

STATE INSTITUE OF SCIENCE EDUCATION (S.C.E.R.T), PUNJAB, MOHALI

National Talent Search Examination - 2016

State Level Test - 2016

Class - X

MENTAL ABILITY AND SCHOLASTIC APTITUDE TEST

Time: 3 Hours Max. Marks: 200

Instructions for candidates:-

- 1. This exam is in two parts.
- 2. Part-I is related to Mental Ability Test.
- 3. Part-II relates to Scholastic Aptitude Test. It consists 3. ਦੂਜਾ ਭਾਗ ਵਿਸ਼ਿਆਂ ਦੀ ਯੋਗਤਾ ਨਾਲ ਸੰਬੰਧਤ ਹੈ। ਇਸ ਵਿੱਚ of nine subjects, details of which are given below:-
 - Physics i)
- Chemistry ii)
- iii) Biology
- Mathematics iv)
- History
- vi) Geography
- vii) Civics
- viii) Economics
- ix) English
- 4. Each question carries one mark. All questions are compulsory.
- You have been provided with a answer sheet (OMR) for this question paper. Darken the correct option of each question in the answer sheet (OMR) with black/blueink.
- 6. Rough work may be done on the blank space
- 7. There is no negative marking in this question paper.
- 8. Do not use white fluid on OMR Answer Sheet.

ਉਮੀਦਵਾਰਾਂ ਲਈ ਹਦਾਇਤਾਂ:

- ਇਹ ਪ੍ਰੀਖਿਆ ਦੋ ਭਾਗਾਂ ਵਿੱਚ ਹੈ।
- ਪਹਿਲਾ ਭਾਗ ਮਾਨਸਿਕ ਯੋਗਤਾ ਨਾਲ ਸੰਬੰਧਤ ਹੈ।
- ਨੌਂ ਵਿਸ਼ੇ ਹਨ, ਜਿਨ੍ਹਾਂ ਦਾ ਵੇਰਵਾ ਹੇਠ ਦਿੱਤਾ ਹੈ-
 - ਭੌਤਿਕ ਵਿਗਿਆਨ ii) ਰਸਾਇਣ ਵਿਗਿਆਨ
 - iii) ਜੀਵ ਵਿਗਿਆਨ iv)
 - v) ਇਤਿਹਾਸ
- vi) ਭਗੋਲ
- vii) ਨਾਗਰਿਕ ਸ਼ਾਸਤਰ viii) ਅਰਥ ਸ਼ਾਸਤਰ

ਗਣਿਤ

- ix) ਅੰਗ੍ਰੇਜ਼ੀ
- ਹਰ ਇੱਕ ਪ੍ਰਸ਼ਨ ਦਾ ਇੱਕ ਅੰਗ ਹੈ।ਸਾਰੇ ਪ੍ਰਸ਼ਨ ਜ਼ਰੂਰੀ ਹਨ।
- 5. ਤੁਹਾਨੂੰ ਇਸ ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਲਈ ਉੱਤਰ ਸ਼ੀਟ ਦਿੱਤੀ ਗਈ ਹੈ। ਉੱਤਰ ਸ਼ੀਟ (ਓ ਐਮ ਆਰ) ਵਿੱਚ ਪਸ਼ਨ ਦੇ ਸਹੀ ਉੱਤਰ ਨੂੰ ਕਾਲੀ/ਨੀਲੀ ਸਿਆਹੀ ਨਾਲ ਭਰ ਕੇ ਦਰਸਾਓ।
- ਕੱਚਾ ਕੰਮ ਦਿੱਤੀ ਗਈ ਖਾਲੀ ਥਾਂ ਤੇ ਕਰਨਾ ਹੈ।
- 7. ਇਸ ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਵਿੱਖ ਰਿਣਾਤਮਕ (ਨੈਗੇਟਿਵ) ਮਾਰਕਿੰਗ ਨਹੀਂ
- 8. ਉੱਤਰ ਸ਼ੀਟ (ਓ ਐਮ ਆਰ) ਉਪਰ ਵਾਸੀਟ ਫਲਿਉਡ ਦੀ ਵਰਤੋਂ ਨਾ ਕੀਤੀ ਜਾਵੇ।

MENTAL ABILITY

Directions (Q.1-6): There is a number series following a Pattern. One place is left blank. Find the correct answer from the options.

1. 42, 48, 60, 66, 78 _____

(A) 68

(B) 93

(C) 101

(D) 104

2. $\frac{2}{\sqrt{5}}, \frac{3}{5}, \frac{4}{5\sqrt{5}}, \frac{5}{25}, ?$

(A) $\frac{6}{5\sqrt{5}}$

(B) $\frac{6}{125}$

(C) $\frac{7}{25}$

(D) $\frac{6}{25\sqrt{5}}$

3. 15, 31, 64, 131, <u>?</u>

(A) 266

(B) 256

(C) 192

(D) 524

4. In a certain code language "HEALTH" is written as GSKZDG, then how will "North" be written in that code?

(A) OPSUI

(B) GSQNM

(C) FRPML

(D) IUSPO

5. In a certain code language if 'SIR' is written as 'PSPIPR then 'MAN' can be written as

(A) PMANP

(B) PMPAPN

(C) MANP

(D) MPANP

6. Arrange the following words according to dictionary arrangement

(A) Eagle

(B) Earth

(C) Eager

(D) Early

(E) Each

(1) a, e, b, d, c

(2) b, a, d, c, e

(3) b, c, e, d, a

(4) e, c, a, d, b

Directions (Q.7-8): The letters given below follow a definite pattern. Find out the missing letters to complete the pattern.

7. ba _ cb _ b_ bab _

(A) ca bb

(B) ac bb

(C) bc aa

(D) ba cc

8. ab baa ab

(A) baabb

(B) aabab

(C) aaaaa

(D) aabaa

9. Select the combination of numbers so that the letters arranged accordingly will form a meaningful word

D I

F

F

4

R N 5 6

1 2 3 (A) 1, 4, 3, 6, 2, 5

(B) 6, 4, 3, 5, 2, 1

(C) 3, 5, 2, 4, 6, 1

(D) 5, 4, 3, 2, 6, 1

Direction: In the question (Q.10-11): some symbols have been given different meanings Read them Properly and answer the questions with accurate options.

