# SBI CLERK-2016-PRE-MEMORY BASED PAPER-1 

TOTAL TIME:-60 MINS

## ENGLISH LANGUAGE

DIRECTION (Q. 1-5):- Read the sentence to find out 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. If there is no error, the answer is $(\mathbf{E})$. Ignore errors of punctuation, if any.

1. Although everyone thinks (A)/ of her to be an angel, (B)/ she knows to have her fun (C)/ without letting the world know (D).
(A) A
(B) B
(C) C
(D) D
(E) No Error
2. He failed the main interview (A)/ miserably despite having (B)/ qualified to the same in the (C)/ top ten percent of all participants (D).
(A) A
(B) B
(C) C
(D) D
(E) No Error
3. We had a tiring (A)/ 12-hour stop over (B)/ in Dubai before our plane (C)/ finally flew for New York (D).
(A) A
(B) B
(C) C
(D) D
(E) No Error
4. He used to live at Lowdon Street (A)/ but now I cannot be sure (B)/ because I had heard that he (C)/ changed houses after the incident (D).
(A) A
(B) B
(C) C
(D) D
(E) No Error
5. She was very humble (A)/ about her looks (B)/ despite her mother being very (C)/ boastful from her beauty (D).
(A) A
(B) $B$
(C) C
(D) D
(E) No Error

DIRECTION (Q. 6-10):- In the following passage some of the words have been left out. Read the passage carefully and select the correct answer for the given blank out of the five alternatives.
They had many quaint jokes, which afforded them much amusement. Seated in front of him, looking down on his $\qquad$
(A) ___ frame in all her tiny dignity, Mini would ripple her face with laughter and begin: "O Cabuliwallah! Cabuliwallah! what have you got in your bag?"And he would reply, in the nasal accents of the mountaineer: "An elephant!" Not much cause for $\qquad$ (B) $\qquad$ , perhaps; but how they both enjoyed the fun! And for me, this child's talk with a grown-up man had always in it something strangely $\qquad$ (C) $\qquad$ . Then the Cabuliwallah, not to be behindhand, would take his turn: "Well, little one, and when are you going to the father-in-law's house?"Now most small Bengali maidens have heard long ago about the father-in-law's house; but we, being a little new-fangled, had kept these things from our child, and Mini at this question must have been a trifle $\qquad$ (D) $\qquad$ . But she would not show it, and with ready $\qquad$ (E) $\qquad$ replied: "Are you going there?"
6. Which of the following fits in the blank labelled (A)?
(A) Staid
(B) Frivolous
(C) Gigantic
(D) Insidious
(E) Dearth
7. Which of the following fits in the blank labelled (B)?
(A) Merriment
(B) Opposition
(C) Celebration
(D) Penury
(E) Astute
8. Which of the following fits in the blank labelled (C)?
(A) Imbecile
(B) Fascinating
(C) Absurd
(D) Stagnant
(E) Insipid
9. Which of the following fits in the blank labelled (D)?
(A) Angry
(B) Excited
(C) Elated
(D) Remorseful
(E) Bewildered
10. Which of the following fits in the blank labelled (E)?
(A) Regression
(B) Obsession
(C) Tact
(D) Parity
(E) Dizziness

DIRECTION (Q. 11-15):- In the following sentence, four words or phrases have been printed in bold. One bold part in the sentence is incorrectly spelt. Pick up that part and mark its number. If there are no errors in the bold parts, mark (E) i.e. No error as the answer.
11. When the people heard the loud yelling from outdoors, the people saw two men in an affray throwing punches at each other.
(A) yelling
(B) outdoors
(C) affray
(D) punches
(E) No error
12. The monster truck rally showcased a behemoth whose tires were twice as tall as I am.
(A) rally
(B) showcased
(C) behemoth
(D) tires
(E) No error
13. When warnings to evacuate go unhided, those who ignored the storm warnings often end up hurt.
(A) warnings
(B) evacuate
(C) unhided
(D) warnings
(E) No error
14. The prince's audacous plan to save the princess included crossing the deathly forest and killing the dragon
(A) audacious
(B) crossing
(C) deathly
(D) dragon
(E) No error
15. My animas towards my roommate stems from the fact he is constantly stealing my food.
(A) animas
(B) roommate
(C) stems
(D) constantly
(E) No error

