 24, 8, 4

- (a) 98
- (b) 96
- (c) 104
- (d) 88

Q63.Direction: In the following series of numerals, which digit has maximum frequency?

846734378344563464384

- (a) 8
- (b) 6
- (c) 4
- (d) 3

Q64.If DREAM is coded as 78026 and CHILD is coded as 53417, how can LEADER be coded ?

- (a) 102087
- (b) 102780
- (c) 102078
- (d) 102708

Q65.If RARE can be written as SBSF, how AREA can be written in that code?

- (a) FSBS
- (b) BSBF
- (c) SBFB
- (d) BSFB

Q66.Find the odd man out from the given responses ?
22, 33, 66, 99, 121, 279, 594

- (a) 33
- (b) 121
- (c) 279
- (d) 594

Q67.Direction:In the following questions a word is followed by four other words one of which cannot be formed by using the letter of the given word. Find this word.

CARDIOGRAM

- (a) AEROGRAM
- (b) RADIO
- (c) DIAGRAM
- (d) CARGO

Q68.Direction: In the following questions a word is followed by four other words one of which cannot be formed by using the letter of the given word. Find this word.

POLYTHEISM

- (a) HOTELS
- (b) SMITH
- (c) PISTOL
- (d) THESIS

Q69. Direction: Which one set of letters when sequentially placed at the gaps in the given letters series shall complete .

_StUr_S_Urr_tUrrS_U

- (a) rStUU
- (b) rrStS
- (c) rrtSt
- (d) SSttU

Q70.Find the odd man out from the given responses ?
27, 125, 216, 343

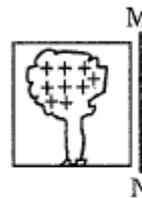
- (a) 125
- (b) 216
- (c) 343
- (d) 27

Q71.A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as in two matrices given below. The columns and rows of Matrix I are numbered from 0 to 3 and that of Matrix II are numbered from 4 to 7. A letter from these matrices can be represented first by its row and next by its column, e.g., 'A' can be represented by 00, 33, 21, etc. and 'M' can be represented by 22, 30, 13, etc. Identify the set for the word MEAL.

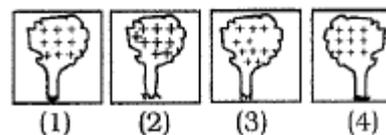
- (a) 13, 44, 23, 46
- (b) 22, 64, 54, 65
- (c) 30, 56, 21, 67
- (d) 01, 65, 12, 31

Q72.Directions: which of the answer figures is exactly the mirror image of the given figure?

Question Figure :



Answer Figures :



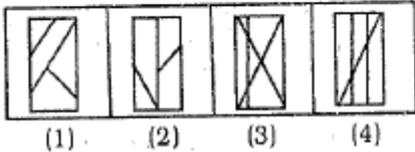
- (a) [1]
- (b) [2]
- (c) [3]
- (d) [4]

Q73.Directions: A piece of paper is folded and cut as shown below. How will it appear when opened? Select your response from the answer figures.

Question Figure :



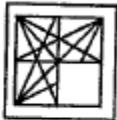
Answer Figures :



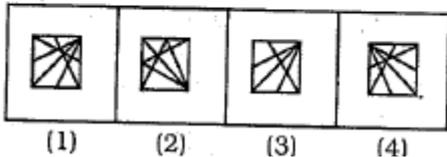
- (a)[1]
- (b)[2]
- (c)[3]
- (d)[4]

Q74.Directions: Which answer figure will complete the question figure?

Question Figure :



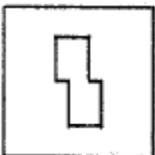
Answer Figures :



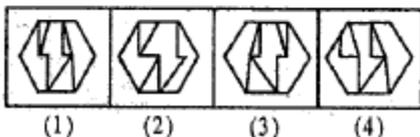
- (a)[1]
- (b)[2]
- (c)[3]
- (d)[4]

Q75.Directions: In which answer figure is the given figure embedded?

Question Figure :



Answer Figures :



- (a)[1]
- (b)[2]
- (c)[3]
- (d)[4]

GENERAL AWARENESS

Q76.According to the International Union for Conservation of Nature and Natural Resources, the number of extinction of species documented between 1500 and 2009, have been :

- (a)754
- (b)875
- (c)917
- (d)679

Q77.The Quit India campaign was launched by the National Congress after the failure of the

- (a)Cripps Mission
- (b)Simla Conference held at the instance of the Governor General Lord Wavell
- (c)Cabinet Mission
- (d)None of the above

Q78.Examine the following statements and select the correct code:

- 1.The Ilbert Bill held that Indian magistrates could also judge cases involving British subjects
- 2.The Rowlatt Act gave judges the power to try political cases without juries
- 3.The Montford Reforms made a clear division between the functions of the Central and provincial governments
- 4.The Indian Councils Act of 1892 granted the principle of election though indirect

- (a)1,2,3 and 4
- (b)Only 1
- (c)Only 3
- (d)1,2 and 3

Q79.Expenses incurred out of the Contingency Fund of India are

- (a)Subsequently recouped by transferring savings from other heads of budget
- (b)Recouped through supplementary, additional or excess grants by Parliament
- (c)Not recouped till the whole fund is exhausted
- (d)Recouped by collecting contributions from various states

Q80.Which theory tries to explain the distribution of oceans and continents?

