A Specially Designed Initiative to Encourage Young Talent by



TALLENTEX 2018 : (08, October 2017)



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Duration: 2 Hrs. | Maximum Marks : 320

 Answer Sheet No.
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Please read the instructions carefully. You are allotted 5 minutes specifically for this purpose.

Things NOT ALLOWED in EXAM HALL : Blank Paper, clipboard, log table, slide rule, calculator, camera, mobile and any electronic or electrical gadget. If you are carrying any of these, then keep them at a place specified by invigilator at your own responsibility.

INSTRUCTIONS

- 1. This Booklet is your Question Paper. DO NOT break seal of Booklet until the invigilator instructs to do so.
- 2. Fill your TALLENTEX Roll No. & Answer Sheet No. in the space provided on the cover page.
- 3. Carefully fill your **PAPER CODE** and present **CLASS** in space provided (Serial No. 6 & 12) of optical response sheet.
- 4. Please make sure that paper you received is of your class only.
- 5. Please make sure that the **Paper Code** Printed on the **Test Booklet Cover Page** and **Inner Pages** are the same. In case of discrepancy, the candidate should immediately report the matter to the Invigilator for replacement of Test Booklet.
- 6. The Answer Sheet is provided to you separately which is a machine readable Optical Response Sheet (ORS). You have to mark your answers in the ORS by darkening bubble, as per your answer choice, by using black or blue ball point pen.
- 7. After breaking the Question Paper seal, check there are **15 pages** in the booklet. This Question Paper contains 80 MCQs with 4 choices (Subjects: Physics: 12, Chemistry: 11, Biology: 12, Maths: 25 & Mental ability: 20).
- 8. Answer once marked by pen cannot be cancelled.
- 9. Each correct answer carries 4 marks. (There is no negative marking)
- 10. If you are found involved in cheating or disturbing others, then your ORS will be cancelled.
- 11. Do not put any stain on ORS and hand it over back properly to the invigilator.
- 12. You can take along the question paper after the test is over.

CLASS-VII / Paper Code - G

SECTION - A : PHYSICS

This section contains **12 Multiple Choice Questions**. Each question has four choices (1), (2), (3) and (4) out of which ONLY ONE is correct.

- 1. Atmospheric pressure is measured by (2) Manometer (1) Barometer (3) Screw gauge (4) Anemometer 2. Which of the following factors affect the image produced by a pinhole camera ? I. Enlarging the size of the pin hole II. Increasing the distance between the screen and the pin hole III. Increasing the distance between the object and the pin hole (1) I and II only (2) II and III only (3) I and III only (4) I, II and III 3. The property of light travelling in a straight line is called : (1) Curvilinear propagation of light
 - (2) Rectilinear propagation of light
 - (3) Both (1) & (2)

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- (4) None of these
- 4. Recently the phenomenon of superconductivity has been observed at 96K. This temperature is nearly-
 - (1) -286.6° F (2) -146° F
 - (3) -368° C (4) 300° C
- 5. You test four different coffee thermos flasks and graph the data for each. The graph that best represents the results of a thermos that would keep coffee hot is



6. A crane operator uses a crane with an electromagnet to move scrap metal over a train car, as shown below.



Which of the following statements describes what the crane operator does to drop the scrap metal into the train car?

- (1) The crane operator turns on a magnetic charge in the scrap metal.
- (2) The crane operator turns off an electric current in the electromagnet.
- (3) The crane operator sends out a signal that causes the train car to become an electromagnet.
- (4) The crane operator sends out a signal that blocks the magnetic properties of the scrap metal.
- 7. Look at the figure shown below.



What is the reason for filling sealing wax for the space between the terminals of the bulb ?

- (1) To prevent current in filament
- (2) To prevent the contact of terminals with one another
- (3) To have better contact of terminals with one another
- (4) To have proper mounting of filament over supporting wires
- 8. Which statement is false?
 - (1) Bulb has one terminal
 - (3) Copper is good conductor of electricity
- **9.** Magnetic pole/poles
 - (1) always exist in pairs
 - (3) have minimum strength

- (2) Electrolyte is present in cell
- (4) Circuit provides closed path for flow of current

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- (2) may exist separately
- (4) does not exist in a horse shoe magnet

(4) 6

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- 10. How many days will make up a total of 3, 45, 600 seconds?
 - (1) 1 (2) 3 (3) 4
- 11. Which bulb(s) will glow if only switch S_1 and S_2 are closed ?



- (1) B_3 and B_5 only
- (3) All bulbs will glow except B_5
- 12. A physical quantity has
 - (1) Always direction
 - (3) Both numerical value & unit

- (2) All bulbs will glow except B_4
- (4) All bulbs will glow
- (2) Only unit but no numerical value
- (4) Neither numerical value nor unit

SECTION-B : CHEMISTRY

This section contains **11 Multiple Choice Questions.** Each question has four choices (1), (2), (3) and (4) out of which ONLY ONE is correct.