DIRECTION (Q. 16-25):- Read the passage given below and then answer the questions given below the passage.
"Mother dear," said a little mouse one day, "I think the people in our house must be very kind; don't you? They leave such nice things for us in the larder."
There was a twinkle in the mother's eye as she replied, "Well, my child, no doubt they are very well in their way, but I don't think they are quite as fond of us as you seem to think. Now remember, Greywhiskers, I have absolutely forbidden you to put your nose above the ground unless I am with you, for kind as the people are, I shouldn't be at all surprised if they tried to catch you."
Greywhiskers twitched his tail with scorn; he was quite sure he knew how to take care of himself, and he didn't mean to trot meekly after his mother's tail all his life. So as soon as she had curled herself up for an afternoon nap he stole away, and scampered across the pantry shelves.
Ah! here was something particularly good today. A large iced cake stood far back upon the shelf, and Greywhiskers licked his lips as he sniffed it. Across the top of the cake there were words written in pink sugar; but as Greywhiskers could not read, he did not know that he was nibbling at little Miss Ethel's birthday cake. But he did feel a little guilty when he heard his mother calling. Off he ran, and was back in the nest again by the time his mother had finished rubbing her eyes after her nap.
She took Greywhiskers up to the pantry then, and when she saw the hole in the cake she seemed a little annoyed.
"Some mouse has evidently been here before us," she said, but of course she never guessed that it was her own little son.
The next day the naughty little mouse again popped up to the pantry when his mother was asleep; but at first he could find nothing at all to eat, though there was a most delicious smell of toasted cheese.
Presently he found a dear little wooden house, and there hung the cheese, just inside it.
In ran Greywhiskers, but, oh! "click" went the little wooden house, and mousie was caught fast in a trap.
When the morning came, the cook, who had set the trap, lifted it from the shelf, and then called a pretty little girl to come and see the thief who had eaten her cake.
"What are you going to do with him?" asked Ethel.
"Why, drown him, my dear, to be sure."
The tears came into the little girl's pretty blue eyes.
"You didn't know it was stealing, did you, mousie dear?" she said.
"No," squeaked Greywhiskers sadly; "indeed I didn't."
Cook's back was turned for a moment, and in that moment tender-hearted little Ethel lifted the lid of the trap, and out popped mousie.
Oh! how quickly he ran home to his mother, and how she comforted and petted him until he began to forget his fright; and then she made him promise never to disobey her again, and you may be sure he never did.
16. What could be the moral of the given story?
(A) We must punish those who steal
(B) It is bad to steal
(C) We must never go out on our own
(D) One must not disobey one's parents
(E) One should not eat cake
17. Why did Ethel cry?
(A) She was afraid of the mouse
(B) She was sad that the mouse had eaten her cake
(C) She was sad as the cook would drown the mouse
(D) She was afraid of the cook
(E) She was angry at the mouse for eating her food
18. Consider the following statements. Which of these are correct?
A. Greywhiskers did not know that he was stealing food.
B. Ethel had laid out a trap for the mouse.
C. The cake for Ethel's birthday party had been ruined.
(A) Only A
(B) Only B
(C) Only C
(D) Both A and B
(E) Both A and C
19. A word from the passage is given below. Choose its antonym from the options - Forbidden
(A) Outlawed
(B) Banned
(C) Permitted
(D) Closed
(E) Refused
20. Given below is a phase from the passage. Choose the option that gives its meaning - To steal away
(A) To steal things(B) To escape
(C) To run hard
(D) To run into someone
(E) None of the above
21. Consider the following statements. Which of these are incorrect?
A. The little mouse wanted to explore the house on his own.
B. Greywhiskers' mother was worried about her son.
C. The cook set the little mouse free.
(A) Only A
(B) Only B
(C) Only C
(D) Both A and B
(E) Both B and C
22. What did Greywhiskers' mother tell him?
(A) To not put his nose above the ground
(B) That the people will try to catch him
(C) That he was not a good boy
(D) Both A and B
(E) A, B and C
23. A word from the passage is given below. Find a word that is similar in meaning to it - Trot
(A) Lick
(B) Run
(C) Stop
(D) See
(E) Wish
24. What was kept on the shelf?
(A) A trap
(B) An iced cake
(C) An iced drink
(D) Both A and B
(E) None of the above
25. Choose a suitable title for the story.
(A) The mouse who was caught
(B) The little thief in the kitchen
(C) The mouse who got saved
(D) The cook caught the mouse
(E) Mouse is caught

DIRECTION (Q. 26-30):- The following sentences form a paragraph. Rearrange the following six sentences/ group of sentences (A), (B), (C), (D), (E) and (F) in the proper sequence to form a meaningful paragraph; then answer the questions given below.
A. It is an intergovernmental body to minimize the occurrence of war by respecting the principle of sovereign equality of states.
B. It resulted in defeat of Nazism and fascism, massive loss of life and invention of nuclear weapons.
C. The primary responsibility of maintaining these principles was given to the Security Council.
D. The devastation caused by World War II had great effects on the world politics.
E. Due to which the allied powers were contemplating on need to create durable institutions to maintain peace and security in the world.
F. And hence the The United Nations was created in 1945.
26. Which sentence becomes FIRST after rearrangement?
(A) A
(B) E
(C) B
(D) C
(E) D
27. Which sentence becomes SECOND after rearrangement?
(A) A
(B) B
(C) C
(D) F
(E) E
28. Which sentence becomes THIRD after rearrangement?
(A) B
(B) D
(C) C
(D) E
(E) F
29. Which sentence becomes FOURTH after rearrangement?
(A) F
(B) B
(C) C
(D) E
(E) A
30. Which sentence becomes LAST after rearrangement?
(A) D
(B) A
(C) C
(D) E
(E) F