- (a) gaseous hypothesis
- (b) nebular hypothesis
- (c) tetrahedral theory
- (d) binary star theory

Q81.Megasthenes visited India during the reign of

- (a)Chandragupta II
- (b)Chandragupta Maurya
- (c)Ashoka
- (d)Harsha



Q82. The following statements provide interesting information on the rulers dynasty of the ancient period:

1. Surya varman II built the temple of Angkor Vat
2. Apsad inscription throws light on later Guptas
3. Hathigumpha inscription provides information on Kharavela

Choose the code for correct statements:

- (a) Only 1
- (b) Only 2
- (c) Only 3
- (d) 1, 2 and 3

Q83. Amniocentesis is a method for

- (a) determination of fetal health conditions
- (b) determination of the amino acids sequence:
- (c) inducing abortion
- (d) artificial insemination

Q84. During photosynthesis in plants the gas evolved is

- (a) Carbon dioxide
- (b) Nitrogen
- (c) Oxygen
- (d) Hydrogen

Q85. Which of the following is the highest peak in undisputed Indian territory ?

- (a) Mount Everest
- (b) Kanchenjunga
- (c) Nanda Devi
- (d) Nanga Parbat

Q86. Which one of the following States produces the maximum manganese in India ?

- (a) Madhya Pradesh
- (b) Andhra Pradesh
- (c) Uttar Pradesh
- (d) Orissa

Q87. The Taj Mahal was built by

- (a) Jahangir
- (b) Shahjahan
- (c) Sher Shah
- (d) Nadir Shah

Q88. When was the Jawahar Rozgar Yojna launched ?

- (a) 1985
- (b) 1987
- (c) 1989
- (d) 1991

Q89. If the velocity time graph of a particle is represented by $y = mt + c$ then the particle is moving with

- (a) constant speed
- (b) constant velocity
- (c) constant acceleration
- (d) varying acceleration

Q90. Atomic power plant work son the principle of

- (a) fission
- (b) fusion
- (c) thermal combustion
- (d) combined effect of all the above three

Q91. Which one of the following chapters in the Indian Constitution guarantees Fundamental Rights to the people?

- (a) Part II
- (b) Part I
- (c) Part IV
- (d) Part III

Q92. India is a republic because

- (a) it is democratic country
- (b) It is a parliamentary democracy
- (c) the head of the state is elected for a definite period
- (d) All of these

Q93. Which of the following alkali metals has highest specific heat?

- (a) Cesium
- (b) Rubidium
- (c) Potassium
- (d) lithium

Q94. Ruby and sapphire are oxides of

- (a) copper
- (b) tin
- (c) iron
- (d) aluminium

Q95. Where does a computer add compare and shuffle data ?

- (a) Memory chip
- (b) CPU chip
- (c) Floppy disk
- (d) Hard disk

Q96. The large amount of sugar present in human blood is

- (a) sucrose
- (b) glucose
- (c) fructose
- (d) lactose

Q97. To which group of blood an universal recipient belongs?

- (a) A group
- (b) B group
- (c) O group
- (d) AB group

Q98. Gobar gas basically contained

- (a) Carbon dioxide
- (b) Carbon monoxide
- (c) Hydrogen sulphide
- (d) Methane



Q99. Identify the metal which is nontoxic in nature

- (a) Chromium
- (b) Gold
- (c) Cadmium
- (d) Cobalt

Q100. In sunlight a rose appears red. In green light the same rose appears :

- (a) red
- (b) black
- (c) green
- (d) yellow

1c	2a	3c	4b	5c	6c
7c	8b	9b	10b	11d	12d
13a	14d	15d	16c	17d	18b
19b	20a	21b	22b	23c	24a
25c	26c	27a	28d	29a	30c
31b	32c	33d	34d	35c	36a
37b	38c	39a	40a	41b	42d
43a	44b	45d	46a	47c	48b
49a	50c	51d	52d	53a	54b
55b	56a	57a	58d	59b	60b
61d	62b	63c	64d	65d	66c
67a	68d	69c	70b	71c	72b
73a	74b	75a	76b	77a	78a
79b	80c	81b	82d	83a	84c
85c	86d	87b	88c	89c	90a
91d	92c	93d	94d	95b	96b
97d	98d	99b	100b		