÷ means >

- means =

= means <

 Δ means +

< means ×

> means -

+ means ÷

- 10. (A) $6\Delta 3 < 5 \div 4 < 2\Delta 6$

(B) $6 < 3\Delta 5 = 4 + 2 < 6$

(C) $8+4>5\div 4+2\Delta 6$

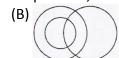
(D) $6+3>5\div 4+2\Delta 6$

11. (A) 2 < 4 < 5 - 6 + 3 < 2 (B) $2\Delta 4 < 5 \div 6 < 3 < 2$

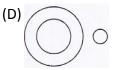
(C) 2 > 4 > 5 = 6 + 2 < 2

- (D) $2 < 4\Delta 5 = 6\Delta 3 > 2$
- 12. Some students are sitting in row. B is sitting on the extreme left of the row, K is sitting between V and R, V is sitting next to M, M is sitting next to B and Q is sitting next to R, who are sitting adjacent to V?
 - (A) Q and K
- (B) R and Q
- (C) M and K
- (D) K and R
- 13. Which figure represents sparrows, Birds and Mice?

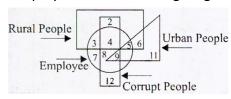








14. Find the urban, corrupt employee in the following diagram:



- (A) 11
- (B)9

(C)7

- (D) 12
- A is taller than B but shorter than C, D is taller than A but shorter than C, E is taller than B 15. but shorter than A. Who is the tallest among them?
 - (A) D

(B) C

(C) B

(D) A

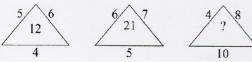
Directions (Q: 16-19) What will come in place of question mark (?)

16.

44	64	100
34	49	169
54	81	ý

- (B) 144
- (C) 225
- (D) 64

17.

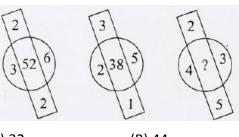


(A) 30

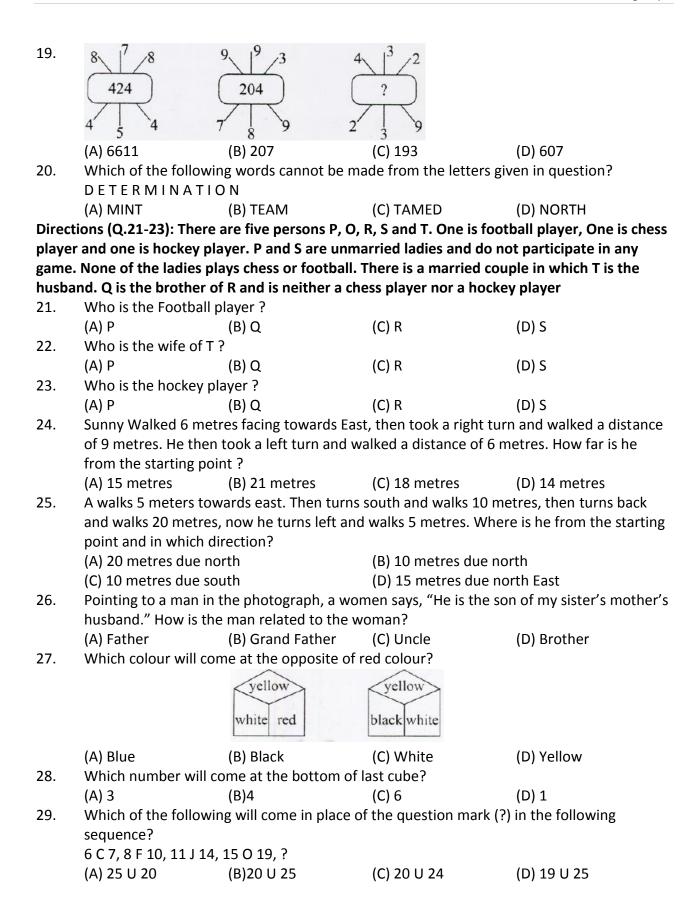
(A) 81

- (B) 22
- (C) 42
- (D) 32

18.



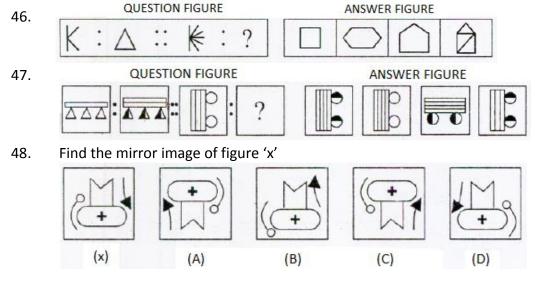
- (A) 32
- (B) 44
- (C)61
- (D) 53



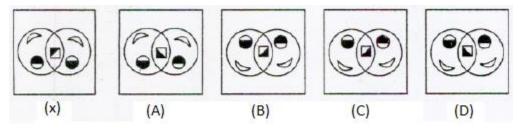
30.	ADG, GJM, MPS, ? (A) SVW	(B) SVY	,				(C) SUW	(D) SWY
31.	A person is to climb	up a tree	60			-	in every second, he cli ble to touch the top of (C) 58	mbs 5 feet, but slips 4
	ions (Q.32-34): quest	ions are	bas	ed	on t	he s	` '	Solve it and answer the
serial i	number for correct o	otion.	Δ	В	C	D	F	
			, ,		C	х		
			_				<u></u>	
			E	D	С	В	<u>A</u>	
32.	Value of A is?	4-3-					(-) -	1 -1
22	(A) 7	(B) 2					(C) 8	(D) 4
33.	Value of B is? (A) 9	(B) 8					(C) 1	(D) 6
34.	Value of D is?	(6) 6					(C) I	(D) 6
31.	(A) 3	(B) 4					(C) 5	(D)7
Directi	• •	equal cu	be	s ar	e ar	ran	ged in the form of a bl	ock as shown in figure.
All the	visible surfaces of th	e block (exc	ept	the	bot	ttom are painted.	
			4	4				
35.	How many Cubes ha		e p	ain [.]	tedî	?		
2.5	(A) 27	(B) 32		,	_		(C) 36	(D) 40
36.	How many cubes ha	=	ne	tace	е Ра	inte		(D) 63
37.	(A) 9 How many cubes ha	(B) 45 ve only ty	WO	face	oc D	aint	(C) 57	(D) 62
57.	(A) 0	(B) 16	vvO	iact	C3 1	anne	(C) 20	(D) 24
38.	Ramesh and Santosh	are ranl	eir r	esp	ecti		• •	rom the top in a class of
39.	` '					owi	ng number sequence e	` '
	immediately precede	ed by 3 o	r 4	but	not	im	mediately followed by	8 or 9?
	359545535845			5 4	5 2	3 5		
	(A) Two	(B) Thr	ee				(C) Four	(D) Five