## OUANTITATIVE APTITUDE

31. What should come in the place of question mark '?' in the following question?
$\frac{\frac{13}{4}-\frac{4}{5} \text { of } \frac{5}{6}}{\frac{13}{3} \div \frac{1}{5}-\left(\frac{3}{10}+\frac{106}{5}\right)}=\frac{31}{?}$
(A) 1
(B) 2
(C) 3
(D) 4
(E) None of These
32. What should come in the place of question mark '?' in the following question?
$59 \%$ of $1600+$ ? $\%$ of $450-17 \times 24$ = 653
(A) 16
(B) 26
(C) 34
(D) 44
(E) None of These
33. What approximate value will come in place of the question mark '?' in the following questions? (You are not expected to calculate the exact value)
$30.10 \%$ of $520+59.99 \%$ of $1020-$ $207.24=$ ?
(A) 440
(B) 600
(C) 480
(D) 520
(E) 560
34. What approximate value will come in place of the question mark '?' in the following questions? (You are not expected to calculate the exact value)
$\sqrt[3]{6860}+259=? \div 11.001$
(A) 4124
(B) 3368
(C) 3748
(D) 3998
(E) 3058
35. What will come in the place of the question mark '?' in the following question?
? \% of $560-25 \%$ of $340-12 \times 9=3$
(A) 57
(B) 43
(C) 36
(D) 35
(E) None of these
36. What will come in place of question mark '?' in the following question?
$\frac{(4.9)^{2} \times(7.2)^{2}}{(0.7)^{2} \times(0.8)^{2} \times(?)^{2}}=1$
(A) 7
(B) 9
(C) 63
(D) 79
(E) None of these
37. What will come in place of question mark '?' in the following question?
$12 \frac{1}{3}+10 \frac{5}{6}-7 \frac{2}{3}=?+\frac{1}{2}$
(A) 12
(B) 13
(C) 21
(D) 15
(E) None of these
38. What will come in place of the question mark '?' in the following question
$5^{9.9} \times 25^{7.2} \div 125^{4.6}=5^{?}$
(A) 10.5
(B) 9.5
(C) 7.5
(D) 8.5
(E) None of these
39. What will come in place of question mark '?' in the following question?
$(12.11)^{2}+(?)^{2}=722.6521$
(A) 20
(B) 24
(C) 23
(D) 19
(E) None of these
40. A long jump athlete is selected if he covers an average distance of 5.35 metres in a series of 3 jumps. If Alan covers a distance of 2.50 metres and 7.25 metres respectively in the first 2 trials then how much minimum distance should he cover in the last try to qualify for the competition?
(A) 6.03 metres
(B) 25.8 metres
(C) 25.08 metres
(D) 6.3 metres
(E) None of these
41. While making orange juice, the ratio of water and orange used was 4 : 3. The second time 250 ml of the same juice was made, the ratio was 1 : 1 and the water was half the water used on the first time. Find the liters of orange used on the first time.
(A) 2 litre
(B) 1 litre
(C) 0.5 litre
(D) 0.325 litre
(E) 0.1875 litre
42. The first,second and third class fares between two stations were 10 : $8: 3$ and the number of first, second and third class passengers between the two stations in a year was $3: 4$ : 10.The sale of tickets to passengers in the year was Rs.8050.How much amount was realised by the sale of second class tickets?
(A) 3000
(B) 3600
(C) 2800
(D) 2700
(E) 3200
43. In a family, the average age of father, mother and daughter is 30 years. If the average age of father and mother is 40 years then the age of their daughter is
(A) 5 years
(B) 6 years
(C) 8 years
(D) 10 years
(E) 12 years
44. A party is being organised for all 100 employees of Testbook.com. The entrance ticket costs for directors, subject experts and interns are in the ratio $2: 3: 5$. The directors, subjects expert and interns are in the ratio 1 : 2:7 .If the total amount collected from tickets is Rs 1720 , find the total amount given by the interns to purchase entrance tickets.
(A) 70
(B) 350
(C) 1300
(D) 1400
(E) None of these
45. If the numerator of certain fraction increased by $100 \%$ and the denominator is increased by $200 \%$, the new fraction thus formed is $4 / 21$. What is the original fraction?
(A) $2 / 7$
(B) $3 / 7$
(C) $2 / 5$
(D) $4 / 7$
(E) None of these
46. The average of an adult class is 35 years. 15 new students with an average age of 33 years join the class, thereby decreasing the average by 1 year. The original strength of the class was:
(A) 10
(B) 11
(C) 12
(D) 15
(E) 21
47. Anita made a mixed fruit jam containing $30 \%$ mango, $20 \%$ apple, $30 \%$ banana and $20 \%$ pineapple. What quantity of pineapple must be added to 200 g of jam such that the \% of mango becomes $25 \%$ ?
(A) 30 g
(B) 40 g
(C) 50 g
(D) 60 g
(E) 80 g
48. Ramta lent Rs. 6000 to Jogi for 2 years and Rs. 1500 to Jeevan for 4 years and then received Rs. 900 as interest from both of them. The rate of interest is?
(A) $4 \%$
(B) $10 \%$
(C) $5 \%$
(D) $8 \%$
(E) None of these
49. Keeping in mind that there should be a profit of $50 \%$ after allowing a discount of $25 \%$ on the marked price, cost price of an article has to be increased by how much percentage?
(A) $50 \%$
(B) $75 \%$
(C) $100 \%$
(D) $150 \%$
(E) None
50. If the rate of compound interest offered by Ramesh to the borrower is $10 \%$ p.a. and Rs. 1500 is lent. After three years, Ramesh asks the borrower to return the money. However the borrower forgetting the rate of interest asks Ramesh to prepare the slip and agrees to pay accordingly. Ramesh charges the compound interest quarterly at the rate at $4 \%$ p. quarter. How much money does he make extra or lose?
(A) Rs. 405
(B) Rs. 345
(C) Rs. 0
(D) Rs. 270
(E) None of these
51. A pipe can fill a tank in 20 hours. Due to leak in the bottom, it is filled in 36 hours. If the tank is full, how
much time (in hours) will the leak empty it?
(A) 60
(B) 48
(C) 40
(D) 45
(E) 50
52. The river Ganga is flowing with a speed of $8 \mathrm{~km} / \mathrm{hr}$ in Haridwar. Gaurav and Jayesh can swim with a speed of $6 \mathrm{~km} / \mathrm{hr}$ and $8 \mathrm{~km} / \mathrm{hr}$ respectively in still water. Find the difference in time (approx.) taken by them to swim 20 km with the flow of the river Ganga?
(A) 32 minutes
(B) 26 minutes
(C) 15 minutes
(D) 22 minutes
(E) 10 minutes
53. Find the ratio of the areas of inscribed square in a semicircle and a circle while the radii of the circle and the semicircle are equal.
(A) $2: 5$
(B) $1: 2$
(C) $1: 3$
(D) $3: 5$
(E) None of these
54. Two trains running in opposite directions cross a pole in 54 seconds and 34 seconds respectively and they cross each other in 46 seconds. What is the ratio of their speeds?
(A) $1: 2$
(B) $1: 1$
(C) $1: 4$
(D) $3: 2$
(E) None of these
55. In how many different ways can the letters of the word 'SECOND be arranged?
(A) 720
(B) 120
(C) 5040
(D) 270
(E) None of these

DIRECTION (Q. 56-60):- What should come in place of question mark '?' in the following number series?
56. 1, 5, 32, 288, ?
(A) 3284
(B) 3376
(C) 2883
(D) 3683
(E) 3413
57. 17, 33, 64, 124, ?
(A) 242
(B) 240
(C) 224
(D) 256
(E) 264
58. 21, 34, 60, 99, ?
(A) 153
(B) 147
(C) 181
(D) 161
(E) 151
59. 2, 4, 12, 84, ?
(A) 2544
(B) 2768
(C) 2882
(D) 2684
(E) 3612
60. 15, 105, 315, 693, ?
(A) 1243
(B) 1329
(C) 1293
(D) 1287
(E) 1377

