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 say that you did that.
(a)You are told to do that
(b)You are advised to do that
(c)You did that said by them
(d)You are said to have done that

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.
They should shoot the traitors dead.
(a)The traitor should be shot at by them.
(b)The traitor should be shot them.
(c)The traitors should be shot dead by them.
(d)The traitor is shot by them.

Q3.Directions : In these questions choose the word opposite in meaning to the word given in bold.
IMPERTINENT
(a)arrogance
(b)appropriate
(c)respectful
(d)modest

Q4.Directions : In these questions choose the word opposite in meaning to the word given in bold.
FUTILE
(a)upright
(b)costly
(c) eminent
(d)worthy

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.
"I shall remain here and the tailor won't be able to find me," said she.
(a)She said that she should remain there and the tailor won't be able to find me.
(b)She said that she should remain there and the tailor would not be able to find her.
(c)She said that she would remain there and the tailor would not be able to find her.
(d)She said that she could remain here and the tailor would not find her.

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.
He said, "The Sun rises in the east."
(a)He said that the Sunrised in the East.
(b)He said that the Sun rises in the East.
(c)He said that the Sun will rise in the East.
(d)He said that the Sun may rise in the East.

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.
You must either tell me (1)/ the whole story or at least (2)/ the first half of it (3)/No error (4)
(a) You must either tell me
(b) the whole story or at least
(c) the first half of it
(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.
He walked (1)/ till the (2)/ end of the street (3)/ No error (4)
(a) He walked
(b) till the
(c) end of the street
(d)No error

Q9. It is time we _____with determination
(a) act
(b)acted
(c) have acted
(d)will act

Q10. The sky is overcast we _____ the storm will soon burst
(a)expect
(b) hope
(c) trust
(d) suspect

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.
There is no love lost between any two neighboring countries in the world.
(a)stop loving
(b)not on good terms
(c)forming a group
(d)have good understanding

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.
He has a bone to pick with his cousin.
(a)reasonable agreement
(b)cause of quarrel
(c)Cause of doubt
(d)difference of opinion

Q13. **Directions**: Out of the four alternatives, choose the one which can be **substituted** for the given words/sentence.
Anything which is no longer in use.
(a)Obscure
(b) Obsolete
(c) Pristine
(d) Lapsed

Q14. **Directions**: Out of the four alternatives, choose the one which can be **substituted** for the given words/sentence.
Commencement of adjacent words with the same letter
(a)Pun
(b)Alliteration
(c)Transferred epithet
(d)Oxymoron

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. When she got to her house, there was nothing to retrieve.
P.All valuables were smashed or stolen
Q.The curtains were burned books, were ripped to shreds
R.Her medals and trophies had been flung everywhere
S.The house had been completely ransacked
6.Mrs. M stood in the centre of her bedroom looking at a ruined copy of the Koran forcing back her tears
(a) PQRS
(b) PRQS
(c) SPRQ
(d) RSQP

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. There are many roads into the world of books, but the way Of fiction is probably the most common.
P.Then too the appeal of the story, whether told as poem, play, history, biography, or novel is primitive and Strong.
Q.The reason is plain.

R.They are to us what epic poetry was to the Greeks and Romans, what the stage was to the Elizabethans.
S.The novel and the short story come closer to the experience of the modem reader than any other form of contemporary writing.
6 Mankind's delight in stories is as timeless and universal as the art of the story teller.
(a) QSRP
(b) SRPQ
(c) RSQF
(d) PRSQ

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 did not know the answer, i did not neither.
(a)neither did 1
(b)either did I
(c)neither have I
(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 child died from jaundice.
(a)with
(b)of
(c) by
(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.
INFATUATION
(a)emotion
(b) passion
(c) imagination
(d) compassion

Q20.Directions: In the following questions out of the four alternatives, choose the one which best expresses, the meaning of the given word.
METICULOUS
(a)interfere
(b)courage
(c)agreement
(d)careful

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.
The World Health Organisation is briefly called W.H.O. It is a specialised agency of the United Nations and was

established in International health workers can be seen working in all kinds of surroundings in deserts jungles mountains coconut groves and rice fields. They help the sick to attain health and the healthy to maintain their health. This global health team assists the local health workers in stopping the spread of what are called communicable diseases like cholera. These diseases can spread from one country to another and so can be a threat to world health. W.H.O. assists different national health authorities not only in controlling diseases but also in preventing them altogether. Total prevention of diseases is possible in a number of ways. Everyone knows how people particularly children are vaccinated against one disease or another. Similarly most people are familiar with the spraying of houses with poisonous substances which kill disease carrying insects.