40.	Arrange the fol given 4 options		erly and cho	ose the pr	oper comb	ination of seq	uence from
	(1) Diwali (5) Holi		dependence	e day (3) C	hristmas	(4) Rep	ublic day
	(A) 1, 3, 5, 2, 4	(B) 4,	5, 2, 1, 3	(C)2,	4, 1, 5, 3	(D) 4, 5	, 1, 2, 3
41.	Which figure ca	n be fitted t	o figure 'x' s	o that it n	nay become	e a complete s	quare?
				7			
	X	(A)	(B)	(C)	(D)		
42.	Figure 'x' is hide	den in which	of the giver	n four figu	res?		
	X	(A)	(B)	(C)	(D)		
43.	Which figure ar				(2)	THE SECOND SECON	ies -
	040 40	0004	?	A00		∆00□△	
				(A)	(B)	(C) (D)	-
44.	Find the two fig of position to p		_		ıt of Positio	n and require	inter changing
					1000 1000 1000 1000 1000 1000 1000 100	c	
	(1) (2)	(3)	(4)	(5)	
45.	(A) 2 and 3 In Problem figu one figure amo	re two dots ng them fulf		This figure	ions as in p	roblem figure.	er figure, only
	PROBLEM FIGU	JKE		ANS	WER FIGURE		
					10	0	
	T		(A)	(B)	(0	(D)	

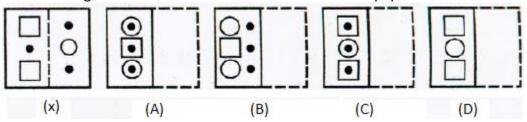
Directions (Q.46-47): In each of the following questions there is a relationship between two figures on the left side of the sign ::, The same relations ship exists between the two, to the right side of sign ::, find the correct alternative.



49. Find the water Image of figure 'x'



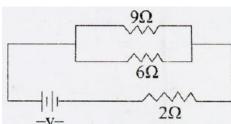
50. A square transparent paper with a pattern is given. Find out from amongst the four alternative figures which would be like the one when the paper is folded at dotted line.



SCHOLASTIC APTITUDE

Physics

- 51. A satellite having circular orbit about the earth has a kinetic energy Ex. What is the minimum amount of energy to be added so that it escapes from the earth.
 - (A) $\frac{Ex}{4}$
- (B) $\frac{Ex}{2}$
- (C) Ex
- (D) 2 Ex
- 52. If power dissipated in the 9Ω resistor in the circuit is 36 watt. The potential difference across the 2Ω resistor is-



- (A) 4 volt
- (B) 8 volt
- (C) 10 volt
- (D) 2 volt
- 53. A ball is released from the top of tower of height h meter. It takes T seconds to reach the ground. What is the position of the ball at T/3 second?
 - (A) $\frac{h}{9}$ m from ground

(B) $\frac{7h}{9}$ m from the ground

(C) $\frac{8h}{9}$ m from ground

- (D) $\frac{17h}{9}$ m from the ground
- 54. A particle undergo uniform circular motion. About which point on the plane of the circle will be angular momentum of the particle remains conserved.
 - (A) Centre of the circle

(B) On the circumstance of circle

(C) Inside the circle

- (D) Outside the circle
- 55. A body has mass 100 kg, what work has to done to increase its velocity from 2m/s to 6m/s.
 - (A) 100 J
- (B) 200 J
- (C) 1600 J
- (D) 600 J
- 56. 1 dioptre is the power of a lens whose focal length is
 - (A) 2 m
- (B) 1 m
- (C) 3 m
- (D) 1.5 m
- 57. The essential difference between AC generator and DC generator is
 - (A) DC generator will generate a higher voltage
 - (B) AC generator will generate a higher voltage
 - (C) AC generator has slip rings while DC generator has a commutator.
 - (D) AC generator has electric magnet where as DC generator has permanent magnet.
- 58. A bullet of mass 60 gm moving with the velocity of 500 m/s is brought to rest in 0.01 sec. Its impulse will be-
 - (A) 40 NS
- (B) -30NS
- (C) -20NS
- (D) +30NS
- 59. The radioactive decay of Uranium into Thorium is represented by equation.
 - $U \rightarrow Th + x$ What will be x
 - (A) electron
- (B) proton
- (C) alpha particle
- (D) neutron

60.			suspended from a rigid o of their time period.	support by threads of length				
	(A) 4	(B) 8	(C) 2	(D) 12				
61.	An electron and p	proton enter a magne	tic field with equal velo	ocities. Which one of them				
	experiences more	e force.						
	(A) electron		(B) proton					
	(C) It cannot be p		(D) Both experier					
62.	Where should an size of the object	object be placed in fr	ont of convex lens to g	et a real image of the same				
	•	al focus of the lens						
	(B) At twice the fo							
	(C) At infinity							
	(D) Between opti	cal centre of the lens	and its principal focus					
63.	The value of 45°c	temperature in Fahre	enheit will be					
	(A) 118°F	(B) 113°F	(C) 120°F	(D) 115°F				
		Ch	nemistry					
64.	You are given a so		•	ou think cannot displace, Ag				
	from AgNO ₃ solut	-		,				
	(A) Magnesium		(C) Gold	(D) Copper				
65.	` '	• •	` '	2 respectively. The two				
		an react to from an ic		. ,				
	(A) A and D	(B) B and C	(C) A and C	(D) B and D				
66.	Out of the follow	ing pair of compound	s the unsaturated com	pounds are-				
	(A) C2H6andC4H6	(B) C_2H_{12} and C_5H_{12}	(C) C_4H_6 and C_6H_{12}	(D) C_2H_6 and C_4H_{10}				
67.	Which of following character-	ng set of elements is w	vritten in order of their	increasing metallic				
	(A) Mg,A1,Si	(B) C, O, N	(C) Na, Li, K	(D) Be, Mg, Ca				
68.	Which of the follo	owing statements are	correct about properti	es of colloids-				
	(A) A colloid is a H	Homogenous mixture						
	(B) The size of particles of a colloid is too small to be individually seen by naked eye.							
	(C) Colloids are big enough to scatter a beam of light passing through it & make its path							
	visible-							
	(1) a,b,c are corre		(2) b and c are co					
60	(3) a and b are co	rrect	(4) a and c are co	rrect				
69.	Assertion (A)	and into Caso Solu	.:	:				
		·	tion the colour of solut	ions changes.				
		er is less reactive tha						
	• •		ot correct reason for A					
	• •	are correct, R is corre	CLIEdSON TOFA.					
	(C) A is correct an(D) A is oncorrect							
	(D) A IS UTILUTIECT	and it is correct.						