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Directions (Q. 61-65):- Study the following pie-chart carefully to answer these questions.
Percentage-wise distribution of players who play five different sports
Total players are 4200, out of which female players are equal to 2000

$$
\text { Total players }=4200
$$



Female players $=\mathbf{2 0 0 0}$

61. The number of male players who play Rugby is approximately what percentage of the total number of players who play Lawn Tennis?
(A) 33
(B) 39
(C) 26
(D) 21
(E) 43
62. What is the total number of the male players who play Football, Cricket and Lawn tennis together?
(A) 1,724
(B) 1,734
(C) 1,824
(D) 1,964
(E) None of these
63. What is the ratio of the number of female players who play Cricket to the number of male players who play Hockey?
(A) $20: 7$
(B) $4: 21$
(C) $20: 3$
(D) $3: 20$
(E) None of these
64. What is the difference between the number of female players who
play Lawn Tennis and the number of male players who play Rugby?
(A) 94
(B) 84
(C) 320
(D) 240
(E) None of these
65. What is the average number of players (both male and female) who play Football and Rugby together?
(A) 620
(B) 357
(C) 230
(D) 630
(E) None of these

## REASONING ABILITY

Directions (Q. 66-68):- Study the following information and answer the given below questions.
$\mathrm{A}, \mathrm{B}, \mathrm{C}, \mathrm{D}, \mathrm{E}, \mathrm{F}, \mathrm{G}$ and H are sitting around a circular table facing the center. B sits third to the right of F. A sits second to the right of D . D is not an immediate neighbor of B and F . C and $E$ are immediate neighbors of each other. H is not an immediate neighbor of $A$. $H$ sits third to the right of C .
66. Who are the neighbors of $D$ ?
(A) AH
(B) HE
(C) BC
(D) CA
(E) None of these
67. Who sits opposite to A?
(A) B
(B) C
(C) D
(D) E
(E) F
68. Who is sitting third left to G?
(A) B
(B) E
(C) C
(D) A
(E) None of these

Directions (Q. 69-73):- Study the following information and answer the given below questions.
Eight friends H, I, J, K, L, M, N and O are sitting in a row facing north. All of them like different colors Red, Pink, Orange, Green, Yellow, Black, Violet and Blue. There is only one person between J and one who likes Violet. N is neither an immediate neighbor of J nor he likes Green. H sits fourth to the left of the one who likes Violet but does not like Pink. The person who likes Black sits third to the right of the one who likes Green and sits on the immediate right of H . The one who likes Green sits at one of the extreme ends of the row. I does not like Green. M is an immediate neighbor of both N and J . O sits at one of the extreme ends of the row but he does not like Green. The one who likes Blue sits second to the right of the one who likes Orange. The one who likes Black and Pink are immediate neighbors. L sits
third to the left of J and likes Yellow. There is only one person sitting between the one who likes Yellow and Black.
69. How many persons are there between I and N ?
(A) One
(B) Two
(C) Three
(D) Four
(E) None of these
70. Who among the following sits third to the right of the person one who likes Pink?
(A) One who like Blue
(B) One who likes Black
(C) One who likes Red
(D) One who likes Green
(E) None of these
71. Who among the following likes Orange?
(A) O
(B) N
(C) M
(D) L
(E) None of these
72. N likes which of the following color?
(A) Red
(B) Black
(C) Green
(D) Violet

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(E) None of these
73. Who are the immediate neighbors of the person who likes Red color?
(A) L and I
(B) L and N
(C) J and H
(D) L and K
(E) None of these

Directions (Q. 74-76):- Read the following information and answer the given questions.
Three ladies and four men are a group of friends i.e., P, K, R, Q, J, V and X . Each one has a different profession i.e. Lecturer, Teacher, Actor, Dancer, Painter, Chairman and Jeweler and each one of them likes a different color i.e. Red, Green, Blue, Yellow, Black, White and Violet, not necessarily in the same order. None of the ladies is a Chairman or a Lecturer. R is an Actor and she likes Black color. P likes White. K is not a Dancer. J is a Jeweler and he likes Green color. V is a Lecturer and doesn't like Red. X is a Chairman and likes Blue. The Dancer likes Violet whereas the Painter likes White. The Teacher likes Red color. None of the ladies likes White color.
74. Who likes Yellow color?
(A) V
(B) X
(C) K
(D) Q
(E) Can't be determined
75. Who is a Dancer?
(A) V
(B) J
(C) Q
(D) X
(E) Can't be determined
76. Who are three ladies in the group?
(A) V, K, R
(B) $\mathrm{Q}, \mathrm{K}, \mathrm{R}$
(C) J, Q, R
(D) Q, K, X
(E) Can't be determined

Directions (Q. 77-79):- Read the following information and answer the given questions.
The following questions are based on the following three digit numbers:
437, 254, 829, 147, 563
77. If all the digits of each of the numbers are arranged in an ascending order (within the number) which number will be the second highest?
(A) 254
(B) 437
(C) 563
(D) 147
(E) 829
78. If all the three digits of each of the numbers are added, the total of which of the following will be the second lowest?
(A) 437
(B) 829
(C) 147
(D) 254
(E) 563
79. If 1 is subtracted from the third digit of each of the numbers, how many numbers will become completely divisible by 3 ?
(A) One
(B) Two
(C) Three
(D) More than three
(E) None