13.	Changes in which heat is liberated	l are called :	
	(1) exothermic changes	(2) endothermic chan	nges
	(3) rapid changes	(4) none of these	
14.	Here are some jumbled up words.	Which one of the following relate	es to the silk?
	(1) BELMURRY (2) AERH	SNIG (3) GRAONA	(4) EELCFE
15.	The loss of which of these would	have the least effect on the water	cycle?



The Water Cycle

(1) Ocean

(2) River

(3) Animal

(4) Plants



- **16.** If you perform an experiment bare handed and you realise that your palm has become slippery and slimy. The most probable reason for this is that you have dropped :
 - (1) sodium hydroxide on your hands.
 - (2) hydrochloric acid on your hands.
 - (3) sodium chloride on your hands.
 - (4) None of the above
- 17. Which of the following colour is given by phenolphthalein in a basic solution?
 - (1) Yellow (2) Pink
 - (3) Orange red (4) Colourless
- 18. Which picture illustrates the structure of a molecule of water?



(1) F (2) G (3) H (4) I

- 19. Identify a change that is **not** man made and is irreversible.
 - (1) The burning of paper.
 - (2) The streeting of a spring by a suspended weight.
 - (3) Soil erosion due to floods.
 - (4) The boiling of an egg.

20. Burning piece of wool fabric smells like burning hair. This is because both wool and hair are made up of

(2) fats

(4) carbohydrate

- (1) proteins
- (3) vitamins
- 21. Rotation of fan blade is a
 - (1) permanent change (2) undesirable change
 - (3) non-periodic change (4) periodic change

- 22. The bacterium by which the people working in wool industry get infected is
 - (1) Rhizobium (2) Anthrax
 - (3) Streptococcus (4) Bacillus
- 23. 5 grams of baking soda and 20 grams of vinegar are added together. A bubbling reaction starts.When the reaction is over, the solution weighs 24 grams. Why has the weight changed?
 - (1) A gas has formed and escaped from the mixture.
 - (2) The vinegar has evaporated.
 - (3) Baking soda is lighter when dissolved in vinegar.
 - (4) All of these

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SECTION-C : BIOLOGY

This section contains **12 Multiple Choice Questions.** Each question has four choices (1), (2), (3) and (4) out of which ONLY ONE is correct.

24. Which of these animals is an invertebrate ?





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- (1) A and B (2) C and D (3) A and D (4) B and C
- 29. Identify the joint given in the figure which is found at the top of your spine-



- (1) Hinge joint
- (2) Fixed joint
- (3) Pivot joint
- (4) Ball and socket joint
- **30.** Many processes occur in the digestive system. Which process is best classified as a physical change?
 - (1) Saliva converting the starch molecules into simple sugars
 - (2) Digestive enzymes breaking down proteins into smaller amino acids
 - (3) Bacteria converting lactose into simple sugars in the intestine
 - (4) Teeth grinding an almond into smaller pieces in the mouth
- **31.** In some joints, bones are held so tightly together that they cannot move at all. Bones of skull are interlocked by serrated margins known as
 - (1) Sutures (2) Punctures
 - (3) Rings (4) Sockets
- 32. Which of the given statements is true?
 - (1) Roots of plants are poorly developed in aquatic habitat
 - (2) Stem in cactus plant is reduced
 - (3) Water, soil and air are the biotic factors of a habitat
 - (4) Terrestrial animals respire by gills

- TALLENTEX B
- 33. Which of the parts labelled below holds the plant firmly at one place?



(1) P (2) Q

(4) S

- 34. The movement of plants in response to light is called
 - (1) Phototropism (2) Geotropism
 - (3) Thigmotropism (4) Chemotropism
- **35.** What is X in the figure and what is its function?
 - (1) Small intestine-absorbs nutrients from digested food.
 - (2) Stomach-breaks down food using acids and enzymes.
 - (3) Appendix-has no specific function in the body.
 - (4) Appendix-breaks down food using acids and enzymes.

SECTION-D : MATHEMATICS

This section contains **25 Multiple Choice Questions.** Each question has four choices (1), (2), (3) and (4) out of which ONLY ONE is correct.

36.	Find the predecessor of	f $4 + [3 - 5 + (7 + 2 - 1)]$?					
	(1) 10	(2) 9	(3) 11	(4) None of these				
37.	A number added to on	e-third of itself gives 40	. What is the number ?					
	(1) 20	(2) 30	(3) 40	(4) 10				
38.	If $\frac{2}{5}(5x+1) + \frac{3}{5} = 1$, the	en what is the value of x	?					
	(1) $-\frac{1}{5}$	(2) 1	(3) 0	(4) $\frac{1}{5}$				
39.	Two angles can be supplementary if both of them are							
	(1) acute		(2) obtuse					
	(3) right		(4) not possible					

40. Amy started reading a book on Saturday. She read 18 pages a day. After 8 days, $\left(\frac{4}{7}\right)^{\text{th}}$ of the book

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was left. How many pages are there in the book ?