70.	(A) N < C < B < Be < Li (C) Li < Be < B < C < N		ding to increasing orde (B) C < Li < N < Be < E (D) B < Be < Li < C < N	3			
71.	Group 16	ing positions in period Group 17	dic table-				
		Α					
	В	 C					
	(A) A is a metal						
	(B) C is smaller in size	e as compared to B					
	(C) Element A gives	negativity charged ior	า				
	(1) a, b and c are cor	rect	(2) only b and c are				
	(3) only b is correct		(4) a and c are corre	ect			
72.		ng is having maximum		(5) 5			
72	(A) Propanone	(B) Benzene	(C) Propene	(D) Propanol			
73.	= -		how many other carb				
74	(A) 1	(B) 2	(C) 3	(D) 4			
74.	of protons in solution	=	ait iii 360 giii 01 water (calculate the total number			
	(A) $21 \times 6.023 \times 10^{23}$		(B) 22.8x6.023x10 ²³				
	(C) 200x6.023x10 ²³		(D) 228x6.023x10 ²³				
75.	• •	hydrovido is usod for	` '	After two to three days of			
13.		=	ormation of compound				
	(A) CaO	_	(C) CaSO ₄				
76.	Which mass of O ₂ (O	xygen molecule) will	contain the same num	ber of molecules as 2.5			
	moles of $C\ell_2$.	, ,					
	(A) 180 gm	(B) 100 gm	(C) 71 gm	(D) 80 gm			
		Biol	ogy				
77.	Which one of the fol	lowing statement is tr					
	(A) In humans there are two pairs of sex chromosome.						
	(B) A child who inherits an x chromosome from father will be a boy.						
			e from father will be a	=			
			e from father will be a	=			
78.		es Pancreatic Juice wh	nich contains	enzyme for			
	digesting proteins.	(D) Amylaca	(C) 7, mass	(D) Truncin			
79.	(A) Lipase	(B) Amylase	(C) Zymase	(D) Trypsin iting are controlled by-			
13.	(A) Cerebellum	(B) Pons	(C) Cerebrum	(D) Medulla			
	(A) CCICDCIIUIII	(0) 1 0113	(C) CCICDIUIII	(D) IVICUUIIA			

- 80. The correct pathway of blood in circulatory sysyem is-
 - (A) Auricles \rightarrow ventricles \rightarrow Arteries \rightarrow Veins
 - (B) Ventricles \rightarrow Auricles \rightarrow Veins \rightarrow Arteries
 - (C) Ventricles \rightarrow Veins \rightarrow Arteries \rightarrow Auricles
 - (D) Veins \rightarrow Ventricles \rightarrow Arteries \rightarrow Auricles
- 81. Heart muscle cells are-
 - (A) Round, unbranched, uninucleate
 - (B) Non cylinderical, branched and uninucleate
 - (C) Cylindrical, unbranched and multi nucleate
 - (D) Cylindrical, branched and uninucleate
- 82. Which of the following is the correct features of 'Lymph'
 - (A) It is similar to the plasma of blood, colourless and contains less protein.
 - (B) Similar to the WBC of blood, colourless and contain more protein.
 - (C) Similar to the RBC of blood and red in colour.
 - (D) It contains more fat.
- 83. Match the item in coloum-I with those in coloum-II and select the correct choice.

	Column I	Column II		
Α	Food Chain	1	Elephant	
В	Food Web	2	Jackal	
С	Herbivore	3	Series of organism feeding on one another	
D	Carnivore	4	Inter linked food chain	

- (1) A-3 D-2 B-4 C-1 (2) A-2 C-3 B-1 D-4 (3) A-1B-2 C-3 D-4 (4) A-4 B-3 C-2 D-1
- 84. Which of the following is not a part of the female reproductive system in human beings.
 - (A) Ovary
- (B) Uterus
- (C) Vasdeferens
- (D) Fallopain tube
- 85. _____ smoothens bone surface at points and is also present in the nose, ear, trachea & larynx.
 - (A) Tendons
- (B) Ligament
- (C) Areolar tissues
- (D) Cartilage
- 86. Which of the following plant group bear naked seeds and usually perennial, evergreen and woody are-
 - (A) Pteridophyta
- (B) Gymnosperms
- (C) Bryophyte
- (D) Angiosperms
- 87. The site for complete digestion of carbohydrates, proteins and fats is-
 - (A) Large intestine
- (B) Stomach
- (C) Small Intestine
- (D) Mouth

88.	(A) Actively dividing(B) Actively dividing(C) Actively dividing	cells with dense cytop cells with dense cytop cellswith little cytopla	eatures of cells of Merilasm, thick cell wall an lasm, thin cell wall and part, thin cell wall and part, thin cell wall and r	d prominent nuclei. I no vacuoles. rominent nuclei.
89.	· · ·	of grass is an example		
	(A) Homologous org	-	(B) Analogous organ	S
	(C) Vestigial organs		(D) Atavism	
90.		ing are sensitive to sul	=	(5) 5
	(A) Algae	(B) Lichens	(C) Mosses	(D) Ferns
		Mather	matics	
91.	If $\frac{37}{13} = 2 + \frac{1}{x + \frac{1}{1}}$,		gers, then the value of	x + y + z is
	$y + \frac{1}{z}$			
	(A) 6	(B) 8	(C) 7	(D) – 2
92.		the value of $Cos^2x(1+$,
	(A) 1	(B) 0	•	(D) - 1
93.	· •	` '	nd the quadratic equat	• •
		is $px^2 + qx + r = 0$ then		
	(A) 2b	(B) 6a-8b	(C) 6b-8a	(D) 0
94.	If S _n denotes the sur	m of first n terms of an	A-P, then the value of	•
	$[(S_{3n} - S_{3n-1}) - (S_{2n} -$	S_{2n-1})]will be		
	(A) $S_{n} - S_{n-1}$	(B) nd	(C) 0	(D) $S_{3n} - S_n$
95.	noted. Probability th	nat the product is less		
	(A) $\frac{1}{36}$	(B) $\frac{4}{9}$	(C) $\frac{17}{26}$	(D) $\frac{2}{0}$
	30	9	36_	9
96.			,x _n is X than Arithm	
	$ax_1 + b, ax_2 + b, ax_3 +$	$b,,ax_n+b$ where	a and b are constants,	will be
	(A) \overline{X}	(B) nax+nb	(C) ax	(D) $ax + b$
97.	_	of class X in that exam	exam is 71 and that of the ratio of the rati	the girls in that class is 73. of number of boys to
	(A) 1:2	(B) 2 : 1	(C) 2:3	(D) 3:2
98.	The altitude of an ed		m. The area of this tria	ingle is
	(A) p ² cm ²	(B) $\frac{\sqrt{3}}{2}$ p ² cm ²	(C) $\frac{p^2}{\sqrt{3}}$ cm ²	(D) $\frac{\sqrt{3}}{4}$ p ² cm ²