Direction (Q. 80-82):- Study the following information to answer the following questions.
In a certain code,
"Yogi became chief minister" is written as "@\# \%@ \#\% \%\#"
"Prime minister is Modi" is written as "\%@ \#@ \$\& @\%"
"Adithyanath known as Yogi" is written as "\&\% \%\& \& @ \#"
"Modi is chief of BJP" is written as "\%\# @\% \#@ @\& \&@"
Where codes are group of 2 symbols.
80. How "Adithyanath is Yogi" possible will be coded?
(A) \%@ \%@ \&\$
(B) \&\% @\% @\#
(C) \& \$ \%@ @\#
(D) can't be determine
(E) None of these
81. What is code for word "Prime"?
(A) \#@
(B) \% @
(C) $\$ \&$
(D) Can't be determine
(E) Either \%@ or \#@
82. "\%\# @\% \#@" will be code of?
(A) Chief of BJP
(B) Modi is BJP
(C) Modi is chief
(D) Can't be determine
(E) None of these

Direction (Q. 83-84):- Study the given information and answer the following question.
A is 25 m away from C in east direction. B is standing in south of A and is facing south direction and distance between A and B is 30 m . Now to the right of B, covering 37 m towards west, D is standing. D is eating ice-cream standing on its position and facing north. After eating ice cream D starts moving
towards south-east direction covering 13 m and reaches to the position of E .
83. What is the distance between $D$ and C and C is in which direction with respect to D ?
(A) 31 m , north-east
(B) 29 m , north-west
(C) 32.3 m , north-east
(D) 40 m , north-west
(E) Cannot be determined
84. In which direction $E$ is with respect to A?
(A) South - West
(B) South - East
(C) South
(D) West
(E) None of these

Directions (Q. 85-88):- Study the following information carefully and answer the given questions.
I. There is a family of seven persons representing three generations.
II. There are two married couples they belong to different generation. Both the wives are housewives and both have only two children.
III. Sudhakar, the lawyer, is the father of Amit and has two grandchildren.
IV. Monashi, the doctor, is the sister of the teacher.
V. Subhra's daughter-in-law Sulekha is married to a teacher.
VI. Nidhi, the grand-daughter of one of the housewives, is studying in the $9^{\text {th }}$ standard.
85. What is the profession of Amit?
(A) Student
(B) Teacher
(C) Lawyer
(D) Can't be determined
(E) None of these
86. Which of the following groups is associated with all three generations?
(A) Sudhakar, Monasi and Nidhi
(B) Amit, Monashi and Nidhi
(C) Amit, Sulekha and Nidhi
(D) Can't be determined
(E) None of the above
87. Which of the following statements is not true?
(A) The doctor is the paternal aunt of Nidhi
(B) Sulekha has one sister-in-law
(C) The teacher is the son of Subhra
(D) Sudhakar is the father-in-law of Sulekha
(E) Subhra has two grand-daughters
88. How many female members are there in the family?
(A) Two
(B) Four
(C) Three
(D) Five
(E) Can't be determined

Directions (Q. 89-90):- Study the information given below and answer the questions that follow.
Akash, Raj, Mohit, Vipul, Binit \& Harsh are in the same class:
1). Akash is shorter than Vipul but taller than Raj.
2). Binit is taller than Harsh \& Harsh is taller than Vipul.
3). Mohit is taller than Vipul but shorter than Harsh
89. Who is 3rd tallest guy in the class?
(A) Raj
(B) Akash
(C) Mohit
(D) Vipul
(E) Can't determine
90. Who is 2 nd shortest guy in the class?
(A) Akash
(B) Raj
(C) Mohit
(D) Harsh
(E) Cannot determine

Directions (Q. 91-95):- In the question below are given some statements followed by conclusions numbered I, II, III, and IV. You have to take the given statements to be true even if they seem to be at variance with commonly known facts. Read all the conclusions and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.
91. Statements:

Some trees are jungles.
Some jungles are flowers.
All flowers are lilies.
No tree is seed.
Conclusions:
I. Some lilies are jungles.
II. Some lilies are trees.
III. Some flower are seed
IV. No flower is seed
(A) Either I or II follow
(B) Only III follows
(C) Either conclusion III or IV follows
(D) Conclusion I and either III or IV follows
(E) None of these
92. Statements:

All trees are gardens
All gardens are stones.
All stones are fences.
Conclusions:
I. Some fences are gardens.
II. All gardens are fences.
III. Some stones are trees.
IV. All trees are stones.
(A) Only I and II follows
(B) Only II and III follows
(C) Only III and IV follows
(D) Only I and III follows
(E) All follows
93. Statements:

Some Bastman are Team.
Some Hockey are Team.
All Team are Country.
All Country are Cricket.

## Conclusions:

I. Some Bastman are Cricket.
II. Some Hockey are Country.
III. Some Bastman are Hockey .
IV. No Bastman is Hockey .
(A) Conclusion I and either I or III follows.
(B) Conclusion II and either III or IV follows.
(C) Conclusion II and either II or III follows.
(D) Conclusion I and either I or II follows.
(E) Conclusion I and II follows and either III or IV follows

## 94. Statements:

All plants are trees.
$75 \%$ birds are plants.
Some humans are birds.
No human is animal.
Conclusions:
I. All trees are plants.
II. At least some birds are human.
III. No animal is bird.
IV. Some animals are not plants.
(A) Only conclusion I follows
(B) Only conclusion II follows
(C) Both conclusion II and IV follows
(D) Either conclusion I or III follows
(E) Only conclusion IV follows
95. Statements:

Some pink are orange.
Some orange are blue.
No blue is green.
All red are green.
Conclusions:
I. Some red are orange.
II. Some pink are blue.
III. No red is blue.
IV. Some orange are green.
(A) Only I follows
(B) Only II follows
(C) Only III follows
(D) Only II and IV follows
(E) All the four follows

