	PARI - A: GENERAL III	Lizzania	CARLL	OH CO TOUR		
Dire lette	ections: In questions no. 1 to 3, select the related rs/word/number from the given alternatives.	d Direct	e tions /num	s : In question ber pair from	s no. 10 the given	to 14, find the odd alternatives.
(I)	Wine: Grape:: Whiskey: ?	10.	(A)	Antagonist	(B)	Opponent
/	(A) Apple (B) Orange		(C)	Adversary	(D)	Ally
	(C) Potato (D) Oats	11.	(A)	Diagonal	(B)	Pentagon
o.	600:2000:: ? : 9000		(C)	Circle	(D)	Rhombus
2.		12.	(A)	354, 543	(B)	543, 453
	(A) 5600 (B) 3000		(C)	243, 432	(D)	234, 342
	(C) 3600 (D) 5400	13.	(A)	Thekkady	(B)	Vedanthangal
3.	XZG : CAT : : DOG : _ ?		(C)	Bandipur	(D)	Mudumalai
	(A) WLT (B) TIW	14.	(A)	Firefox	(B)	Internet Explorer
	(C) GAD (D) OWT		(C)	Chrome		Google
of le	ections: In questions no. 4 and 5, which one setters when sequentially placed at the gaps in the letter series shall complete it?	el 15.		the correct n alternatives (4, 3, 2), (16,		numbers from the 256, 81, 16).
4.	_aabab_ab_ab_bba			(65536, _?_		
	(A) abba (B) bbaa		(A)	190, 20	(B)	6651, 286
	(C) baaa (D) abaa		(C)	6561, 256	(D)	1486, 97
5.	aa_baa_ana_ba_ba	Dire	ection	s: In question the	ns no. given re	16 to 21, select the sponses.
	(A) babb (B) abba	16.	5	1 25		
	(C) abab (D) abaa		6	2 18		
Dir	rections : In questions no. 6 to 9, a series is give	n,	10			
wit	h one term missing. Choose the correct alternati	ve	3		(TD)	10
froi	n the given ones that will complete the series.		(A)		(B)	10
6.	C2E, E5H, G12K, I27N, _ ?		(C)			
	(A) I57Q (B) I58P	17.		1, 4529, ?	(B)	7243
	(C) J58Q (D) K58Q		(A) (C)	6755 6353		5662
7.	BEH, DGJ, NQT, ?	20				
	(A) RMO (B) TKL	18.		30, 38, ?		80
	(C) GHD (D) JMP			45 35) 55
8.	ZA ₅ , Y ₂ B, XC ₆ , W ₈ D, ?	10		14, 30, ?		
0.	(A) VE_5 (B) VE_7	19.		33	(B	54
		14		29) 27
		20.		5	10	
9.	deb, ijg, nol, ? , xvy		26		2 2	

(B) stq

(D) rsq

(A) stp

(C) rsp

36 2 49 2 ? 2

(A) 64

(C) 55

(B) 144

(D) 100

21.	16	32	48	64		
	17	34	51	68		
	18	36	54	?		
	(A)	76		(B)	77	
	(C)	72		(D)	74	

- 22. Six girls are standing in such a way that they form a circle, facing the centre. Subbu is to the left of Pappu, Revathi is between Subbu and Nisha, Aruna is between Pappu and Keerthana. Who is to the left of Pappu?
 - (A) Aruna
- (B) Subbu
- (C) Keerthana
- (D) Nisha
- 23. Naseebah runs for 10 km in the eastern direction. She then turns left and starts walking for 6 km. Again, she turns left and starts running for 6 km. Then she turns left and walks again for 6 km. How far is she from the starting point?
 - (A) 3 km
- (B) 4 km
- (C) 5 km
- (D) 6 km
- 24. In the following problem,
 - = stands for ÷
 - + stands for -
 - × stands for =
 - stands for >
 - > stands for
 - < stands for x
 - + stands for <

When these new symbols are substituted, only one will be wrong. Identify the wrong one.

- (A) 4 > 2 < 5 + 8 5
- (B) $4 < 2 + 5 + 8 \times 5$
- (C) $4 = 2 + 5 > 8 \times 5$
- (D) $4 < 2 > 5 + 8 \times 5$

Directions: In questions no. 25 to 27, from the given alternatives select the word which **cannot** be formed using the letters of the given word.

- 25. INTERNATIONAL
 - (A) TERMINAL
- (B) ORIENTAL
- (C) RATIONALE
- (D) LATTER

- 26. DEPRECIATE
 - (A) PRIDE
- (B) PEACE
- (C) REPRIEVE
- (D) CREDIT
- 27. TENDENTIOUS
 - (A) STUDENT
- (B) INTENTION
- (C) DENTIST
- (D) TENT
- 28. You have to follow the symbolic interpretation to solve the question.
 - + = Greater than × = Equal to
 - = Not less than L = Not equal to
 - = Less than
 - o = Not greater than

Then if A - B \(\phi \) C, which of the following is implied ?

- (A) A OB C
- (B) A B+C
- (C) A B C
- (D) A + B C
- 29. If A stands for +, Q stands for -, V stands for x, R stands for ÷, then what is the value of the given equation?

- (A) 576
- (B) 376
- (C) 15
- (D) 476
- 30. If each of the letters in the English alphabet is assigned an even numerical value beginning A = 2, B = 4 and so on, what will be the total value of the letters for the word INDIA?
 - (A) 94
- (B) 72
- (C) 86
- (D) 74
- 31. If 'STYLE' is written as PQVIB, how can 'SMELL' be written in that code?
 - (А) РДШ
- (B) PJBII
- (C) PVBII
- (D) PVHII
- 32. Select the correct combination of mathematical signs to replace * signs and to balance the given equation.

$$8*6*96*2=0$$

- (A) ÷ ×
- (B) x ÷ -
- (C) × ÷
- (D) -×÷
- 33. If P denotes ÷, Q denotes ×, R denotes + and S denotes -, then 12 Q 15 P 3 R 4 S 6 = ?
 - (A) 68
- (B) 70
- (C) 57
- (D) 58

- 34. A boy was misdirected from his way while returning to his home from his school. In order to reach his home, he first moved 3 km in south direction and then turned to his left and moved 2 km in straight direction on the road leading to the east. From there, he moved to his left and walked 3 km. After this, he again turned to his left and moved 1 km. Finally he reached his home. The home of the boy was in which direction from his school?
 - (A) East
- (B) South
- (C) West
- (D) North
- 35. If SENT is written as '+ $\wedge \times$ -' and ANT is written as '* \times -', then how is TEN written in that code ?
 - (Λ) $-\times \Lambda$
- (B) ×+-
- $(C) \wedge \times$
- (D) *-×
- 36. Ram walks 10 m South from his house, turns left and walks 25 m, again turns left and walks 40 m, then turns right and walks 5 m to reach the school. In which direction is the school from his house?
 - (A) East
- (B) North
- (C) South-West
- (D) North-East

Directions: In questions no. 37 and 38, a statement is given followed by two conclusions/assumptions. You have to consider the statement to be true even if it seems to be at variance from commonly known facts. You have to decide which of the given conclusions/assumptions, if any, follow from the given statement.