- (1) 336 (2) 512
- (3) 256 (4) 366
- **41.** The park shown below consists of a rectangular area and two semicircular areas. The area of the rectangular part of the park is 60,000 m². Which of the following is closest to the distance along the perimeter of this park ?



- (1) 628 m (2) 1856 m (3) 914 m (4) 1228 m
- **42.** Simplify : $\frac{2}{3} + \frac{-4}{5} + \frac{7}{15} + \frac{-11}{20}$
 - (1) $\frac{-1}{5}$ (2) $\frac{-13}{60}$ (3) $\frac{-4}{15}$ (4) $\frac{-7}{30}$

43. If an integer a is less than integer b, then

(1) a lies on the right of b on the number line(2) b lies on the right of a on the number line(3) a lies on the left of b on the number line(4) Both (2) & (3)

44.	Simplify : $\left(\frac{-5}{8} \times \frac{3}{7} \times \frac{3}{-1}\right)$	$\frac{4}{15} + \left(\frac{4}{7} \times \frac{-21}{8}\right)$		
	(1) – 10	(2) $-\frac{13}{8}$	$(3) -\frac{10}{7}$	(4) 0
45.	Find the value of $\left(\frac{3^4}{4}\right)$	$\left(\frac{3^{3}+3^{2}}{3^{2}}\right)$.		
	(1) 12	(2) 108	(3) 13	(4) 2187
46.	Which property is give	ven below :		
	a + 0 = a			
	(1) Commutative		(2) Associative	
	(3) Additive identity		(4) Closure	

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47. Read the following graph and answer the question given below : What is the average marks obtained by the student ?



(1) 57	(2) 63	(3) 80	(4) 48
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48. An athlete takes 5 rounds of a rectangular park, 50 m long and 25 m wide. What is the total distance covered by him ?

	(1) 150 m	(2) 75 m	(3) 750 m	(4) 300 m
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- **49.** The place value of 5 in 0.04532 is
 - (1) 5 (2) $\frac{5}{100}$ (3) $\frac{5}{1000}$ (4) $\frac{5}{10000}$

50. Mahesh and Suresh make 1 litre of lemonade each. Mahesh's lemonade has a water to lemon juice ratio of 3:1. Suresh's lemonade has a water to lemon juice ratio of 4:1. They decide to mix the 2 litre of lemonade together in a larger container. What is the water and lemon juice ratio at the end ?

(1) 12 :1
(2) 31 : 9

- (3) 16 : 15 (4) 5 : 4
- 51. The angle ABC in the given diagram is





- 52. Neha plants a jasmine on her 6th birthday. If the plant has one jasmine to start with and number of jasmines doubles every week then how many jasmine will be there after x weeks ?
 (1) 2^x
 (2) x²
 (3) 2x
 (4) None of these
- **53.** In the given figure, if $\angle A$ is four times of $\angle B$, then find the value of $\angle A$.



(1) 30°	(2) 90°	(3) 60°	(4) 120°

54. Given AOB is a straight line, find angle x.



57. Rinee uses vinegar and water to make a cleansing mixture. The amount of vinegar in the mixture is 1/8 the amount of water. Rinee puts 10 cups of water in the bucket. How much vinegar should she add to the water ?



(1)
$$1\frac{1}{4}$$
 cups (2) $1\frac{1}{2}$ cups

(3)
$$1\frac{2}{5}$$
 cups (4) $1\frac{4}{5}$ cups

- **58.** The product of $\left(\frac{4p}{5}-3\right)$ and $\left(\frac{5p}{8}-6\right)$ is
 - (1) $\frac{p^2}{2} + \frac{267}{40}p 8$ (2) $\frac{p^2}{2} \frac{267}{40}p 18$

(3)
$$\frac{p^2}{2} + \frac{267}{40}p + 18$$
 (4) $\frac{p^2}{2} - \frac{267}{40}p + 18$

- 59. Which of the following numbers is prime ?
 - (1) 119 (2) 187 (3) 247 (4) 179
- 60. A rectangle is having length as (3x + 5y) and breadth as (2x 4y). Find its perimeter.
 - (1) 5x + y (2) 6x 20y
 - (3) 10x + 2y (4) x + 9y

SECTION-E : MENTAL ABILITY

This section contains **20 Multiple Choice Questions.** Each question has four choices (1), (2), (3) and (4) out of which ONLY ONE is correct.