Directions (Q. 96-100):- In the following question assuming the given statements to be true, find
which of the conclusion among given conclusions is /are definitely true and then give your answers accordingly.
96. Statement: $\mathrm{M} \geq \mathrm{Q}>\mathrm{T} \geq \mathrm{S}<\mathrm{J} \leq$
$\mathrm{C}<\mathrm{D} ; \mathrm{K} \geq \mathrm{H}<\mathrm{F} \geq \mathrm{Z} \geq \mathrm{B} \geq \mathrm{A} \geq \mathrm{R}$
Conclusions:
I. $\mathrm{M}>\mathrm{S}$
II. $\mathrm{R} \leq \mathrm{D}$
III. F < B
IV. $\mathrm{T} \geq \mathrm{J}$
V. T $>\mathrm{F}$
(A) Only conclusion (I) is true
(B) Neither conclusion (I) nor
conclusion (III) is true.
(C) Only conclusion (III) is true.
(D) Only conclusion (II) is true.
(E) All conclusion (I), (II), (III), (III)
and $(\mathrm{V})$ are true.
97. Statements: $\mathrm{I}>\mathrm{F} ; \mathrm{K}=\mathrm{I} ; \mathrm{F}<\mathrm{J} ; \mathrm{J}$
$\geq$ Q
Conclusions:
I. $\mathrm{K}>\mathrm{F}$
II. $\mathrm{F}>\mathrm{Q}$
III. $\mathrm{J}=\mathrm{Q}$
IV. $\mathrm{Q}<\mathrm{I}$
(A) None is true
(B) Only I is true
(C) Only II is true
(D) Only III is true
(E) All are true
98. Statements: $\mathrm{H}>\mathrm{A} ; \mathrm{C}>\mathrm{B} ; \mathrm{C}=$

D; F $>\mathrm{D} ; \mathrm{A}=\mathrm{E} ; \mathrm{A} \geq \mathrm{B}$

## Conclusions:

I. $\mathrm{B} \leq \mathrm{E}$
II. $\mathrm{H} \geq \mathrm{C}$
III. F>B
(A) Either I or III is true
(B) Only I is true
(C) Only III is true
(D) Only I and III is true
(E) None of these
99. Statement: $\mathrm{S}>\mathrm{Q} \geq \mathrm{C}>/<\mathrm{J} \leq \mathrm{D}$
$<\mathrm{Y} \leq \mathrm{O}$
Conclusions:
I. $\mathrm{O}>\mathrm{J}$
II. $\mathrm{O}<\mathrm{S}$
III. $\mathrm{O} \leq \mathrm{Q}$
IV. C $>\mathrm{J}$
V. $\mathrm{D} \leq \mathrm{S}$
(A) Either conclusion I or conclusion

IV is true.
(B) Only conclusion I is true.
(C) Either conclusion I or conclusion

II is true.
(D) Either conclusion II or conclusion III is true.
(E) Neither conclusion I, conclusion II, conclusion III, conclusion IV and conclusion V is true
100. Statements: $\mathrm{F} \leq \mathrm{E}>\mathrm{D} ; \mathrm{D}=\mathrm{Q}=$

S; S $<\mathrm{R}>\mathrm{I} \leq \mathrm{H}$
Conclusions:
I. $H \geq R$
II. $\mathrm{S}<\mathrm{E}$
III. F $\leq$ D
IV. $\mathrm{H} \leq \mathrm{S}$
V. D $\geq \mathrm{H}$
(A) Either conclusion I or IV is true.
(B) Only conclusion II is true.
(C) Either conclusion I or II is true.
(D) Either conclusion II or III is true.
(E) None of the conclusion is true.

## SBI CLERK 2016(PRE)MEMORY BASED PAPER -1 SOLUTION

31.(B)

$$
\begin{aligned}
& \frac{\frac{13}{4}-\frac{4}{5} \times \frac{5}{6}}{\frac{13}{3} \times \frac{5}{1}-\left[\frac{3}{10}+\frac{106}{5}\right]} \\
& =\frac{31}{?}
\end{aligned}
$$

$\Rightarrow \frac{\frac{13}{4}-\frac{2}{3}}{\frac{65}{3}-\frac{215}{10}}=\frac{31}{?}$
$\Rightarrow \frac{\frac{31}{12}}{\frac{0.5}{3}}=\frac{31}{?} \Rightarrow \frac{31}{12} \times \frac{3}{0.5}=\frac{31}{?}$
$\Rightarrow ?=\frac{12 \times .05}{3}=2$
32. (B) $\frac{59}{100} \times 1600+\frac{x}{100} \times 450-17 \times 24$
$=653$
$56 \times 16+\mathrm{x} \times 4.5-17 \times 24=653$
$4.5 x=653+408-944$
$4.5 x=117$
$\mathrm{x}=\frac{117}{4.5}=26$
33. (E) $\frac{30}{100} \times 520+\frac{60}{100} \times 1020-207=$ ?
$?=3 \times 52+6 \times 102-207$
$=156+612-207$
$=561$
$\approx 560$
34. (E) $\sqrt[3]{6860}+259=x \div 11$
$\approx 19+259=x \div 11$
$\mathrm{x}=278 \times 11$
$=3058$
35. (D) $\frac{x}{100} \times 560-\frac{25}{100} \times 340-12 \times 9=3$
$5.6 x-85-108=3$
$5.6 x=196$
$x=\frac{196}{5.6}=35$
36. (C) $\frac{(4.9)^{2}}{0.7}=(7)^{2}, \frac{(7.2)^{2}}{(0.8)^{2}}=(9)^{2}$

$$
\begin{aligned}
& \frac{(7)^{2} \times(9)^{2}}{(?)^{2}}=1 \\
& (63)^{2}=(?)^{2} \\
& ?=63
\end{aligned}
$$

37. (D) $\frac{37}{3}+\frac{65}{6}-\frac{23}{3}=?+\frac{1}{2}$
? $=\frac{37}{3}+\frac{65}{6}-\frac{23}{3}-\frac{1}{2}$
$=\frac{74+65+-46-3}{6}$
$=\frac{90}{6}=15$
38. (A) $(5)^{9.9} \times(5)^{2 \times 7.2} \div(5)^{3 \times 4.6}=(5)^{?}$