37. Statement:

If people are intelligent they should be creative.

Assumptions:

- I. Creativity and intelligence are related.
- II. Creative people are intelligent.
- (A) Both assumptions I and II are valid
- (B) Both assumptions I and II are invalid
- (C) Only assumption I is valid
- (D) Only assumption II is valid

38. Statement :

A friend in need is a friend indeed.

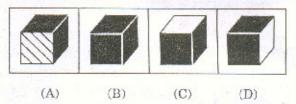
Conclusions:

- All are friends in good times.
- II. Enemics in bad times are not friends.
- (A) Both conclusions I and II follow
- (B) Neither conclusion I nor II follows
- (C) Only conclusion I follows
- (D) Only conclusion II follows
- 39. Which of the four cubes given in the answer figure can be created by folding the design in question figure?

Question figure :



Answer figures :



40. The figure below is a drawing of a pile of blocks. When taken apart, how many blocks would be there?

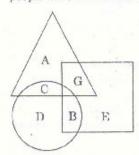
Question figure :



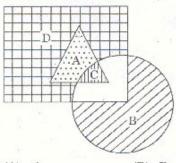
- (A) 5
- (B) 6
- (C) 3
- (D) 4

SPACE FOR ROUGH WORK

- 41. Which one of the following diagrams 44. represents the correct relationship among Poison, Bio-products and Food?
 - (A) 000
- (B)
- 00
- (C) COO
- (D) (O)
- 42. In the given figure, the triangle represents people who visited Mysore, the circle represents people who visited Octy, the square represents people who visited Munnar. The portion which represents people who visited both Mysore and Octy is



- (A) C
- (B) D
- (C) G
- (D) B
- 43. In the following diagram, the triangle represents Mothers, circle represents Teachers and the rectangle stands for Women. Which letter (out of A, B, C and D) represents women who are mothers as also teachers?



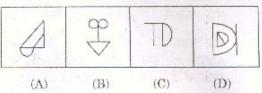
- (A) A
- (B) B
- (C) D
- (D) C

44. Which of the answer figures is not made up of only the components of the key figure (question figure)?

Question figure :



Answer figures:

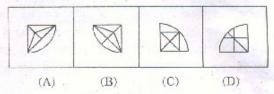


Directions: In questions no. 45 and 46, which answer figure will complete the pattern in the question figure?

45. Question figure :



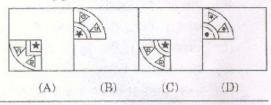
Answer figures :



46. Question figure:

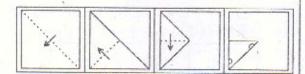


Answer figures :

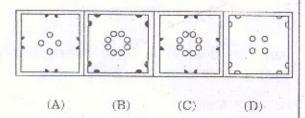


47. A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened.

Question figures:



Answer figures :

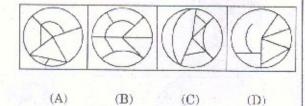


48. From the given answer figures, select the one in which the question figure is hidden/embedded.

Question figure :



Answer figures :

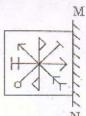


A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as in the matrix given below. The columns and rows of matrix are numbered from 1 to 6. A letter from the matrix can be represented first by its row and next by its column, e.g., 'A' can be represented by 42, 46, 62, etc. and 'P' can be represented by 15, 43, etc. Similarly, you have to identify the set for the word 'SNOW'.

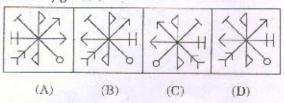
	1	2	3	4	5	6
1	H	R	E	I	P	S
2	S	G	N	D	Z	J
3	В	U	F	Т	К	L
4	V	A	p	С	Y	A
5	M	W	C	0	X	N
6	В	A	E	1	L	0

- (A) 21, 23, 54, 52
- (B) 21, 14, 22, 56
- (C) 21, 56, 62, 44
- (D) 16, 56, 46, 35
- 50. From the answer figures, find out the figure which is the exact mirror image of the question figure, when the mirror is placed on the line 'MN'.

Question figure :



Answer figures :



FOR VISUALLY HANDICAPPED CANDIDATES ONLY

39. From the given alternatives, select the word which cannot be formed using the letters given in the words.

CHIEF MINISTER

- (A) SISTER
- (B) FISH
- (C) NEST
- (D) THIEF

Directions: In questions no. 40 and 41, find the missing number in the series.

- 40. 1, 5, 14, 30, 55, ?
 - (A) 91
- (B) 95
- (C) 93
- (D) 90
- 41. 1234 (36) 5678

2345 (?) 6789

- (A) 41
- (B) 40
- (C) 33
- (D) 44
- 42. A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.

- (A) 628
- (B) 459
- (C) 531
- (D) 327
- Find the odd one from the given alternatives.
 - (A) Inland letter
 - (B) Envelope
 - (C) Scribbling pad
 - (D) Aerogramme

Directions: In questions no. 44 to 46, find the related word from the given alternatives.