61.	One morning after sur	rise, Suresh was stan	ding facing a pole. Th	he shadow of the pole fell exactly		
	to his right. To which	direction was he faci	ng?			
	(1) East	(2) West	(3) South	(4) Data is inadequate		
62.	A watch reads 2:30 AM	1. If the the minute has	nd points East, in what	direction will the hour hand point?		
	(1) South-East		(2) North-West			
	(3) North-East		(4) South-West			

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63.	Rakesh starts from a point and m	ves 10 m in South-East direction. From here he travels towards					
	South-West direction and moves) m. In which direction he is now from the starting point:					
	(1) South	(2) South-West					
	(3) North	(4) South-East					
64.	Which of the following will come	last when arranged in dictionary?					
	(1) PRINCIPAL	(2) PRINCIPLE					
	(3) PRINCIPIANT	(4) PRINCIPIATE					
65.	Direction : In a certain code						
	'Very large risk associated' is wri	en as 'nu ta ro gi',					
	'risk is very low' is written as 'gi	e nu mi'					
	'is that also associated' is written	s 'ta mi po fu',					
	'inherent risk also damaging' is w	itten as 'fu nu di yu'					
Which of the following represent 'that is low'?							
	(1) po mi di	(2) se po mi					
	(3) ta mi po	(4) se po nu					
66.	If the last four letters of the word two in the reverse order and next to reverse order, counting from the right ?	CONCENTRATION' are written in reverse order followed by next ree in the reverse order and then followed by the first four in the nd, which letter would be eighth in the new arrangement from					
	(1) E	(2) N					
	(3) R	(4) T					
67.	If $M = 26$ and $CAT = 48$, then BA	BY = ?					
	(1) 60 (2) 58	(3) 62 (4) 90					
68.	If Atul finds that he is twelfth fro boys are in the line :	n the right in a line of boys and fourth from the left, how many					
	(1) 12	(2) 15					
	(3) 14	(4) 20					
69.	Select the alternative figure in wh	ch the problem figure is embedded.					
	Problem Figure						



Answer Figure



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- **70.** How many pairs of letters are there in the word "ECOSYSTEM" which have as many letters between them in the word as in the English alphabet.
 - (1) One(3) Three

(2) Two

(4) More than three

71. Find the water image of

0	
×	

(1)

 $(3) \begin{vmatrix} \circ \\ \checkmark \end{vmatrix}$



72. Choose the alternative which closely resembles the mirror image of the given combination.

NU56p7uR

- **NU5p67uR** (1)
- **NU56pu7R** (2)
- **NU56p7uR** (E)
- **NU65p7uR** (4)
- 73. Which number replaces the sign '?'.

 3, 5, 8, ?, 21, 34

 (1) 11
 (2) 12

 (3) 13
 (4) 14

74. Choose the correct water image of the figure (A) out of given four alternatives.





75. In the following venn diagram the number of students who likes different subjects are given. Different shapes have been used to represent three subjects i.e. G.K., Reasoning, Maths answer the following question.



	How many students lil	ke only reasoning and M	Iaths but not G.K. ?	
	(1) 30	(2) 14	(3) 17	(4) 16
76.	Find the mirror image	of 4 6 7 9 T		
	(1) 4 6 7 9 T	479764 (2)	(3) T 9 7 6 4	4679T (4)
77.	If M means ×, N mean	ns +, P means – and O	means ÷	
	then find the value of	1 8 O 3 M 9 P 8 N 6 =	?	
	(1) 52	(2) 34	(3) 56	(4) None of these
78.	Complete the followin	g series 14, 21, 29, 38,	48, 59, ?	
	(1) 63	(2) 79	(3) 31	(4) 71
79.	Choose the word, which	ch is least like the other	word in the group ?	
	(1) Guitar	(2) Flute	(3) Sitar	(4) Violin
80.	If '+' mean '-', '-	-' means '×', '×' me	eans '÷' and '÷'mean	s '+', then the value of
	$16 \times 2 \div 25 + 7 - 4$ is			

(1) 104 (2) 5 (3) 22 (4) 4



SPACE FOR ROUGH WORK

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ANS	NSWER KEY : 08-10-2017 CLASS – VII CODE : G														
Q.No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	1	4	2	1	2	2	2	1	1	3	2	3	1	1	3
Q.No.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans.	1	2	3	3	1	4	2	1	1	2	3	4	4	3	4
Q.No.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Ans.	1	1	4	1	3	2	2	3	3	1	4	2	4	3	3
Q.No.	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Ans.	3	1	3	3	2	2	1	4	2	3	1	1	4	4	3
Q.No.	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
Ans.	3	2	1	2	2	3	1	2	1	2	1	3	3	4	4
Q.No.	76	77	78	79	80										
Ans.	4	1	4	2	2										