99.	The sum of all the tw (A) 743	o digital natural numb (B) 700	ers which are divisible (C) 728	by 7 is (D) 735
100.			65. When the larger nuinder is 15. Find the sr (C) 295	umber is divided by the maller number (D) 300
101.	• •	• •	result is number itself (C) 300	• •
102.	Find the product of $\sqrt[3]{3}$, $\sqrt[4]{3}$, $\sqrt[12]{243}$		_	_
	(A) $\sqrt{3}$	(B) 3	(C) $\sqrt[12]{3}$ (D) $\sqrt[4]{3}$	3
103.	The sum of the ages of the age of youngest of		ne intervals of 3 years of	each is 50 years. What is
			(C) 10 years	(D) 12 years
104.		ng trains is the fastest?		
			(C) 90 km/sec	(D) 100 km/sec
105.	If $y = 5$, then what is	the value of $10y\sqrt{y^3}$ –	y ² ?	
	(A) 50√2	(B) 100	(C) 200√5	(D) 500
106.	The mean of $1^2, 2^2, 3^2$	$4^{2},5^{2},6^{2},7^{2}$, is		
	(A) 10	(B) 20	(C) 30	(D) 40
107.	Simplify	_		
	$3\sqrt{2} + \sqrt[4]{64} + \sqrt[4]{2500} +$			
	(A) $11\sqrt{2}$	(B) 11 ³ √2	(C) $\sqrt[3]{2}$ (D) 11	$\sqrt{4}$
108.	AD is bisector of $\angle A$ m cm, then the lengt		side BC at D. If BC = K	cm, CA = ℓ cm, and AB =
	(A) $\frac{K\ell}{m+\ell}$	(B) $\frac{K(m+\ell)}{\ell}$	(C) $\frac{Km}{m+\ell}$	(D) $\frac{K(m+\ell)}{m}$
109.	If area of a sector of oradius (in cm) is	circle bounded by an a	rc of length 5π cm is e	qual to 20π cm ² then its
	(A) 12 cm	(B) 16 cm	(C) 8 cm	(D) 10 cm
110.	In right angled triang this triangle ABC will		= 5cm,BC = 12cm, then	the area of in circle of
	(A) $4\pi \text{cm}^2$	(B) $2\pi cm^2$	(C) $13\pi \text{cm}^2$	(D) $17\pi \text{cm}^2$
		Histo	WL Z	
111.	(A) Brought home sto (B) Led to increase sa	le of television sets e shown on daily news	elevision war?	

112.		lindu, a Mohammedan, a Parsi, a Christian or of In. Our country is India. Our nationality is Indian."				
	(A) Dada Bhai Naoroji	(B) Surenderanath Banerjee				
	(C) Gopal Krishan Gokhale	(D) Pherozeshah Mehta				
113.	Under which rules the sculpture of four	• •				
113.	(A) Samudragupta	(B) Ashoka				
	(C) Chandragupta	(D) Harsharvardhana				
114.	Who was the first Viceroy of India?	(D) Harshar vardilana				
114.	(A) Lord Clive	(D) Warron Hastings				
	• •	(B) Warren Hastings				
115	(C) Lord William Bentinck	(D) Lord Canning				
115.	To whom, Guru Gobind Singh Ji had wr					
	(A) Babur	(B) Aurangzeb				
	(C) Humayun	(D) Jahangir				
116.	During India's freedom struggle which of Hartal'?	one of the following led to the first 'All India				
	(A) Protest against Jallianwala Bagh Massacre					
	(B) Protest against Row Latt Act					
	(C) Trial of Mahatm Gandhi					
	(D) Arrival of Simon Commission					
117.	In 1878 the Vernacular Press Act was m	nodelled on the				
	(A) French Press Laws	(B) British Press Laws				
	(C) Irish Press Laws	(D) Scottish Press Laws				
118.	Who was the famous Sultan of Lodhi D	ynasty?				
	(A) Sikander Lodhi	(B) Ibrahim Lodhi				
	(C) Dilawar Khan Lodhi	(D) Daulat Khan Lodhi				
119.	When was Nazi Party founded?					
	(A) 1917	(B) 1918				
	(C) 1920	(D) 1909				
120.	Who had started Masand system?					
	(A) Guru Har Rai Ji	(B) Guru Angad Dev Ji				
	(C) Guru Nanak Dev Ji	(D) Guru Ramdas Ji				
121.	"Who said these words, 'Tremble, there	• •				
	(A) Robert Darnton	(B) James Lackington				
	(C) Louise/Sebastien Mercier	(D) Thomas Paine				
	Ge	ography				
122.	Which among the following does not be states?	elong to the list of leading sugarcane producing				
	(A) Uttar Pradesh	(B) Andhra Pradesh				
	(C) Madhya Pradesh	(D) Maharashtra				
123.	In which union Territory maximum area	a is under forest?				
	(A) Dadra and Nagar Haveli	(B) Andaman and Nicobar Islands				
	(C) Delhi	(D) Puducherry				

124.	Which agent causes the formation of V-sha	
	(A) Snow	(B) Wind
125	(C) Birds and animals	(D) Water
125.	,.	
	(A) Mountain soil	(B) Marshy soil
426	(C) Desert soil	(D) Saline and alkaline soil
126.	Which of the following state has the highes	·
	(A) Goa	(B) Jammu and Kashmir
	(C) Kerala	(D) Haryana
127.	What is the extent of 'Tropical Heat Zone'?	
	(A) $23\frac{1}{2}^{\circ}$ North to $23\frac{1}{2}^{\circ}$ South	(B) $23\frac{1}{2}^{\circ}$ North to $66\frac{1}{2}^{\circ}$ North
	(C) $23\frac{1}{2}^{\circ}$ South to $66\frac{1}{2}^{\circ}$ South	(D) $66\frac{1}{2}^{\circ}$ North to $66\frac{1}{2}^{\circ}$ South
128.	For which of the following industry, 'Dhariw	val' is famous as an important centre/place.
	(A) Cotton Textile Industry	(B) Woolen Industry
	(C) jute industry	(D) Silk Industry
129.	Which of the major port of India is located i	in Sundarbans Delta?
	(A) Kandla	(B) mumbai
	(C) Chennai	(D) Haldia
130.	Which of the following place is influenced by	y retreating or eastern monsoon?
	(A) Amritsar	(B) Chennai
	(C) Mumbai	(D) Shimla
131.	Which of the following states are the major	products of copper?
	(A) Rajasthan and Madhya Pradesh	(B) Odisha and Rajasthan
	(C) Maharashtra and Gujarat	(D) Madhya Pradesh and Gujarat
132.	Hyderabad is the capital of which state?	
	(A) Telangana	(B) Andhra Pradesh
	(C) Karnatka	(D) Tamil Nadu
	Civio	rs
133.	Who give the idea to establish the 'Lok Ada	lat'?
	(A) Sh. P.N. Bhagwati	(B) Dr. B.R. Ambedkar
	(C) Sh. Lal bahadur Shastri	(D) Dr. T.N. Sheshan
134.	Which words were included in preamble in 1976 -	of Indian constitution by 42 nd amendment in
	(A) Directive Principles	(B) Democratic and Republic
	(C) We the people of India	(D) Socialist, secular and unity of country
135.	Which fundamental right is considered as the	ne 'Pillar of Democracy'.
	(A) Right to equality	(B) Right to religious freedom
	(C) Right to freedom	(D) Right to constitutional remedies

