A Specially Designed Initiative to Encourage Young Talent by



TALLENTEX 2018 : (15, 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 **12 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.

(1) Storm

(4) None of these

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. Slow moving air is generally called :

2. Two plane mirrors are making an angle 90° with each other. An object is placed in between both the mirrors then number of images would be :

(3) Cyclone

(1) 2 (2) 3 (3) 4 (4) 5

3. The essential condition for the formation of shadow is

(2) Wind

- (1) There should be an opaque material
- (2) There should be a source of light and screen
- (3) The object must be placed in the path of light
- (4) All of these
- 4. Which is true about clinical thermometer?
 - (1) Generally it has temperature range from -10° C to 110° C.
 - (2) It has the small constriction near the mercury bulb.
 - (3) It is used to measure temperature of different objects in factories and laboratory.
 - (4) It contains water instead of mercury.
- 5. The temperature 223°F in celsius scale would be
 - (1) $102.1^{\circ}C$ (2) $104.1^{\circ}C$ (3) $106.1^{\circ}C$ (4) $108.1^{\circ}C$
- 6. ______ is a device used for determining the direction by means of magnetic needle :
 - (1) Magnetic compass (2) Ammeter (3) Voltmeter (4) Potentiometer
- 7. Look at the given figure. It consists of a cell, a bulb and wires with ends P & Q and S & R. The direction of current will be



	(1) PQRS	(2) SRQP	(3) PRQS	(4) SQRP			
8.	Electricians wear rubber	r gloves while working	king with electricity because rubber is				
	(1) Conductor	(2) Insulator	(3) Metal	(4) All of these			
9.	Magnet attracts :						
	(1) Wood	(2) Plastic	(3) Iron	(4) Book			



10. Which type of motion is exhibited in the picture shown below.



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.** Bursting of cracker is a/an
 - (1) Reversible change

- (2) Irreversible change
- (3) Both reversible and irreversible (4) None of these
- **14.** Match the items of a column I with those in column II.

	Column I	Column-II					
(i)	suint	(a)	Removing fleece from the body of sheep				
(ii)	anthrax	(b)	The dried perspiration of sheep found in raw wool.				
(iii)	shearing	(c)	Bacteria in wool industry				
(iv)	sericulture	(d)	Rearing of silkworm to obtain silk				

(-) (-) -, () -, () -, (-)	(1)	(i)-b,	(ii)-c,	(iii)-a,	(iv)-d
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(3) (i)-b, (ii)-a, (iii)-c, (iv)-d

(2) (i)-a, (ii)-c, (iii)-b, (iv)-d
(4) (i)-b, (ii)-d, (iii)-a, (iv)-c

- **15.** If we take sea water in plate and allow it to stand in sunlight till whole of the water disappears, we find that
 - (1) Nothing is left in the plate

- (2) Some solid is left behind
- (3) Some liquid is left behind
- (4) None of the above is correct
- 16. Which of the following set of substance contain acids ?
 - (1) Grapes, lime water

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(3) Curd, milk of magnesia

- (2) Vinegar, soap
- (4) Curd, Vinegar
- 17. Reena prepared China rose indicator by keeping the petals of the flower in hot water for some time. She used the coloured solution for testing three solutions A, B and C. Solution A turns to dark pink, solution B remains light pink and solution C turns to green. Mark the correct option.



- (4) Salt solution Milk of magnesia
- **18.** Transpiration is a process in which plants.
 - (1) Receive water from soil.
 - (3) Prepare food from water.

- (2) Absorb water vapour from air.
- (4) Release water vapour.

Lemon juice

19. Which of the following venn diagrams shows the relationship between changes correct;



25.

CLASS-VII / Paper Code - Q

22. Given figure shows three rings of circles with letters in them. Some of these letters in each ring can form the name of one wool yielding animal. Find the correct names of these animals.

- (1) YAK, CAMEL, SHEEP
- (3) YAK, GOAT, SHEEP
- 23. The correct way of making a solution of acid in water is to.
 - (1) Add water to acid
 - (3) Mix acid and water simultaneously
- (2) Add acid to water

(2) LLAMA, YAK, SHEEP

(4) YAK, SHEEP, RABBIT

(4) Add water to acid in a shallow container.



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 the following cannot be listed as an abiotic component in the ecosystem?
 - (1) Oxygen in the atmosphere
- (2) Water vapour in the atmosphere

(4) Organic material in the soil

CO₂

O2

- (3) Bacteria in the soil
- Study the diagram below showing a process in plants. The process represented is







29. The given table shows the degree of angular movement shown by three different skeletal joints X, Y and Z. Which of the following statements is correct regarding this?