"It is a specialised agency of the United Nations and was established in " Here specialised means
(a)expert.
(b)extraordinary.
(c)uncommon.
(d)made suitable for a particular purpose.

Q22. Total prevention of diseases is possible in a number of ways . The author has given illustrations of
(a) only two such ways.
(b)(2) only one such way.
(c)more than two such ways.
(d)none of these ways.

Q23. International health workers can be seen working in all kinds of surroundings in deserts jungles mountains coconut groves and rice fields . Here International means
(a)drawn from all countries of the world.
(b)believing in cooperation among nations.
(c)belonging to an organisation which has something to do with different nations.
(d)belonging to the whole world.

Q24. W.H.O. assists different national health authorities not only in controlling diseases but also in preventing them altogether . The above sentence Implies that
(a)W.H.O. assists more in preventing diseases than in controlling them
(b)W.H.O assists in controlling diseases only if they have not been prevented.
(c)W.H.O. assists both in controlling diseases and in preventing them.
(d)W.H.O. assists many others in addition to the national health authorities

Q25. They help the sick to attain health and the healthy . to maintain their health . Here they stands for
(a)rice fields.
(b)international health workers.
(c)jungles.

(d)deserts.

NUMERICAL APTITUDE
Q26. The value of a machine is Rs. 62 50. It decreases by 10% during the first year, 20% during the second year and 30% during the third year. What will be the value of the machine after 3 years?
(a) 2650
(b) 3050
(c) 3150
(d) 3510

Q27.A person deposited a sum of Rs. 6000 in a bank at 5% per annum simple interest. Another person deposited Rs. 5000 at 8% per annum compound interest. After two years, the difference of their interest will be:.
(a) Rs. 230
(b) Rs. 232
(c) Rs. 832
(d) Rs. 600

Q28. The speed of boat in still water is 10 km/hr it covers (upstream) a distance of 45km in 6 hours, The speed (in km/hr) of the stream is :
(a) 2.5 km/h
(b) 3 km/h
(c) 3.5 km/h
(d) 4 km/h

Q29. AC is a transverse common tangent to two circle with centers P and Q and radii 6 cm and 3 cm at the point A and C respectively. If AC cuts PQ at the point B and AB = 8 cm, then the length of PQ is:
(a) 12 cm
(b) 15 cm
(c) 13 cm
(d) 10 cm

Q30. The least number, which is a perfect square and is divisible by each of the numbers 16, 20 and 24 is:
(a) 1600
(b) 3600
(c) 6400
(d) 14400

Q31. In a 40 litres mixture of milk and water the ratio of milk to water is 7: 1. In order to make the ratio of milk and water 3:1, the quantity of water (in litres) that should be added to the mixture will be
(a) 20/3
(b)13/2
(c)99
(d)27/4

Q32.A and B started a business investing amount of Rs. 1, 85,000 and Rs. 2,25,000 respectively. if B's share in

the profit earned by them is Rs. 9,000 then what is the total profit earned by them together ?
(a) Rs. 17,000
(b) Rs. 16,400
(c) Rs. 16,800
(d) Rs. 17,800

Q33. A pipe can empty a tank in 40 minutes. A second pipe with diameter twice as much as that of the first is also attached with the tank to empty it. The two pipe together can empty the tank in:
(a) 8 Minutes
(b) 40/3 Minutes
(c) 30 Minutes
(d) 38 Minutes

Q34. If $x \cos\theta - \sin\theta = 1$, then $x^2 - (1 + x^2) \sin\theta$ equals :
(a) 1
(b) -1
(c) 0
(d) 2

Q35. The number, whose square is equal to the difference between the squares of 975 and 585, is:
(a) 780
(b) 390
(c) 1560
(d) 130

Q36. $(256)^{0.16} \times (4)^{0.36}$ is equal to
(a) 64
(b) 16
(c) 256.25
(d) 4

Q37. A boy rides his bicycle 10 km at an average speed of 12km/hr and Again travels in average 12 km at an average speed of 10 km/hr. His average speed for the entire trip is approximately:
(a) 10.4 km/hr
(b)(c) 11.0 km/hr
(c)(b) 10.8 km/hr
(d) 12.2 km/hr

Q38. If a, b, c are non-zero $a + \frac{1}{b} = 1$ and $b + \frac{1}{c} = 1$, then the value of abc is :
(a) - 1
(b) 3
(c) - 3
(d) 1