- 4. Philatelist : Stamps : : ?
 - (A) Numismatist : Coins
 - (B) Astrologer: Predictions
 - (C) Carpenter : Saw
 - (D) Runner: Sneakers
- 45. Page : Pen : : Computer : ?
 - (A) Keyboard
- (B) Monitor
- (C) CPU
- (D) Cartridge
- 46. Wimbledon Trophy: Tennis:: Walker Cup: ?
 - (A) Wrestling
- (B) Golf
- (C) Hockey
- (D) Polo
- 47. Six persons A, B, C, D, E and F are walking in a line. C is in front of B. D is behind A, but in front of C. E is behind A, but in front of D. F is in front of A. Who is walking on the extreme back?
 - (A) F
- (B) D
- (C) B
- (D) C
- 48. B is South-West of A, C is to the East of B and South-East of A and D is to the North of C in line with B and A. In which direction of A is D located?
 - (A) South-West
- (B) North-East
- (C) North
- (D) East
- 49. If in a language VARANASI is coded as WBSBOBTJ, which word would be coded as BMJSBHI?
 - (A) ALIARHG
- (B) ALIGRAH
- (C) ALIGARII
- (D) ALIRAGH
- 50. Raju introduced a man, "He is my daughter's maternal uncle's nephew's grandfather." How is Raju related with the man?
 - (A) Brother-in-law
- (B) Father-in-law
- (C) Son-in-law
- (D) Maternal uncle

PART - B : GENERAL AWARENESS

For which tax, was constitutional status Value-added means value of 51. given much later after its introduction in a (A) goods and services less of small way in 1994 - 95 ? intermediate goods and services (A) Income Tax (B) Customs Duty (B) output at factor cost (C) Corporation Tax (D) Taxes on Services (C) output at market prices The first Sultan who requested and obtained 59. goods and services less depreciation letters of investiture from the Caliph 52. The difference between GNP and NNP (Khalifa) was equals (A) Alauddin Khilji (B) Iltutmish (A) depreciation (B) corporate profits (D) Firuz Tughluq (C) Balban (D) transfer payments personal taxes 60. The Buddhist monk who spread Buddhism in Who decides a 'bill' is a money bill ? 53. (A) President (A) Padmasambhaya (B) Nagarjuna (B) Prime Minister (C) Ananda (D) Asanga (C) Speaker of Lok Sabha In 1937, an educational conference endorsing 61. (D) Chairman of Rajya Sabha Gandhi's proposals for 'basic education' through the vernacular medium was held at Which of the following countries is regarded as 54. (A) Wardha (B) Surat the home of 'Fabian Socialism'? (C) Bombay (D) Ahmedabad (A) Italy (B) Russia 62. "What is the Third Estate ?" pamphlet -(D) France (C) England associated with the French Revolution, was Stagflation refers to a situation which is 55. written by characterised by (A) Abbe Sieves (B) Marquis Lafayette (A) inflation and rising unemployment (C) Edmund Burke (D) Joseph Foulon stagnant employment and deflation 63. Gandhi's Salt Satyagraha was a part of deflation and rising unemployment (A) Civil Disobedience Movement inflation and rising employment (B) Champaran Satyagraha 56. The demand for necessities is (C) Quit India Movement (A) perfectly elastic (D) Non-Cooperation Movement elastic (B) 64. Which of the following high dignitaries, who (C) perfectly inclastic are not members of Parliament, has the (D) inelastic right to address it ? (A) Chief Election Commissioner of India The balance of payments of a country is in Chief Justice of India equilibrium when the Attorney General of India (C) (A) demand for the domestic currency is the Solicitor General of India lowest The Declaration of American Independence (B) demand as well as supply of the 65. was based on the theory of domestic currency are the highest (A) Natural Rights (C) demand for the domestic currency is

(B)

(D)

Civil Rights

Moral Rights

Legal Rights

equal to its supply

highest

(D) demand for the domestic currency is the

69

66.	The nuclear particle having no mass and no charge, but only spin is	75.	Which strait separates Australia and Tasmania?
	(A) electron (B) proton (C) neutrino (D) meson		(A) Berring (B) Bass (C) Bab-el-Mandeb (D) Palk
67.	The technology that is used to establish wireless networking is	76.	In plant – water relationships, symbol ' ψ_{w} ' is used to represent
	(A) Bluetooth (B) TCP/IP (C) J2ME (D) MATLAB		(A) Osmosis (B) Osmotic pressure (C) Water potential (D) Solute potential
68.	What is USB ? (A) Urgent Sent Bit	77.	A molecule in plants comparable to haemoglobin in animals is
	(B) Ultimate Service Bit (C) Universal Sent Bit		(A) Carotene (B) Cytochrome (C) Cellulose (D) Chlorophyll
69.	(D) Universal Serial Bus In a period from Li to F, ionisation potential	78.	An Antigen is
02.	(A) remains same (B) cannot be predicted (C) increases		(A) the residue of an Antibody (B) the result of Antibody (C) the opposite of Antibody (D) the stimulus for Antibody formation
70.	(D) decreases Which of the following metals can deposit	79.	Blood does not coagulate inside the body due to the presence of
	(A) Gold (B) Platinum (C) Mercury (D) Iron		(A) Fibrin (B) Plasma (C) Haemoglobin (D) Heparin
71.	The atmospheric layer farthest from the Earth's surface is known as	80.	Leech is an ectoparasite on cattle, which is (A) Herbivorous (B) Carnivorous
	(A) Mesosphere (B) Stratosphere (C) Exosphere (D) Ionosphere	81.	(C) Omnivorous (D) Sanguivorous How many chambers does a mammalian
72.	The temperate grasslands of South America are called		heart have ? (A) 3 (B) 4 (C) 1 (D) 2
	(A) Steppes (B) Prairies (C) Pampas (D) Downs	82.	When Arsenic atoms are added to Germanium lattice it becomes a/an
73.	Contours are the lines which are drawn joining places having (A) equal temperature (B) equal height from mean sea level (C) equal rainfall	83.	 (A) Extrinsic semiconductor (B) Insulator (C) Superconductor (D) Intrinsic semiconductor Photon is the fundamental unit/quantum of
74.	(D) equal air pressure Soil formed by leaching and oxidation is	7	(A) light (B) gravitation (C) electricity (D) magnetism
	(A) Montane soil (B) Black soil	84.	A liquid disturbed by stirring comes to rest due to
	(C) Laterite soil (D) Red soil		(A) centripetal force (B) density (C) surface tension (D) viscosity