Skeletal Joint	Degree of movement
Х	360°
Y	180°
Z	0°

- (1) Joint X can be the joint between shoulder bone and arm.
- (2) Joint Y can be the elbow joint.
- (3) Joint Z can be the joint between upper jaw and rest of the skull.
- (4) All of the above
- 30. Photosynthesis occurs in which of the following part/parts of plants?

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(1) Green leaves (2) Anther of a flower (3) Petals of a flower (4) All of these
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- **31.** Which of the given statements is/are correct?
 - (P) All plants show locomotion (Q) Muscles are made up of calcium carbonate
 - (R) Most fungi move by flagella
 - (1) P and R (2) Q only (3) R only (4) None of these
- 32. Which of the following statements most accurately describe the meaning of the word camouflage?
 - (1) An animal hides away in a protected place
 - (2) An animal blends into its surroundings because of its shape and/or colour
 - (3) An animal is difficult to see because it is so small
 - (4) An animal turns green

(1) attach the seed to animals

33. Dandelions are plants that have a pappus of hair attached to each of their seeds. The purpose of the pappus is to



(2) attach the seed to the mother plant

(3) allow the seed to absorb water

(4) allow the seed to be carried by the wind

- **34.** If you were a zoologist involved in the collection of specimens, where would you most likely find nocturnal mammals with highly concentrated urine?
 - (1) Oceans (2) Deserts (3) Tropical rain forests (4) Grasslands
- **35.** What is the function of following given part of alimentary canal ?



(2) Assimilation

(3) Egestion

(4) Digestion

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. A piece of wood is of length $12\frac{3}{4}$ m. If it is cut into two pieces in such a way that the length of one

piece is $5\frac{1}{4}$ m, what is the length of the other piece?

- (1) $4\frac{1}{2}$ m (2) $3\frac{1}{2}$ m (3) $\frac{25}{4}$ m (4) $\frac{30}{4}$ m
- **37.** 4 is added to a number and the sum is multiplied by 5. The resultant is 25. Find the number. (1) 21 (2) 1 (3) 16 (4) 40

38. If the base of an isosceles triangle be (x + 3) cm, equal sides are (x + 2) cm and the perimeter of the triangle is 13 cm, then find the non equal side of the triangle.

- (1) 3 cm(2) 4 cm(3) 5 cm(4) 6 cm**39.** If the angles of the straight angle are in the ratio 2:3:4, then the greatest angle is
(1) 20° (2) 40° (3) 100° (4) 80°
- **40.** Which of the following expression is correct ?

(1)
$$\frac{1}{2} > \frac{1}{4}$$
 (2) $\frac{1}{5} > \frac{2}{5}$ (3) $\frac{7}{9} > 1$ (4) $\frac{1}{2} < \frac{1}{4}$

41. The diameter of all 4 circles is 3 inches. What is the shaded area in square inches ?



(1) 3

(4) 6

42. Write down the rational number whose numerator is the smallest three digit number and denominator is the largest four digit number.

(3) 12

(1)
$$\frac{999}{1000}$$
 (2) $\frac{99}{1000}$ (3) $\frac{100}{9999}$ (4) None of these

43. Today temperature is 2°C, 5°C greater than yesterday. Yesterday temperature was _____? (1) 0°C (2) 7°C (3) -3°C (4) -7°C

44. Simplify: $13\frac{1}{3} \div \left(6\frac{1}{2} \text{ of } \frac{10}{13}\right) - 2\frac{2}{3} \div \left(\frac{2}{7} \text{ of } \frac{5}{8}\right) \div 1\frac{11}{14} \times 3\frac{1}{3}$

(2) 9

(1) 2 (2) $\frac{1}{3}$ (3) 5 (4) 0

6/12

45. Use power notation to write the given in a short form $\left(\frac{-5}{2}\right) \times \left(\frac{-5}{2}\right) \times \left(\frac{-5}{2}\right) \times \left(\frac{-5}{2}\right) \times \left(\frac{-5}{2}\right)$

(1)
$$\left(\frac{-5}{2}\right)^3$$
 (2) $\left(\frac{-2}{5}\right)^5$ (3) $\left(\frac{-5}{2}\right)^5$ (4) None of these

46. What must be subtracted from (-1) to get (-6) ?
(1) 5 (2) -5 (3) 7 (4) -7
47 The nictograph below shows the number of packages of different brands of washing the number of package

47. The pictograph below shows the number of packages of different brands of washing machine that a store sold on Friday.

Brand P	
Brand Q	
Brand R	
Brand S	

Each represents 110 packages.

Which statement is best supported by the information in the pictograph ?