Q39. A lends Rs. 2500 to B and a certain sum to C at the same time at 7% annual simple interest. If after 4 years. A received interest of Rs. 1120 from B and C, the sum lent to C is
(a) Rs, 700
(b) Rs. 6500
(c) Rs.. 40000

(d) Rs... 1500

Q40. The ratio of successful and unsuccessful examinees in an examination in a school is 6 :
1. The ratio would have been 9 : 1 if 6 I more examinees had been successful. The total number of examinees is:
(a) 140
(b) 120
(c) 200
(d) 160

Q41. A does 4/5 of a piece of work in 20 days; He then calls in B and they finish the remaining work in 3 days. How long B alone will take to do whole work ?
(a) 75/2 days
(b) 37 days
(c) 40 days
(d) 23 days

Q42. A man buys a field of agricultural land for Rs. 3,60,000 . He sells two-fifths at a gain of 25%. At what price must he sell the remaining field so as to make an overall profit of 10% ?
(a) Rs. 1,00,000
(b) Rs. 1, 15,000
(c) Rs. 2,16,000
(d) Rs. 1,25,000

Q43. The diameter of the moon is assumed to be one fourth of the diameter of the earth. Then the ratio of the volume of the earth to that of the moon is
(a)64:1
(b)1:64
(c)60:7
(d)7:60

Q44. A man has some hens and cows. If the number of heads : number offset = 12 : 35, find out the number of hens, if the number of heads alone is 48.
(a)28
(b)26
(c)24
(d)22

Q45. A merchant marks his goods 40% above the cost price and sells them at a discount of 15%. Find his gain%.
(a) 25%
(b) 22%
(c) 19%
(d) 20%

Q46. If the number of vertices, edges and faces of a rectangular parallelepiped are denoted by v, e and f respectively the value of (v- e + f) is:
(a) 4
(b) 1
(c) 0

(d) 2

Q47. The perimeter of the base of a right circular cone is 8 cm. If the height of the cone is 21 cm, then its volume is :
(a) 108 π cm³
(b) 112/ π cm³
(c) 112 π cm³
(d) cm 108/ π cm³

Q48. The expression $\frac{\tan 57° + \cot 37°}{\tan 33° + \cot 53°}$ is equal to :
(a) tan30° cot57°
(b) tan57° cot37°
(c) tan 33° cot53°
(d) tan33° cot37°

Q49. If $\frac{\sin\theta + \cos\theta}{\sin\theta - \cos\theta}$ = 5/4, the value of $\frac{(\tan^2\theta + 1)}{(\tan^2\theta - 1)}$ is :
(a) 25/16
(b) 41/9
(c) 41/40
(d) 40/41

Q50. 51% of a whole number is 714, 25% of that number is
(a) 250
(b) 350
(c) 450
(d) 550

GENERAL INTELLIGENCE & REASONING

Q51. Direction: In each of the following questions, select the related word from the given alternatives.
Mother : Child : : Cloud : ?
(a)Shine
(b)Water
(c)Rain
(d)Weather

Q52. Direction: From among the given alternatives select the one in which the set of numbers is most like the set of numbers given in the question.
Given set : (2, 10, 28)
(a) (4, 20, 56)
(b) (7, 42, 49)
(c) (12, 24, 48)
(d) (9, 27, 81)

Q53. Direction: In each of the following questions, select the related letter from the given alternatives.
KIJM : QOPS : : MKLO : ?
(a) LMOR
(b) OMNS
(c) KMOQ
(d) OMNQ

Q54. A is father of B and C. B is the son of A But C is not the son of A. How is C related to A?
(a) Niece
(b) Son-in-law
(c) Daughter
(d) Grandson

Q55. Direction: In The following Question you have to identify the correct response from the given premises stated according to following symbols:
If '-' stands for division, '+' for multiplication, '÷' for subtraction and '×' for addition, which one of the following equations is correct?
(a)24÷8 - 4+2 × 3=16
(b)24-8 + 4 ×2 ÷ 3=12
(c)24 × 8 - 4 ÷ 2+3=17
(d)24+8 -4x2 ÷3=47

Q56. Find the odd man out from the given responses ?
(a) Distinguish
(b)Scatter
(c)Differentiate
(d)Classification

Q57. Find the odd man out from the given responses ?
(a) Carbon
(b) Graphite
(c) Diamond
(d) Gold

Q58. Find the odd man out from the given responses ?
(a) Pen - Ink
(b) Pot - Water
(c)Bottle - Tonic
(d)Cylinder - Air

Q59. One evening, Raja started to walk toward the Sun. After walking a while, he turned to his right and again to his right. After walking a while, he again turned right. In which **direction** is he facing?
(a) South
(b) East
(c) West
(d) North

Q60. Sanmitra walks 4 kms. towards north, turns right and walks 5 km. Then he turns towards south and walks 2 km. Again he takes a turn towards west walks 3 km and stops for a while. Then he further walks 2 km. What is the distance of Sanmitra from starting point ?
(a) 16 k.m.
(b) 2 k.m.
(c) 4 k.m.
(d) 3 k.m.