	A THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERS	
	(D) Contact bed	(D) Kapil Dev
	(C) Percolating filter	(C) Sunil Gavaskar
	(B) Trickling filter	(B) Christopher Martin Jenkins
	(A) Intermittent sand filter	(A) Tony Greig
92.	The filter over which sewage is sprinkled is called as	100. Who is the author of the book "A Cricketing Life"?
	(C) Antagonism (D) Synergism	(D) Dr. Ramdhari Singh Dinkar
	(A) Independent (B) Additives	(C) Sumitranandan Pant
	of exposure to each chemical individually. This is known as	(B) Mahadevi Verma
	greater than expected on the basis of effects	(A) S.H. Vatsyayan
91.	Exposure to mixtures of chemicals are	99. Who was the first Hindi writer to receive Jnanpith Award?
	(C) Hyper-adiabatic (D) Sub-adiabatic	(C) Vanya Mishra (D) Wenxia Yu
	(A) Super-adiabatic (B) Neutrally stable	(A) Ivian Sarcos (B) Alexandria Mills
90.	The ambient air is stable when the ambient lapse rate is	98. Who won the "Miss World" title for 2012?
0.0	(C) Crab (D) Dogfish	(D) Sanchi Stupa
	(A) Gambusia fish (B) Snail	(C) Sun Temple, Konark
	mosquitoes ?	(B) Khajuraho Temples
	ponds and wells helps in controlling	Heritage Sites is not in Madhya Pradesh? (A) Rock Shelters of Bhimbetka
89.	The release of which of the following into	97. Which one of the following Indian World
	(C) Chlorine (D) Nitrogen	(C) Australia (D) Sri Lanka
	oxyacid ? (A) Fluorine (B) Sulphur	(A) Cuba (B) Brazil
88.	Which one of the following does not form	near the coast of
	(C) Argon (D) Helium	96. The largest coral reef in the world is found
	(A) Neon (B) Krypton	(D) M. Govinda Rao
	oxygen in the gas cylinders used by divers ?	(B) D. Subba Rao (C) Montek Singh Ahluwalia
87.	Which among the following is used to dilute	(A) Dr. Y.V. Reddy
	(D) Lionel Messi	Commission?
	(C) Christiano Ronaldo	95. Who is the Chairman of the 14th Finance
	(A) Michel Platini (B) Andres Iniesta	(C) One (D) Two
	four years in a row ?	(A) Three (B) Four
	World Player Award (FIFA Ballon d'Or) for	Countries (OPEC) ?
86.	Which football player has won the FIFA	94. How many countries in Africa are members of the Organisation of Petroleum Exporting
	(C) Chris Gayle (D) Marlon Samuels	
8	(A) D. Bravo (B) Ravi Rampaul	(A) South Africa (B) Chile (C) Malaysia (D) Canada
	Cricket team, which won the T-20 World Cup 2012?	Administrative, Legislative and Judicial?
85.	Who was the captain of the West Indies	

PART - C : QUANTITATIVE APTITUDE

101.	A box has 100 blue balls, 50 red balls, 50 black balls. 25% of blue balls and 50% of red balls are taken away. % of black balls at present is	109.	A conical flask is full of water. The flask has base radius r and height h. This water is poured into a cylindrical flask of base radius mr. The height of water in the cylindrical
	(A) 40% (B) 50%		flask is
	(C) 25% (D) $33\frac{1}{2}\%$		(A) $\frac{h}{3m^2}$ (B) $\frac{m}{2h}$ (C) $\frac{h}{2}$ m ² (D) $\frac{2h}{m}$
102,	A and B together can complete a piece of work in 12 days, B and C can do it in 20 days and C and A can do it in 15 days. A, B and C together can complete it in (A) 10 days (B) 12 days (C) 6 days (D) 8 days		A dozen pairs of socks quoted at ₹ 180 are available at discount of 20%. How many pairs of socks can be bought for ₹ 48? (A) 5 pairs (B) 3 pairs (C) 4 pairs (D) 2 pairs
103.	A and B together can complete a work in 3 days. They start together. But, after 2 days, B left the work. If the work is completed after 2 more days, B alone could do the work in (A) 8 days (B) 10 days (C) 4 days (D) 6 days		The marked price of a table is ₹ 12,000. If it was sold for ₹ 10,500 after allowing a certain discount, then the rate of discount is (A) 15% (B) 17.5% (C) 10% (D) 12.5%
104.	A does 20% less work than B. If A can complete a piece of work in $7\frac{1}{2}$ hours, then B		The marked price of a radio set is ₹ 480. The shopkeeper allows a discount of 10% and gains 8%. If no discount is allowed, his gain
	can do it in		percent would be . (A) 20% (B) 25% (C) 18% (D) 18.5%
	(A) 8 hours (B) 10 hours		The prices of a school bag and a shoe are
	(C) 4 hours (D) 6 hours		in the ratio 7:5. The price of a school bag is ₹ 200 more than the price of a shoe. Then the
105.	A rational number between $\frac{3}{4}$ and $\frac{3}{8}$ is		price of a shoe is
	(A) $\frac{9}{16}$ (B) $\frac{12}{7}$ (C) $\frac{7}{3}$ (D) $\frac{16}{9}$		(A) ₹ 1,200 (B) ₹ 200 (C) ₹ 700 (D) ₹ 500 A sum of ₹ 300 is divided among P, Q and R in
106.	Product of two co-prime numbers is 117. Then their L.C.M. is		such a way that Q gets ₹ 30 more than P and R gets ₹ 60 more than Q. The ratio of their share is
	(A) 39 (B) 117 (C) 9 (D) 13		(A) 2:5:8 (B) 5:3:2
107.	square and the diagonal of the square. The ratio of the areas of the smaller circle and the larger circle is	115.	(C) 2:3:5 (D) 3:2:5 The average of nine numbers is 50. The average of the first five numbers is 54 and that of the last three numbers is 52. Then the
	(A) $1:\sqrt{2}$ (B) $1:2$		sixth number is (A) 44 (B) 30 (C) 34 (D) 24
100	(C) 1:4 (D) $\sqrt{2}:\sqrt{3}$		The average of the first nine integral
108.	The total surface area of a sphere is 8π square unit. The volume of the sphere is		multiples of 3 is (A) 18 (B) 21 (C) 12 (D) 15
	(A) $\frac{8\sqrt{3}}{5}\pi$ cubic unit (B) $\frac{8\sqrt{2}}{3}\pi$ cubic unit	117.	An article is sold for ₹ 300 at a profit of 20%. Had it been sold for ₹ 235, the loss percentage
	(C) $\frac{8}{3}\pi$ cubic unit (D) $8\sqrt{3}\pi$ cubic unit	1	would have been (A) 6 (B) 16 (C) 3 (D) 5
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- 118. If $\frac{4x-3}{x} + \frac{4y-3}{y} + \frac{4z-3}{z} = 0$, then the 126. N is the foot of the perpendicular from a value of $\frac{1}{x} + \frac{1}{v} + \frac{1}{z}$ is
- (A) 6 (B) 9 (C) 3 (D) 4
- 119. Find the simplest value of $2\sqrt{50} + \sqrt{18} \sqrt{72}$ (given $\sqrt{2} = 1.414$).
 - (A) 8·484
- (B) 4·242
- (C) 9-898
- (D) 10.312
- 120. If $a^2 + b^2 + 4c^2 = 2(a + b 2c) 3$ and a, b, c are real, then the value of $(a^2 + b^2 + c^2)$ is
 - (A) $2\frac{1}{4}$ (B) 3 (C) $3\frac{1}{4}$ (D) 2
- 121. A number x when divided by 289 leaves 18 as the remainder. The same number when divided by 17 leaves y as a remainder. The value of y is
 - (A) 1
- (B) 5 (C) 2 (D) 3
- 122. Two cars are moving with speeds v1, v2 towards a crossing along two roads. If their distances from the crossing be 40 metres and 50 metres at an instant of time then they do not collide if their speeds are such that
 - (A) $v_1 : v_2 = 25 : 16$
 - (B) $v_1 : v_2 = 16 : 25$
 - (C) $v_1: v_2 \neq 4:5$
 - (D) v₁ : v₂ ≠ 5 : 4
- 123. A certain distance is covered at a certain speed. If half of this distance is covered in double the time, the ratio of the two speeds is
 - (A) 2:1
- (B) 1:2
- (C) 4:1
- (D) 1:4
- 124. The simple interest on ₹ 4,000 in 3 years at the rate of x% per annum equals the simple interest on ₹ 5,000 at the rate of 12% per annum in 2 years. The value of x is