136.	How many members does Pu	injab send for I	Lok Sabha and Rajya Sabha -			
	(A) Lok Sabha -13	Rajya Sabha –	7			
	(B) Lok Sabha - 7	Rajya Sabha –	13			
	(C) Lok Sabha - 117	Rajya Sabha –	245			
	(D) Lok Sabha - 545	Rajya Sabha –	12			
137.	Which rights are not given to	foreigners?				
	(A) Economic Rights	_	(B) Social Rights			
	(C) Political Rights		(D) Civil Rights			
138.	Who is the chairman of the R	ajya Sabha?				
	(A) Speaker		(B) Vice-President			
	(C) President		(D) Prime-minister			
139.	Who can transfer a Governor	from one stat	• •			
	(A) Prime-minister		(B) Parliament			
	(C) President		(D) Supreme Court			
140.	Which Indian Leader gave the	e idea of two n	ations (partition) before independence?			
	(A) Mahatma Gandhi		(B) Jawahar Lal Nehru			
	(C) Liakat Ali		(D) Mohd. Ali Jinah			
141.	How many countries are the	member of U.I	N.O. (United Nations) at present?			
	(A) 193		(B) 150			
	(C) 51		(D) 182			
142.	India opposes strongly –		,			
	(A) United Nations		(B) World peace			
	(C) Racialism and Apartheid p	oolicy	(D) Common Wealth of Nations			
		Econor	nics			
143.	Which equation is true?					
	(A) Real Wages = $\frac{\text{Price Inde}}{\text{No. 1}}$	ex ∨100	(B) Real Wages = $\frac{\text{Money wages}}{\text{Price Index}} \times 100$			
	Money wa	ges	Price illuex			
	(C) Real Wages = $\frac{\text{Money wages} \times \text{Price Index}}{100}$					
	(C) Real Wages =	100	_			
	Money wages					
	(D) Real Wages = $\frac{\text{Price Index}}{\text{Price Index}}$					
144.	Economic activities are not re					
177.			ouse wife			
	(A) Production, consumption and work of House wife.					
	(B) Production, consumption and exchange.(C) Production, exchange and distribution.					
	(D) Consumption, exchange and distribution.					
145.	Socialist Economy has feature		1.			
145.	(a) Govt. Control	cs.	(b) Collective ownership			
	(c) Competition		(d) Freedom of market forces			
	(e) Social welfare		(a) i i cedoni di market idices			
	(A) a, b and c		(B) a, b and d			
	(C) a, b, and e		(D) b, c and d			
	(C) a, b, and E		(D) b, c and d			

146.	On the basis of ownership types of Econom (A) Developed, mixed & capitalistic.	ics are: - (B) Capitalistic, devel	oped and socialistic
	(C) Mixed, developed and under developed	. (D) Socialistic, capita	listic and mixed.
147.	In India which one is not indicator of level of	of economic developm	ent: -
	(A) Per capita income	(B) Expectation of life	2
	(C) Population	(D) Literacy rate	
148.	How many banks were nationalized by Gov		
	(A) 12 (B) 14	(C) 7	(D) 8
149.	Which of the following organisations looks Development in India?	after the credit needs	of Agriculture and Rura
	(A) FCI (B) IDBI	(C) NABARD	(D) ICAR
150.	When there is investment made in the form	n of education, training	g and medical care the
	population becomes: -		
	(A) Working capital	(B) Human capital	
	(C) Fixed capital	(D) Capital growth	
	LANGUAG	E TEST	
	Engli		
Q. (15	1-154) Read the comprehension passage ca		e following questions -
There	are over a quarter of a million plant species.	Only 600 or so are car	nivorous who call,
attract	t and eat bugs. They live in bogs and places v	where the soil lacks	
151	Which statement does the outher most like	Ju agrae with?	
151.	Which statement does the author most like (A) There are too many species of carnivoro	•	
	(B) There are a few plant species in the wor		
	(C) Only a small number of plants are carniv		
	(D) A majority of plants are carnivorous.	701043.	
152.	Which plants traps bugs in its stem and force	ces them to walk forwa	ard?
	(A) Corkscrew plants	(B) Sundews	
	(C) Bladderworts	(D) Pitcher plants	
153.	Which event happens last when Sundews e	· · ·	
	(A) The Sundews create mucilage.		
	(B) The Sundew's tentacles curl in response	to the prey.	
	(C) The bug is attracted to the mucilage.		
	(D) The Sundew releases enzymes.		
154.	Which best defines the word treacherous?		
	(A) Something that provides nutrients.		
	(B) Something that is very bright.		
	(C) Something that tastes delicious.		
	(D) Something that has a hidden danger.		

Q. (155-158) Read the comprehension passage carefully and answer the following questions: -

In 1848, gold was found in California. Thousands of people rushed there to get some. Many people liked living there and decided to stay. At that time there was no train line. In 1860 and 1861, the Pony express was the fastest way to get news to and from the West. It could make the trip in just ten days. The Pony Express had 184 stations along the trail. The stations were around ten miles apart. This is about how far a horse could run at a gallop before tiring. The rider would switch to a new horse at each station and before resting the would give his mail pouch to new rider. The mail never stopped moving, even while the horses and riders rested. Each rider had to weigh less than 125 pounds. Speed was the key. Most of the riders were teenage boys who rode at a fast pace for upto 100 miles a day. If there was an emergency one might have to ride 200 miles in a day. In its time running, the Pony Express only lost one mail pouch. The Pony Express played an important role for a time but it did not last.