Comparing powers
$9.9+14.4-13.8=$ ?
? $=24.3-13.8$
$=10.5$
39. (B) $(12.11)^{2}+(?)^{2}=722.6521$
$(?)^{2}=722.6521-146.6521$
$=576$
$?=24$
40. (D) Let required distance be x

According to question
$\frac{2.5+7.25+x}{3}=5.35$
$9.75+x=16.05$
$\mathrm{x}=6.3 \mathrm{~m}$
41. (E) Let water and orange used on $2^{\text {nd }}$ time be $\mathrm{x} \& \mathrm{x}$.
$2 \mathrm{x}=250 \Rightarrow \mathrm{x}=125 \mathrm{ml}$
Water used on $1^{\text {st }}$ time $=2 \times 125$
$=250 \mathrm{ml}$
$4 x=250 \Rightarrow x=62.5$
Orange used $=3 \times 62.5$
$=187.5 \mathrm{ml}$
$=0.1875 l$
42. (C) Ratio of money collected
$=10 \times 3: 8 \times 4: 3 \times 10=15: 16: 15$
$\therefore$ sum of ratio $=15+16+15=46$
Total amount $=46$
By sale of $2^{\text {nd }}$ class $=\frac{16}{46} \times 8050$
$=2800$
43. (D) Sum of age of mother father \& daughter

$$
=30 \times 3=90 \text { years } .
$$

Sum of age of father \& mother
$=40 \times 2=80$ years
Age of daughter $=90-80=10$ years.
44. (D) Total employees $=100$

Ratio of directors, subject experts\& interns $=1: 2: 7$
$\therefore$ directors $=10$, subject experts $=20$
Interns $=70$
Total ticket cost
$=10 \times 2 \mathrm{x}+20 \times 3 \mathrm{x}+70 \times 5 \mathrm{x}$
$=1720$
$20 x+60 x+350 x=1720$
$\mathrm{x}=\frac{1720}{430}=4$
Required amount $=70 \times 20=1400$
45. (A) Let original fraction $\frac{x}{y}$

According to question
$\frac{x+100 \% \text { of } x}{y+200 \% \text { of } y}=\frac{4}{21}$
$\frac{2 x}{3 y}=\frac{4}{21} \Rightarrow \frac{x}{y}=\frac{2}{7}$
46. (D) Let original strength of class is $x$

Total age $=35 \mathrm{x}$
Total age of 15 new students $=15 \times$
33
$=495$
Total of $(x+15)$ students $=35 x+495$
Average age $=\frac{35 x+495}{x+15}=34$
$\Rightarrow 34(x+15)=35 x+495$
$\mathrm{x}=15$
47. (B)

Amount of pineapple $=20 \%$ of $200=40 \mathrm{~g}$
Amount of mango $=30 \%$ of $200=60 \mathrm{~g}$
Amount of pineapple added be x g
$60 \mathrm{~g}=25 \%$ of $(200+\mathrm{x})$
$60=0.25 \times(200+x)$
$200+\mathrm{x}=240 \Rightarrow 40 \mathrm{~g}$.
48. (C) $\mathrm{SI}=\frac{6000 \times R \times 2}{100}+\frac{1500 \times R \times 4}{100}$
$60 \times 2 \times \mathrm{R}+15 \times 4 \times \mathrm{R}=900$
$\mathrm{R}=\frac{900}{180}=5 \%$
49. (C) Let C.P be x

Profit $=50 \%$
$\therefore \mathrm{SP}=\frac{150}{100} \times x=1.5 \mathrm{x}$
$\mathrm{MP}=\frac{100}{75} \times 1.5 x=2 \mathrm{x}$
$\therefore$ object should be marked $100 \%$ height than C.P.
50. (A) Real amount to be paid by borrower
$=1500\left(1+\frac{10}{100}\right)^{3}=1500(1.1)^{3}$
$=1996.5$
Fake amount paid
$=1500\left(1+\frac{4}{100}\right)^{12}=1500(1.04)^{2}$
$=2401.5$
Extra money earned
= 2401.5-1996.5
$=$ Rs. 405
51. (D) work done in $1 \mathrm{hr}=\frac{1}{20}$

Work down by leak in $1 \mathrm{hr}=-\frac{1}{x}$
According to question
$\frac{1}{20}-\frac{1}{x}=\frac{1}{36} \Rightarrow \frac{1}{x}=\frac{1}{20}-\frac{1}{36}$
$\Rightarrow \mathrm{x}=45 \mathrm{hrs}$.
52. (E) speed of gaurav with flow $=8+6$
$=14 \mathrm{~km} / \mathrm{hr}$
Time taken $=\frac{20}{14}=1 \frac{3}{7} \mathrm{hrs}$.
Speed of Jayesh with flow
$=8+8=16 \mathrm{~km} / \mathrm{hr}$
Time taken $=\frac{20}{16}=1 \frac{1}{4} \mathrm{hrs}$.
Difference in time $=\frac{3}{7}-\frac{1}{4}=\frac{5}{28} \times 60$
$\approx 10$ minutes
53. (A) Let radius of circle $=r$