 - (A) 9% (B) 10% (C) 6% (D) 8%
- 125. If $x^2 3x + 1 = 0$, then the value of $x^2 + x + \frac{1}{x} + \frac{1}{x^2}$ is
- (B) 10
- - (D) 6 (C) 2

- point P of a circle with radius 7 cm, on a diameter AB of the circle. If the length of the chord PB is 12 cm, the distance of the point N from the point B is
 - (A) $10\frac{2}{7}$ cm (B) $6\frac{5}{7}$ cm
 - (C) $12\frac{2}{7}$ cm (D) $3\frac{5}{7}$ cm
- 127. An equation of the form ax + by + c = 0where $a \neq 0$, $b \neq 0$, c = 0 represents a straight line which passes through
 - (A) (3, 2) .
- (B) (2, 4)
- (C) (0, 0)
- (D) None of these
- 128. The numerator of a fraction is 4 less than its denominator. If the numerator is decreased by 2 and the denominator is increased by 1, then the denominator becomes eight times the numerator. Find the fraction.

- (A) $\frac{2}{7}$ (B) $\frac{3}{8}$ (C) $\frac{3}{7}$ (D) $\frac{4}{8}$
- 129. If $x^2 = y + z$, $y^2 = z + x$ and $z^2 = x + y$, then the value of $\frac{1}{1+x} + \frac{1}{1+y} + \frac{1}{1+z}$ is
 - (A) 0
- (B) -1 (C) 1
- (D) 2
- In a triangle ABC, ∠ A = 90°, ∠ C = 55°, AD ⊥ BC. What is the value of ∠ BAD ?
 - (A) 55° (B) 35° (C) 60°

- (D) 45°
- 131. If G is the centroid of Δ ABC and \triangle ABC = 48 cm², then the area of \triangle BGC is
 - (A) 24 cm²
- (B) 32 cm²
- (C) 8 cm²
- (D) 16 cm²
- The diagonals AC and BD of a cyclic quadrilateral ABCD intersect each other at the point P. Then, it is always true that
 - (A) AP . CD = AB . CP
 - (B) $BP \cdot AB = CD \cdot CP$
 - $AP \cdot CP = BP \cdot DP$
 - $AP \cdot BP = CP \cdot DP$

- 133. If $\cos \theta + \sin \theta = \sqrt{2} \cos \theta$, then $\cos \theta \sin \theta$ | 142. The value of
 - (A) $\sqrt{2} \sin \theta$
- (B) √2 tan θ
- (C) $-\sqrt{2}\cos\theta$
- (D) $-\sqrt{2} \sin \theta$
- 134. If $\tan \alpha = n \tan \beta$ and $\sin \alpha = m \sin \beta$, then cos2 a is
 - $m^2 + 1$ (A)
- $\frac{m^2}{n^2}$
- (D) $\frac{m^2-1}{n^2-1}$
- 135. If $\cos^4 \theta \sin^4 \theta = \frac{2}{3}$, then the value of $1 - 2 \sin^2 \theta$ is (A) $\frac{1}{3}$ (B) $\frac{4}{3}$
- (C) 0
- 136. If O be the circumcentre of a triangle PQR and ∠ QOR = 110°, ∠ OPR = 25°, then the measure of Z PRQ is
- (A) 60° (B) 65° (C) 50°
- (D) 55°
- 137. A vertical stick 12 cm long casts a shadow 8 cm long on the ground. At the same time, a tower casts a shadow 40 m long on the ground. The height of the tower is
 - (A) 70 m
- (B) 72 m
- (C) 60 m
- (D) 65 m
- 138. A. B. C. D are four points on a circle. AC and BD intersect at a point E such that ∠BEC = 130° and ∠ECD = 20°. ∠BAC is (A) 110° (B) 120° (C) 90° (D) 100°

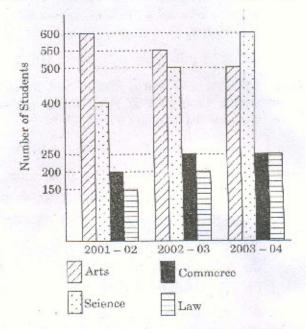
then the triangle is

- 139. In a triangle, if three altitudes are equal,
 - (A) Isosceles (C) Equilateral
- (B) Obtuse (D) Right
- 140. The tops of two poles of height 24 m and 36 m are connected by a wire. If the wire makes an angle of 60° with the horizontal, then the length of the wire is
 - (A) 6√3 m
- (B) 6 m
- (C) 8√3 m
- (D) 8 m
- 1 141. The value of cosec 0 - cot 0 $\sin \theta$
 - (A) tan θ
- (B) 1
- (C) cot θ
- (D) cosec θ

- $\frac{1}{(1+\tan^2\theta)} + \frac{1}{(1+\cot^2\theta)}$
 - (A) $\frac{1}{2}$ (B) $\frac{1}{4}$ (C) 1 (D) 2

- 143. If $\tan \theta = \frac{3}{4}$ and 0 is acute, then cosec 0

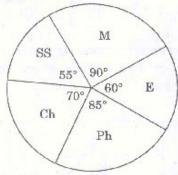
Directions: Shown below is the multiple bar diagram depicting the changes in the roll strength of a college in four faculties from 2001 - 02 to 2003 - 04.