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

3, 28, 4, 65, 5, 126, 6, ?
(a)215
(b)216
(c) 217
(d) 218

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

66, 56, 48, ?, 38, 36
(a) 46
(b) 44
(c) 42
(d) 40

Q63.Direction: Find the wrong number in the following series :
16,16, 17, 21, 27, 46, 71
(a)27
(b) 46
(c)16
(d)71

Q64. If MATHEMATICS = 12345123678, then MAHATHMA = ?
(a)12423412
(b) 12345123
(c) 12345678
(d) 12425341

Q65. If DEVELOPMENT is written as45853106572, how ENVELOPE can be written in that code ?
(a)57851305
(b)57853105
(c) 57835105
(d) 57850135

Q66. In a certain code, PORRIDGE is written as EGPODIRR. In that code, which word will be written as EGPRITSE ?.
(a) PERSTIGE
(b) PRESTIGE
(c) PEERSTIG
(d) PRESTIEG

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.
EFFICIENT
(a)EFFACE
(b) FEINT
(c) FENCE

(d) NICE

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.
REASONABLE
(a)NOBLE
(b) BONES
(c)BRAIN
(d) ARSON

Q69.Direction: From the given alternative words, select the word which can be formed using the letters of the given word
EXAMINATION
(a) EXAMINE
(b) NAME
(c) MINOR
(d) GAME

Q70. In a certain code, PORRIDGE is written as EGPODIRR. In that code, which word will be written as EGPRITSE ?.
(a) PERSTIGE
(b) PRESTIGE
(c) PEERSTIG
(d) PRESTIEG

Q71.Directions : Given below are two Matrices of Twenty-five cells, each containing two classes of alphabets. The columns and rows of Matrix I are numbered from 0 to 4 and that of Matrix II from 5 to 9. A letter from these matrices can be represented first by its row number and the next by its column number. In each of the following questions, identify one set of number pairs out of (1), (2), (3) and (4) which represents the given word. Below are two matrices of twenty five cells each containing two classes of alphabets. The columns and rows of matrix I are numbered 0 to 4 and that of Matrix II from 5 to 9. A letter from these matrices can be represented first by its row number and next by the column number. If A' can be represented by 'OT, '41' etc. similarly 'R' can be represented by '59', '78' etc. In each of the following questions, identify one set of number pairs out of (1), (2), (3) and (4) which represents the given word.

Matrix-I

	0	1	2	3	4
0	A	C	B	D	E
1	M	T	L	K	H
2	B	M	D	A	T
3	N	C	B	H	A
4	E	L	A	K	T

Matrix-II

	5	6	7	8	9
5	P	R	V	O	G
6	V	O	F	R	I
7	S	S	P	G	F
8	J	G	R	O	I
9	1	F	Y	P	P

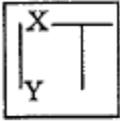FAKE
(a)04, 01, 66, 12

(b)21, 41, 65, 00
(c)21, 14, 65, 00
(d)01, 14, 56, 00

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

Question Figure :

Answer Figures :

(1)　　(2)　　(3)　　(4)

(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.
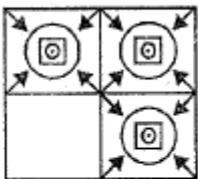
Question Figure :

Answer Figures :

(1)　　(2)　　(3)　　(4)

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

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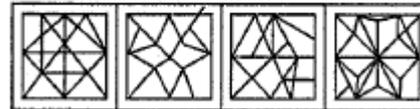
Question figure :

Answer figures :

(1)　　(2)　　(3)　　(4)

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

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

Question Figure :

Answer Figures :

(1)　　(2)　　(3)　　(4)

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

GENERAL AWARENESS

Q76. An instrument for measuring blood pressure is called
(a)Barometer
(b)Spirometer
(c)Sphygmomanometer
(d)Haemocytometer

Q77. The substance that is added to make natural rubber strong and more bouncy is
(a) Polythene
(b) Sponge
(c) Sulpher
(d) Chlorine