Square in circle has diagonal equal to diameter of circle.
Let side of square $=\mathrm{a}$
$\mathrm{a}=\sqrt{2} \mathrm{r} \Rightarrow \mathrm{Area}=2 \mathrm{r}^{2}$
when square is inscribed in semicircle
Let side be b
$\mathrm{b}^{2}+\left(\frac{b}{2}\right)^{2}=\mathrm{r}^{2}=\Rightarrow \mathrm{b}=\frac{2 r}{\sqrt{5}}$
Ratio of area $=\mathrm{b}^{2}: \mathrm{a}^{2}=\frac{4 r^{2}}{5}: 2 r^{2}$
$=2: 5$
54. (D) Let speed of trains be $x \mathrm{~km} / \mathrm{hr}$ \& $\mathrm{y} \mathrm{km} / \mathrm{hr}$ resp.
$\therefore$ Length of train be $54 \mathrm{x} \& 34 \mathrm{y}$ resp.
According to question
$\frac{54 x+34 y}{x+y}=46$
$54 \mathrm{x}+34 \mathrm{y}=46 \mathrm{x}+46 \mathrm{y}$
$4 \mathrm{x}=6 \mathrm{y}$
$x: y=3: 2$
55. (A) Required ways $=6$ !
$=6 \times 5 \times 4 \times 3 \times 2 \times 1$
$=720$
56. (E) $1^{1}=1$
$1^{1}+2^{2}=5$
$1^{1}+2^{2}+3^{3}=32$
$1^{1}+2^{2}+3^{3}+4^{4}=288$
$1^{1}+2^{2}+3^{3}+4^{4}+5^{5}=3413$
57. (B) $17 \times 2-1=33$
$33 \times 2-2=64$
$64 \times 2-4=124$
$124 \times 2-8=240$
58. (E) $21+13 \times 1=34$
$34+13 \times 2=60$
$60+13 \times 3=99$
$99+13 \times 4=151$
59. (E) $2^{2} \div 2+2=4$
$4^{2} \div 2+4=12$
$12^{2} \div 2+12=84$
$84^{2} \div 2+84=3612$
60. (D) $1 \times 3 \times 5=15$
$3 \times 5 \times 7=105$
$5 \times 7 \times 9=315$
$7 \times 9 \times 11=693$
$9 \times 11 \times 13=1287$
61. (A) Number of males who paly rugby
$=\frac{13}{100} \times 4200-\frac{10}{100} \times 2000$
$=546-200=346$
Number of players of lawn tennis

$$
=\frac{25}{100} \times 4200=1050
$$

$$
\therefore \text { Percentage }=\frac{346}{1050} \times 100=33 \%
$$

62. (B) Total number of male players who
play football, cricket \& lawn tennis

$$
\begin{aligned}
& =(17 \%+25 \%+35 \%) \text { of } 4200 \\
& -(13 \%+22 \%+40 \%) \text { of } 200 \\
& =\frac{77}{100} \times 4200-\frac{75}{100} \times 2000 \\
& =3234-1500 \\
& =1734
\end{aligned}
$$

63. (C) Required ratio
$=$

$$
\begin{aligned}
& \frac{40}{100} \times 2000: \frac{10}{100} \times 4200-\frac{15}{100} \times 2000 \\
& =800: 120 \\
& \quad=20: 3
\end{aligned}
$$

64. (A) Required difference =

$$
\begin{aligned}
\frac{22}{100} \times 2000 & -346 \\
& =440-346 \\
& =94
\end{aligned}
$$

65. (D) Required average
$=\frac{(17 \%+13 \%) \text { of } 4200}{2}$
$=\frac{\frac{30}{100} \times 4200}{2}$
$=\frac{1260}{2}=630$
66-68

66.(E)
66. (A)
67. (A)

69-73

69. (B)
70. (A)
71. (C)
72. (D)
73. (A)

74-76

| Gender | Person | Profession | Colour |
| :---: | :---: | :---: | :---: |
| Male | P | Painter | White |
| Female | K | teacher | Red |
| Female | R | Actor | Black |
| Female | Q | Dancer | Violet |
| Male | J | Jewellar | Green |
| Male | V | Lecturer | Yellow |
| Male | X | Chairman | Blue |

74. (A)
75. (C)
76. (B)
77. (B) on arranging

347, 245, 289, 147, 356
Required number $=437$
78. (C) On adding digits
$14,11,19,12,14$
$2^{\text {nd }}$ lowest sum $\rightarrow 12 \rightarrow 147$
79. (A) On subtracting, we get

436, 253, 828, 146, 562
Required number $\rightarrow 828$

80-82 yogi $\rightarrow$ @ \#
Minister $\rightarrow \%$ @
Chief $\rightarrow \%$ \#
Become $\rightarrow \# \%$
Prime $\rightarrow$ \$ \&
Is / Modi $\rightarrow$ @ \% / \#@
of $\rightarrow$ @ \&/ \& @
BJP $\rightarrow$ @ \& / \& @
80. (D)
81. (C)
82. (C)

83-84

83. (C) Distance $=\sqrt{12^{2}+30^{2}}$
$=\sqrt{900+144}$
$=\sqrt{1044}$
$=32.3 \mathrm{~m}$
North east direction
84. (A)

85-88

85. (B)
86. (A)
87. (E)
88. (E)

89-90 Binit > Harsh > Mohit > Vipul > Akash> Raj
89. (C)
90.(A)
91. (D)

92. (E)

93. (E)


## 94.(B)



## 95.(C)


96. (A) $\mathrm{M}>\mathrm{S}$ [True]
$\mathrm{R} \leq \mathrm{D}$ [False]
$\mathrm{F}<\mathrm{B}$ [False]
$\mathrm{T} \geq \mathrm{J}$ [False]
$\mathrm{T}>\mathrm{F}$ [False]
97. (B) $\mathrm{K}>\mathrm{F}$ [True]
$\mathrm{F}>\mathrm{Q}$ [False]
$\mathrm{J}=\mathrm{Q}$ [False]
$\mathrm{Q}<\mathrm{I}$ [False]
98. (D) $\mathrm{B} \leq \mathrm{E}$ [True]
$\mathrm{H} \geq \mathrm{C}$ [False]
F > B [True]
99. (B) $\mathrm{O}>\mathrm{J}$ [True]
$\mathrm{O}<\mathrm{S}$ [False]
$\mathrm{O} \leq \mathrm{Q}$ [False]
C $>\mathrm{J}$ [False]
D $\leq$ S [False]
100. (B) $\mathrm{H} \geq \mathrm{R}$ [False]
$\mathrm{S}<\mathrm{E}$ [True]
$\mathrm{F} \leq \mathrm{D}$ [False]
$\mathrm{H} \leq \mathrm{S}$ [False]
$\mathrm{D} \geq \mathrm{H}$ [False]

ANSWER KEY

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