Study the above bar diagram and answer the questions no. 144 to 146.

- 144. Percentage of increase in Science students in 2003 - 04 over 2001 - 2002 is
 - (A) 66²/₃% (C) 50%
- (B) 75%
- (D) 150%
- 145. The percentage of students in Science faculty in 2001 - 2002 is
 - (A) 29.6%
- (B) 30.2%
- (C) 26-9%
- (D) 27-8%
- 146. The percentage of students in Law faculty in 2003 - 04 is
 - (A) 16-7%
- (B) 14.8%
- (C) 18.5%
- (D) 15.6%

Directions : The following pie-chart shows the 145. marks scored by a student in different subjects - viz. Physics (Ph), Chemistry (Ch), Mathematics (M), Social Science (SS) and English (E) in an examination. Assuming that total marks obtained for the examination is 810, answer the questions no. 147 - 150.



- 147. The difference of marks between Physics and Chemistry is same as that between
 - (A) English and Social Science
 - (B) Chemistry and Social Science
 - (C) Physics and English
 - (D) Mathematics and English
- 148. The marks obtained in Mathematics and Chemistry exceed the marks obtained in Physics and Social Science by
 - (A) 45 (B) 50
- - (C) 30
 - (D) 40
- 149. The subject in which the student obtained 135 marks is
 - (A) Mathematics
- (B) English
- (C) Physics
- (D) Chemistry
- 150. The marks obtained in English, Physics and Social Science exceed the marks obtained in Mathematics and Chemistry by
 - (A) 11%
- (B) $11\frac{1}{2}\%$
- (C) 10%
- (D) 10¹/₂%

FOR VISUALLY HANDICAPPED CANDIDATES ONLY

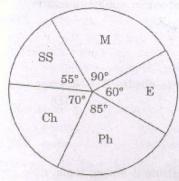
- 144. 7 120 is divided among X, Y and Z so that X's share is ₹ 20 more than Y's share and ₹ 20 less than Z's. What is Y's share?
 - (A) ₹ 20
- (B) ₹ 15
- (C) ₹ 30
- (D) ₹ 25

- A tangent PT from P to a circle of radius 8 cm has its length 15 cm. The distance of P from the centre of the circle is
 - (A) 18 cm
- (C) 16 cm
- (D) 17 cm
- 146. If $x \cos \theta = 3$ and $4 \tan \theta = y$, then the relation between x and y, which is independent of 0, is given by
 - (A) $\frac{9}{x^2} \frac{16}{y^2} = 1$ (B) $\frac{x^2}{9} \frac{y^2}{16} = 1$

 - (C) $\frac{9}{x^2} + \frac{16}{x^2} = 1$ (D) $\frac{x^2}{9} + \frac{y^2}{16} = 1$
- 147. If the numerator of a fraction is increased by 200% and the denominator of the fraction is increased by 150%, the resultant fraction is 35. The original fraction is
 - (A) $\frac{2}{15}$ (B) $\frac{3}{10}$ (C) $\frac{3}{14}$ (D) $\frac{3}{16}$

- The highest score in an innings was $\frac{3}{11}$ of the total and the next highest was $\frac{3}{11}$ of the remainder. If the scores differed by 9, then the total score is
 - (A) 121
- (B) 132
- (D) 110
- Three boys step off from the same places. If their steps measure 36 cm, 48 cm and 54 cm respectively, at what distance from the point will they again step starting together?
 - (A) 3 m 32 cm
- (B) 4 m 32 cm
- (C) 1 m 32 cm
- (D) 2 m 32 cm
- x is one more than 3 times 'a', y is 7 less than twice 'a', z is 3 less than 'a'. If 6 times the square of z is 7 less than x multiplied by y, then the value of 'a' is
 - -1
 - (B) 4
- (C) 3
- (D) 2

विभिन्न विषयों में प्राप्त अंक दर्शाता है, यथा भौतिकी (Ph). रसायन (Ch), गणित (M), सामाजिक विज्ञान (SS) और अंग्रेज़ी (E) । मान लें कि परीक्षा के लिए प्राप्त कुल अंक 810 हैं । प्रश्न सं. 147 - 150 के उत्तर दें।



- 147. भौतिकी और रसायन के बीच अंकों का अंतर उतना ही है जितना _____ के बीच ।
 - (A) अंग्रेज़ी और सामाजिक विज्ञान
 - (B) रसायन और सामाजिक विज्ञान
 - (C) भौतिकी और अंग्रेज़ी
 - (D) गणित और अंग्रेज़ी
- 148. गणित तथा रसायन में प्राप्त अंक भौतिकी तथा सामाजिक विज्ञान में प्राप्त अंकों से कितने अधिक हैं ?
 - (A) 45 (B) 50 (C) 30
- (D) 40 149. छात्र ने किस विषय में 135 अंक प्राप्त किए ?
 - (A) गणित
- (B) अंग्रेज़ी
- (C) भौतिकी
- (D) **रसाय**न
- 150. अंग्रेज़ी, भौतिकी और सामाजिक विज्ञान में प्राप्त अंक गणित तथा रसायन में प्राप्त अंकों से कितने अधिक हैं ?
 - (A) 11%
- (B) $11\frac{1}{9}\%$
- (C) 10%
- (D) $10\frac{1}{9}\%$

केवल दृष्टिबाधित उम्मीदवारों के लिए

- 144. X, Y और Z के बीच ₹ 120 को इस प्रकार विभाजित किया जाता है कि X का अंश Y के अंश से ₹ 20 अधिक है और Z के अंश से ₹ 20 कम है। Y का अंश कितना होगा ?
 - (A) ₹ 20
- (B) ₹ 15
- (C) ₹ 30
- (D) ₹ 25

- निर्देश : निम्नलिखित वृत्तारेख एक छात्र द्वारा एक परीक्षा में 145. 8 सेमी त्रिज्या वाले वृत्त पर P से स्पर्श रेखा PT की लंबाई 15 सेमी हैं । वृत्त के केन्द्र से P की दरी कितनी होगी ?
 - (A) 18 सेमी
- (B) 20 सेमी
- (C) 16 सेमी
- (D) 17 सेमी
- 146. यदि $x \cos \theta = 3$ और $4 \tan \theta = y$, तो x और y का सम्बन्ध जो 0 से स्वतंत्र है, किस प्रकार निर्धारित किया जाएगा ?