- 155. Which best explains why Pony riders had to weigh less than 125 pounds?
 - (A) Heavier men were more expensive
 - (B) Horses were scared of heavier men.
 - (C) Heavier men scared customers.
 - (D) Horses could make quicker with lighter men.
- 156. How fast could the Pony Express take a letter from California to Massoorie?

(A) 24 hours

(B) Ten days

(C) Twenty days

- (D) One month
- 157. About how far did Pony Express riders travel on a usual day?

(A) 10 miles

(B) 200 miles

(C) 100 miles

(D) 2000 miles

158. How many pouches did the Pony Express lose?

(A) Never lost a pouch

(B) One

(C) Two

(D) Too many to keep track

Q. (159-162) Read the following passage and answer the questions based on it.

Nehru was a many sided personality. He enjoyed reading and writing books as much as he enjoyed fighting political and social evils or residing tyranny. In him, the scientist and the humanist were held in perfect balance. While he kept looking at special problems from a scientific stand point, he never forgot that we should nourish the total man. As a scientist, he refused to believe in benevolent power interested in men's affairs. But, as a self proclaimed non-believer, he loved affirming his faith in life and the beauty of nature. Children he adored. Unlike Wordsworth, he did not see him trailing clouds of glory from the recent sojourn in heaven. He saw them as a blossoms of promise and renewal, they only hope for mankind.

- 159. Nehru thought that children
 - (A) Were trailing clouds of glory.
 - (B) Held promise flowers to be loved and admired.
 - (C) Were like flowers to be loved and admired.
 - (D) Held no hope for mankind.

- 160. Nehru enjoyed
 - (A) Reading and writing books
 - (B) Fighting political and social evils
 - (C) Resisting tranny
 - (D) Doing all the above and much more
- 161. Which of the statements reflects Nehru's point of view?
 - (A) Humanism is more important than science.
 - (B) Science is supreme and humanism is subordinate to it.
 - (C) Science and Humanism are equally important.
 - (D) There is no ground between science and humanism.
- 162. A many sided personality means
 - (A) A complex personality
 - (B) A secretive person
 - (C) A person having varied interests
 - (D) A capable person

Q. (163-166) Read the comprehension passage carefully and answer the following questions.

Tigers are the largest and most powerful of all the cat species. Despite all of the tiger's strength, the future of the species is uncertain. It is estimated that at the start of the 20th century, there were over 1,00000 tigers living in the wild whose number has dwindled to just over 3,000. Serious threats that tigers face come from Homo-sapiens better known as humans. Tigers are hunted for many reasons like their striped skin, which is worth \$10,000 in the black market. Though the fur would be an incentive for poachers, other parts of tiger can fetch pretty penny. Some people in China and other Asian countries believe that tigers parts have heling properties. Traditional Chinese medicine calls for the use of tiger bones in some prescriptions. Tigers have also been hunted for the sake of thrill in a game. Humans have done considerable damage through the destruction of habitat. Over the past 100 years tigers have lost 93% of their historic range. A major obstacle to preserve tigers is the enormous amount of territory that each tiger requires. There is no way to preserve the wild tiger population without making large sacrifices.

- 163. Which of the following is not a reason in the paragraph explaining why tigers are hunted?
 - (A) Because tiger's skin is worth a lot of money.
 - (B) Because tiger's parts are used as medicine in some cultures.
 - (C) Because some tigers attach local villagers.
 - (D) Because tigers are hunted for enjoyment by some people.
- 164. Which number is closed to the estimation of the wild tiger population in 2003?
 - (A) 3000

(B) 1,00,000

(C) 140

- (D) 30,000
- 165. Which best explains why tigers have lost so much of their habitat according to the text?
 - (A) Because humans are afraid of tigers.
 - (B) Because tiger's skin is very valuable.
 - (C) Because humans have changed the land.
 - (D) Because tigers need so much space to survive.

- 166. Based on information in the text, which best explains why tigers are poached?
 - (A) Poachers hunt tigers to protect their families from dangerous animals.
 - (B) Poachers hunt tigers for medicine to cure sick family members.
 - (C) Poachers hunt tigers to earn a large amount of money.
 - (D) Poachers hunt tigers because they enjoy killing dangerous animals.

Q. (167-168) The following five sentence come from a single paragraph. The first and last sentence are given. Choose the right order in which the sentences (PQR) should appear to complete the paragraph.

167.	51. While talking to a group, one should fe	J							
	S2 S3								
	S4.								
	S5. It is like the ability to play golf.								
	P. It is not as difficult as most men imagine	2.							
	Q. One should also learn how to think caln	nly and clearly.							
	R. Nor is it a gift bestowed by providence of	on only a few.							
	Choose from the options given below:								
	(A) RPQ	(B) PQR							
	(C) QPR	(D) QRP							
168.	S1. Once king Shantanu met a fisher girl.								
	S2								
	S3								
	S4								
	S5. King Shantanu did not agree to the condition.								
	P. The fisherman agreed to it on one condition that his daughter's son should become th								
	heir to the throne.								
	Q. He fell in love with the girl.								
	R. He went to fisherman to ask for her han	d.							
	Choose from the options given below:								
	(A) RPQ	(B) PQR							
	(C) QPR	(D) QRP							

Q. (169-170) The following questions have the second sentence missing. Choose the appropriate sentence from the given options to complete it.

169.	I. In order to raise company profit, the employees worked hard. II.										
	III. However they offer to work over time without any compensation.										
	(A) They decided to raise the cost of raw material.										
	(B) They decided to pay attention on quality.										
	(C) They store and black market t										
	(D) They demanded two addition										
170.	I. Nothing comes out of nothing.										
	II										
		would favour him without lifting his finger even, is living									
	in a fool's paradise.										
	(A) So, we should work hard.										
	(B) Fate is supreme and everything	ng can be gained by it.									
	(C) So, we should sit idle and hop	e for the best.									
	(D) We should not worry at all ar	nd pay attention only for our welfare.									
Q. (17	'0-171)										
171.	Fill in the blanks with the most appropriate option from the given alternatives.										
	The economic has affected our sales tremendously.										
	(A) Touch down	(B) Show down									
	(C) Slow down	(D) Crack down									
172.	Now the management graduate	can expect to have a life in the city.									
	(A) Menial	(B) Tedious									
	(C) Boring	(D) Prosperous									
173.	The village was by the	earthquake.									
	(A) Dazed	(B) Razed									
	(C) Fused	(D) Bemused									
174.		_ a new member in the organization.									
	(A) Appoint	(B) Commit									
	(C) Detain	(D) Suggest									
175.	The teacher his student										
	(A) Survived	(B) Laughed									
	(C) Berated	(D) Shunted									
176.	The gypsies do not live										
	(A) Broadly	(B) Willingly									
	(C) Voluntarily	(D) Permanently									
177.	She was remarkably in										
	(A) Conducive	(B) Cooperative									
	(C) Accomplished	(D) Fluctuating									