Q78. In the electroplating of gold the electrolyte used is?
(a) Gold chloride
(b) Gold nitrate
(c) Gold sulphate
(d) Potassium aurocyanide

Q79. Identify the DBMS among the following
(a)MS Access
(b)MS Power- Point
(c) PLSQL
(d) MS Excel

Q80.A spherical ball made of steel when dropped in mercury container will
(a)sink in mercury
(b)will be on the surface of mercury
(c)will be partly immersed mercury
(d)will dissolve in mercury

Q81. The Council of Ministers in a State is collectively responsible to
(a)the Governor
(b)the Chief Minister
(c)the President of India
(d)the Legislative Assembly

Q82. When was a global network of daily temperature records created?
(a)around 1800
(b)around 1850
(c)around 1890
(d)around 1920

Q83. Carcinogens to which workers should not be exposed:
1. Vinyl chloride
 2. Ethylene dichloride
3.Beta-naphthylamine
4. Aspirin
Which of the above is false?
(a) 2
(b)4
(c) All of the above
(d) 1,2,3

Q84.M.A. Jinnah and a section of the Muslim league was willing to give up separate electorate in favour of a joint electorate (with certain conditions) at the time of the
(a)Cabinet Mission
(b) Simon Commission
(c) Wavell plan
(d) none of above

Q85. The first Satyagraha campaign of Gandhi ji was started at:
(a)Champaran
(b)Bardoli
(c)Dandi
(d)Baroda

Q86. Which of the following is not a statutory function of the UPSC?
(a) To advise the government on the methods of recruitment, promotion and control of public services164 Indian Polity and Governance
(b)To look after the interests and rights of civil servants
(c)To hear appeals from civil servants and redress their grievances
(d)To act a watchdog on the functioning of the State Public Service Commissions

Q87. What causes the difference of time between two places?
1. Latitude
2.Altitude
3. Longitude
4.Distance from the equator
(a) 1 and 3
(b)1, 3 and 4
(c) 3 only
(d)3 and 4

Q88. The local name of Mohenjo-Daro is
(a)Mound of the Living
(b)Mound of the Great
(c)Mound of the Dead
(d)Mound of the Survivor

Q89. Examine the following statements:
1. The Dasavatara temple is located in Bhubaneswar
2. The Kandariya Mahadeva temple is located in Khajuraho
3. The Brihadeswara temple is in Thanjavur
4. The Lingaraj temple is in Deogarh .
Select the correct statements to choose the right code:
(a) 1 and 2 only
(b)2 and 3 only
(c) 3 and 4
(d) 1 and 4

Q90. Which of the following diseases is caused by a virus?
(a)Poliomyelitis
(b)Malaria
(c)Whooping cough
(d)Ringworm

Q91. Which of the following structures present in mammalian skin directly helps in keeping the body warm?
(a)Pigmented cells
(b)Sweat glands
(c)Lymph vessels
(d)Blood capillaries

Q92. Diego Garcia is an island in the ocean
(a)Pacific
(b)Indian
(c)Atlantic
(d)Arctic.

Q93. Which one of the following is not a plantation crop ?
(a) Tea
(b) Coffee
(c) Rubber
(d) Sugarcane

Q94. The Qutub Minar was completed by the famous ruler
(a)Qutubuddin Aibak
(b)Iltutmish
(c)Firoz Shah Tughlaq
(d)Alauddin Khilji

Q95. Under the minimum reserve system the Reserve Bank of India as the sole authority of note issue is required to maintain assets worth not less than
(a)115 crores of rupees
(b)85 crores of rupees
(c)200 crores of rupees
(d)210 crores of rupees

Q96. The different colours of different stars are due to the variation of
(a)temperature
(b)pressure
(c)density
(d)radiation from them

Q97. The process involved in making soap is
(a)saponification
(b)hydrolysis
(c)condensation
(d)polymerisation

Q98. When were the Fundamental Duties of the Indian citizens incorporated in the constitution?
(a) 1952
(b) 1976
(c) 1979
(d) 1981

Q99. An ordinance issued by Governor is subject to approval by
(a) The President
(b) The State Legislature
(c) The State Council of Ministers
(d)The Parliament

Q100. Which among the following is pure matter ?
(a) Carbondioxide
(b) Brass
(c) Air
(d) Iron

85a	**86**d	**87**c	**88**c	**89**b	**90**a
91c	**92**b	**93**d	**94**b	**95**c	**96**a
97a	**98**b	**99**b	**100**a		

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