(A)
$$\frac{9}{x^2} - \frac{16}{v^2} = 1$$
 (B) $\frac{x^2}{9} - \frac{y^2}{16} = 1$

(B)
$$\frac{x^2}{9} - \frac{y^2}{16} = 1$$

(C)
$$\frac{9}{x^2} + \frac{16}{x^2} = 1$$

(C)
$$\frac{9}{\dot{x}^2} + \frac{16}{\dot{y}^2} = 1$$
 (D) $\frac{\dot{x}^2}{9} + \frac{\dot{y}^2}{16} = 1$

- 147. यदि किसी भिन्न के अंश को 200% तक बढाया जाता है और भिन्न के हर को 150% तक बढ़ाया जाता है, तो परिणामी भित्र $\frac{9}{35}$ आती है । बताइए मूल भिन्न क्या होगी ?
 - (A) $\frac{2}{15}$ (B) $\frac{3}{10}$ (C) $\frac{3}{14}$ (D) $\frac{3}{16}$

- **148.** एक पारी में सर्वाधिक स्कोर कुल स्कोर का $\frac{3}{11}$ था और अगला सर्वोधिक स्कोर शेष स्कोर का $\frac{3}{11}$ था । यदि स्कोर में 9 का अंतर हो, तो कुल स्कोर कितना था ?
 - (A) 121
- (B) 132
- (C) 99
- (D) 110
- 149. तीन लड़के एक ही स्थान से चले । यदि उनके कदम क्रमशः 36 सेमी, 48 सेमी और 54 सेमी थे, तो प्रस्थान बिन्दु से कितनी दूरी पर वे फिर से एक-साथ कदम रखेंगे ?

 - (A) 3 मी. 32 सेमी (B) 4 मी. 32 सेमी
 - (C) 1 मी. 32 सेमी
- (D) 2 मी. 32 सेमी
- 150. x 'a' के 3 गुणा से एक अधिक है, y 'a' के दो गुणा से 7 कम है, z'a' से 3 कम है। यदि z के वर्ग का 6 गुणा, x और y के गुणनफल से 7 कम है, तो 'a' का मान क्या होगा ?
 - (A) -1
 - (B) 4
- (C) 3
- (D) 2

PART - D: ENGLISH COMPREHENSION

Directions: In questions no. 151 to 155, some parts of the sentences have errors and some are correct. Find out which part of a sentence has an error and blacken the oval (\bullet) corresponding to the appropriate letter (A, B, C). If a sentence is free from error, blacken the oval corresponding to (D) in the Answer Sheet.

151.	If we have no definite aim before us / we wou (A)	ld on	nly wonder about in aimless pursuits / عربه (عربه)
	and achieve nothing. / No error.		
152.	He is anxious not only / to acquire knowledge \sim (B)	/ but	t also eager to display it. / No error. (C) (D)
153.	I went to / see the Taj Mahal / in a moonlit in (A) (B) (C)	ight.	. / No error. (D)
154.	Having found a piece of cheese, / two cats wer (A) (E)		a dog / to divide it among them. / No error. (D)
155.	Being a holiday, / we went out / for a picnic.	No .	
are appro- for ea of th	ctions: In questions no. 156 to 160, sentences given with blanks to be filled with an opriate word(s). Four alternatives are suggested ach question. Choose the correct alternative out he four and indicate it by blackening the opriate oval () in the Answer Sheet. the new Safari Storme, Mahindra		from the island to escape the military and its atrocities. (A) flew (B) flown (C) flee (D) fled
100.	has more leverage in increasing the sales. (A) In (B) With (C) At (D) On	four	ections: In questions no. 161 to 163, out of the alternatives, choose the one which best expresses meaning of the given word and mark it in the
157.	The passenger car sales showed a decline 7% to 5.6%. (A) to (B) from	Ansu	wer Sheet. Hallucination (A) deception (B) delusion
158.	and carbohydrates in some of the imported	182,	
	chocolates. (A) neglected (B) neglecting (C) negligent (D) negligible		(A) lustful (B) angry (C) unhappy (C) satisfied
159.	I'm not as successful she is. (A) than (B) then (C) as (D) like	163.	Derive (B) contain (C) attain (D) sustain

Directions: In questions no. 164 to 166, choose the Directions: In questions no. 172 to 181, a word opposite in meaning to the given word and mark it in the Answer Sheet.

- 164. Aggravate
 - (A) alleviate
- (B) depreciate
- (C) extinguish
- (D) subsidise
- 165. Indelible
 - (A) temporary
- (B) decorous
- (C) surprising
- (D) concerted
- 166. Retrench
 - (A) recruit
- (B) revamp
- (C) belie
- (D) deviate

Directions : In questions no. 167 to 171, four alternatives are given for the Idiom/Phrase underlined in the sentence. Choose the alternative the meaning of best expresses Idiom/Phrase and mark it in the Answer Sheet.

- 167. Over the years, we remained loyal through thick and thin.
 - (A) in spite of all the difficulties
 - (B) to our principles
 - (C) to employers and subordinates
 - (D) in married life
- 168. My ten-year-old son is an incredible live-wire.
 - (A) energetic
- (B) lazy
- (C) dangerous
- (D) naughty
- 169. He had to cool his heels before he could get an appointment with the doctor.
 - (A) to lose one's temper
 - (B) to be kept waiting
 - (C) to make publicly known
 - (D) to excercise influence
- 170. The captains of the rival teams should try to bury the hatchet.
 - *(A) forget the past
 - (B) put up a stiff competition
 - UC) make peace
 - win the game
- 171. He stopped at the bar to wet his whistle.
 - /(A) have a drink
- (B) have a nap
- (C) be happy
- (D) have a problem

sentence/part of the sentence is underlined. Below are given alternatives to the underlined sentence | part of the sentence at (A), (B) and (C) which may improve the sentence. Choose the correct alternative. In case no improvement is needed, your answer is (D)

- 172. The vivid photos of majestic animals and colourful birds from the wild-life park is a graphic depiction of what is beautiful in the continent of Africa.
 - are graphic depictions of what is beautiful in
 - is a beautiful and graphic depiction of
 - is a graphic depiction of what was beautiful in
 - (D) No improvement
- New hires in this laboratory should 173. anticipate excellent research opportunities and getting valuable clinical experience.
 - (A) and also getting (B) and obtaining
 - (C) as well as
- (D) No improvement
- It is more better to take this route than the other one.
 - (A) better
- (B) more good
- (C) good
- (D) No improvement
- 175. She is absent; she must be sick again.
 - She is absent; she is sick again
 - She is absent; she must have been sick again
 - She is absent; she has been sick again (C)
 - (D) No improvement
- 176. Jackie has already gone to the airport she will meet us at the check-in counter.
 - (A) gone to the airport and she will meet us
 - (B) gone to the airport, she ought to meet us
 - (C) gone to the airport and Jackie will meet
 - (D) No improvement
- 177. The place at which the two roads meet, you will find a small log cabin.
 - At the place where the two roads meet
 - The place where the two roads meet
 - Where the two roads meet
 - (D) No improvement