178.	following all the instructions	closely he missed out an important							
1/6.	guidelines.	s closely, he missed out an important							
	(A) Instead of	(B) Inspite of							
	(C) Although	(D) Otherwise							
179.	• •	ngines, it is by the internet users.							
175.	(A) Utilized	(B) Examined							
	(C) Effected	(D) Flabbergasted							
180.	Her silence was taken as agreement	, ,							
	(A) Concluded	(B) Aggravated							
	(C) Tacit	(D) Repented							
Q. (18	1-185) Select the meaning of the underlined	l phrase/ idiom:							
``	,	• •							
181.	Being the head of a family, he finds it difficu	ılt <u>to keep his head above water.</u>							
	(A) To take rest	(B) To work properly							
	(C) To avoid quarrel	(D) To survive easily							
182.	On the eve of inspection, everything was ke	ept <u>in apple pie order.</u>							
	(A) In random order	(B) In perfect order							
	(C) Carelessly	(D) Timely							
183.	Land has always been an <u>apple of discord</u> between two brothers.								
	(A) Cause of quarrel	(B) Cause of happiness							
	(C) Cause of ill health	(D) Cause of contentment							
184.	Mohan had to look <u>high and low</u> before he								
	(A) Everywhere	(B) No where							
	(C) Some where	(D) Always							
185.	We <u>kept our fingers crossed</u> till the final res								
	(A) Felt scared	(B) Kept praying							
	(C) Kept hopeful	(D) Waited anxiously							
O (18	6-192) In the following passage, there are so	ome numbered blanks. Fill in the blanks by							
_	ing the most appropriate word from each bl								
The te	rm "broadband" refers to telecommunicatio	n in which a wide band of frequency is ready to							
) Internet at (189) speed							
		t allows users to (191) data processing							
	gh-speed (192) technologies.								
186.	(A) Quotes	(B) Signals							
	(C) Alarms	(D) Clues							
187.	(A) Agrees	(B) Disables							
	(C) Allows	(D) Instigates							
188.	(A) Access	(B) Digress							
	(C) Regress	(D) Supress							

189. (A) Lower (B) Higher (C) Regular (D) Normal 190. (A) Keypads (B) Mouse (C) Monitor (B) Modems 191. (A) Irregular (B) Advance (C) Optional (D) General 192. (A) Transferred (B) Transmission (C) Fundamental (D) Transcendental Q. (193-198) Choose the correct antonym from the options given below: 193. Abdicate (A) Join (B) Search (C) Abandon (D) Advance 194. Rectify (B) Correct (A) Bear (C) Validate (D) Destroy 195. Respite (A) Break (B) Commencement (D) Continuation (C) Fatigue 196. Upheaval (A) Harmony (B) Radical change (C) Miracle (D) Dynamic 197. Change the voice – He kept us waiting. (A) We had kept waiting by him. (B) We were kept waiting by him. (C) We had been kept waiting by him. (D) Were we kept waiting by him. 198. Who is laughing at the beggar? (A) By whom are the beggar being laughed at? (B) By whom is the beggar being laughed at? (C) Whom are the beggar being laughed at? (D) By whom were the beggar laughed at?

Q. (199-200)

199. Choose the synonym of the underlined word from the given options.

It is very difficult to retain all that you hear in the class.

(A) Keep (B) Preserve

(C) Recall (D) Conserve

200. The story is too fantastic to be <u>credible</u>.

(A) False (B) Readable

(C) Believable (D) Praise worth

Answer Key

National Talent Search Examination – 2016

State Level Test – 2016 Class – X

MENTAL ABILITY AND SCHOLASTIC APTITUDE TEST

 		-	

1. 8. 15. 22. 29. 36. 43.	B D B C B C	2. 9. 16. 23. 30. 37. 44.	D C A C B D	3. 10. 17. 24. 31. 38. 45.	A A D A D D	4. 11. 18. 25. 32. 39. 46.	B C D B D	5. 12. 19. 26. 33. 40.	B C C D C B	6. 13. 20. 27. 34. 41. 48.	D D D B D A	7. 14. 21. 28. 35. 42.	D B C A D
50.	С												
	SCHOLASTIC APTITUDE TEST												
	PHYSICS												
51.	С	52.	С	53.	С	54.	Α	55.	С	56.	В	57.	С
58.	В	59.	С	60.	С	61.	D	62.	В	63.	В		
						CHEM	ISTRY						
64.	С	65.	D	66.	С	67.	D	68.	В	69.	В	70.	Α
71.	В	72.	В	73.	С	74.	D	75.	В	76.	D		
						BIOL	OGY						
77.	D	78.	D	79.	D	80.	Α	81.	D	82.	Α	83.	Α
84.	C	85.	D	86.	В	87.	С	88.	В	89.	Α	90.	В

	MATHEMATICS												
91. 98. 105.	B C D	92. 99. 106.	A C B	93. 100. 107.	C B A	94. 101. 108.	B C A	95. 102. 109.	B B C	96. 103. 110.	D A A	97. 104.	D D
	HISTORY												
111. 118.	C A	112. 119.	A B	113. 120.	B D	114. 121.	D C	115.	В	116.	В	117.	С
GEOGRAPHY													
122. 129.	C D	123. 130.	B B	124. 131.	D A	125. 132.	A A	126.	С	127.	Α	128.	В
	CIVICS												
133. 140.	A D	134. 141.	D A	135. 142.	C C	136.	Α	137.	С	138.	В	139.	С
						ECONO	MICS						
143. 150.	B B	144.	Α	145.	С	146.	D	147.	С	148.	С	149.	С
	LANGUAGE TEST ENGLISH												
151. 158. 165. 172. 179. 186. 193. 200.	C B D A B C B	152. 159. 166. 173. 180. 187. 194.	A B C B C B	153. 160. 167. 174. 181. 188. 195.	D C A D A	154. 161. 168. 175. 182. 189. 196.		155. 162. 169. 176. 183. 190.	D C C D B D	156. 163. 170. 177. 184. 191. 198.	B C A B A B	157. 164. 171. 178. 185. 192. 199.	C A C C D B