178. The Blue Whale, weighing more than 150	184. One who enjoys inflicting pain on himself				
tons, the largest known animal on Earth.	(A) sadist (B) masochist				
(A) weighing more than 150 tons, is the	(C) nihilist (D) egoist				
(B) which weighs more than 150 tons, being	185. Murder of a brother				
the	(A) Homicide (R) Fratricide				
(C) weighing more than 150 tons, it is	(C) Patricide (D) Regicide				
(D) No improvement	186. More like a woman than a man in manners				
179. Although I was initially apprehensive, I found	and habits				
the eating of snails to be a rather pleasant	(A) Delicate (B) Unmanly				
experience.	(D) Womanish				
(A) I found the snails experienced	187. Handwriting which is difficult or impossible to read				
(B) I found it to be a more pleasant experience	(A) Illogical (B) Unintelligible				
(C) 1 ate the pleasant snail's experience	(C) Eligible (D) Illegible				
(c) The the pleasant shall a experience	188. To play the part of, and function as, some other person				
180. The man atc an apple, an orange, and washed	(A) Act (B) Imitate				
his hands.	(C) Pretend (N) Impersonate				
(A) an apple, an orange, washed his hands (B) an apple, an orange and his washed hands (C) an apple and an orange, and washed his	word is correctly spelt. Find the correctly spelt word				
(C) an apple and an orange, and washed his hands					
(D) No improvement	189. (A) annihillate (B) anihillate (D) anihillate				
181. After we ate a spectacular nine-course dinner,	190. (A) embarrased (B) embarased				
three television shows were watched by us.	(C) embarassed (D) embarrassed				
 (A) we engaged in the watching of three shows 	Directions : In questions no. 191 to 200, you have a				
(B) we watched three television shows	passage with 10 questions. Read the passage carefully and choose the best answer to each question out of the				
(C) we were watching three television shows	four alternatives and mark it by blackening the				
(D) No improvement	appropriate oval () in the Answer Sheet.				
Directions: In questions no. 182 to 188, out of the four alternatives, choose the one which can be substituted for the given words sentence and indicate it by blackening the appropriate and some the property of the substitute of	Many people who are looking to get a pet dog get a puppy. There are many reasons why people get				

Answer Sheet.

(C)

182. Not easily pleased by anything

183. To die without having made a will

(A) Precarious

(A) Insolvent

(C) Inveterate

Maiden

(B) Fastidious

(D) Medieval

(B) Intaglio

(D) Intestate

Many people who are looking to get a pet dog get a puppy. There are many reasons why people get puppies. After all, puppies are cute, friendly, and playful. But even though puppies make good pets, there are good reasons why you should consider getting an adult dog instead. When you get a puppy, you have to teach it how to behave. You have to make sure that the puppy is housebroken so that it does not go to the bathroom inside the house. You have to teach the puppy not to jump up on your guests or chew on your shoes. You have to train the puppy to walk on a leash. This is a lot of work.

On the other hand, when you get an adult dog, there is a good chance that it will already know how to do all of the previously mentioned things. Many adult dogs have already been housebroken. Many adult dogs will not jump on or chew things that you do not want them to jump on or chew. Many adult dogs will be able to walk on a leash without pulling you to the other side of the street.

Puppies also have a lot of energy and want to play all of the time. This can be fun, but you might not want to play as much as your puppy does. Puppies will not always sleep through the night or let you relax as you watch television.

On the other hand, most adult dogs will wait on you to play. What is more, they will sleep when you are sleeping and are happy to watch television on the couch right beside you. There is one last reason why you should get an adult dog instead of a puppy. When most people go to the pound to get a dog, they get a puppy. This means that many adult dogs spend a lot of time in the pound, and some never find good homes. So if you are looking to get a dog for a pet, you should think about getting an adult dog. They are good pets who need good homes.

- 191. The passage speaks of
 - (A) how puppies can be very destructive
 - (B) the work involved in training puppies
 - (C) the immature acts of puppies
 - (D) how puppies do not make good pets
- 192. Which is the best example of a dog that is housebroken?
 - (A) Rover never jumps on guests
 - (B) Muffin chews on people's shoes
 - √(C) Spot goes outside to use the bathroom
 - (D) Rex always breaks things inside the house
- 193. The author apparently thinks that puppies are
 - (A) not as cute as adult dogs
 - (B) not as playful as adult dogs
 - (C) hardworking
 - (D) friendly and playful
- 194. Which is the best synonym for 'behave' as applicable to this passage?
 - (A) train
- (B) act
- (C) listen
- (D) understand

- 195. As used in paragraph 3, which is the best synonym for relax?
 - (A) play
- (B) rest
- (C) work
- (D) leave

The author begins paragraphs 2 and 4 with the phrase, "On the other hand". This phrase is used to

- (A) contradict a later statement
- (B) support the following paragraph
- (C) highlight an example
- (b) contradict previous information

In the final paragraph, the author says "many adult dogs spend a lot of time in the pound, and some never find good homes," Based on the passage, why is this most likely?

- (A) people think that puppies are cute and playful and do not always think about how much work it will take to train them
- (B) People do not want to get a dog that does not have much time left to live
- People see adult dogs as unhappy and dangerous, while they see puppies as cute and friendly
- (D) People understand that most adult dogs still need a lot of training before they understand how to behave properly
- Based on the information in the passage, it can be understood that someone who owns a puppy must be very
- (A) optimistic
- (B) responsible
- (C) strict
- (D) serious
- 199. According to the passage, why is it easier to take care of adult dogs than puppies?
 - Puppies need to learn how to walk well on a leash.
 - II. Adult dogs have less energy than puppies.
 - III. It is harder for adult dogs to find a home than it is for puppies. *
 - (A) II and III only (B) I, II and III
 - (C) I only
- (D)/I and II only

200. Based on the information in the passage, which of the following statements is false?

- -(A) Adult dogs do not like to play
- (B) Adult dogs do not need to eat very much
- (C) Puppies have a lot of energy
- (D) Puppies need a lot of attention