- (1) The ratio of Brand P washing machine to Brand Q washing machine is 1:2.
- (2) The ratio of Brand R washing machine to the total number of washing machine is 1 : 5.
- (3) Of all the packages of the washing machine sold 20% were Brand S washing machine.
- (4) Of all the packages of washing machine sold, 3% were Brand S washing machine.
- **48.** Supreet takes 5 rounds of a square garden. The side of the square, if the total distance covered by her is 1280 m is

(3) 108 m

(4) 54 m

- (1) 128 m (2) 64 m
- **49.** The value of $\left(\frac{1}{3} + \frac{1}{4}\right) \frac{2}{5}$ is

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(1) $\frac{3}{4}$ (2) $\frac{6}{7}$ (3) $\frac{11}{60}$ (4) $\frac{12}{25}$

50. If 2A = 3B = 4C, then A : B : C = ?

(1) 2: 3: 4(2) 4: 3: 2(3) 6: 4: 3(4) 3: 4: 6

- **51.** Which of the following can be used to prove that $\triangle ABC \cong \triangle ADC$:
 - (1) ASA
 - (2) SAS
 - (3) AAS
 - (4) SSS
- 52. If $2^{P} + 2^{P+1} = 24$, find the value of P. (1) 2 (2) 3
- **53.** In given figure, BM = CN. Then $\triangle ABC$ is
 - (1) Isosceles triangle
 - (2) Equilateral triangle
 - (3) Right triangle
 - (4) None of these
- 54. If lines XY and MN intersects as shown below and a : b = 3 : 2. Find c.



(3) 4

 $(1) 36^{\circ}$ (2) 54° (3) 90° (4) 144° 55. The range of the data : 18, -20, 30, -3, 19, 3, -2(1) 10(2) 28 (3) 32 (4) 5056. What is the first digit of the smallest number whose sum of digits is equal to 1350 ? (1) 2(2) 3 (3) 9(4) 8Fatima has 2007 marbles kept in three bags A, B and C. Each bag contains the same number of 57. marbles. If Fatima moves 2/3 of the marbles from bag A to bag C, what will be the ratio between the number of marbles in bag A and bag C. (1) 1:2 (2) 1:3 (3) 2:3(4) 1:5 58. If 2x - 3y + 7z is subtracted from ax + by + cz the result is -3x + 5y - 8z, then ax + by + cz is? (1) -x + 2y -z(2) -x + 2y + z(3) -x -2y -z(4) x + 2y - z59. The number n is the largest positive integer for which 4n is a three digit number and m is the smallest positive integer for which 4m is a three digit number. What is the value of n - m. (1) 900 (2) 896 (3) 225 (4) 224 On adding 1 - z to z - 1, we get 60. (2) 2z + 2(3) 0(4) 2z - 2(1) 2z8/12





(4) 5

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.	The time on the watch is quarter to two. If the minute hand points of West, in which direction does the												
	hour hand point ?												
	(1) North-West	(2) South-West	(3) South-East	(4) North-East									
62.	A, B, C and D are playing cards. A and B are partners. D faces towards North. If A faces toward												
	West, then who faces towards South :												
	(1) B	(2) C	(3) D	(4) Data inadequate									
63.	Rachna goes towards South-East and covers distance of 14 kms, then she goes towards west												
	covers distance of 25 km. From there she goes towards North-West and covers distance of 14 km and												
	finally she covers a distance of 7 km towards East. How far is she from the starting point?												
	(1) 14 km (2) 20 km (3) 12 km (4) 18 km												
64.	In the following question, arrange the given words in the sequence in which they occur in the dictionar												
	and then choose the co	prrect sequence.											
	(i) Aqueous	(ii) Aquarium	(iii) Aquiline	(iv) Aquatic									
	(4) (iii), (i), (iv), (ii)												
65.	KNOWLEDGE is coded as 256535475. How can GENERAL be coded												
	(1) 7549993	(2) 7559913	(3) 755591	(4) 7555913									
66.	Arrange the following in meaningful sequence :												
	1. Child	2. Job	3. Marriage	4. Infant 5. Education									
	(1) 1, 3, 5, 2, 4	(2) 3, 5, 2, 1, 4	(3) 4, 1, 3, 5, 2	(4) 4, 1, 5, 2, 3									
67.	In a certain code language, '123' means 'bright little boy', '145' means 'tall big boy' and '637' mean												
	'beautiful little flower'. Which digit in that language means 'bright'?												
	(1) 5	(2) 2	(3) 3	(4) 4									
68.	How many such pairs of	of digits are there in the	number 421579368 each	of which has as many digits									
	between them in the nu	umber as when they are	arranged in ascending or	der?									
	(1) None	(2) 1	(3) 2	(4) 3									

69. You are given a figure (x) followed by four alternative (1), (2), (3), (4) such that figure (x) is embedded in one of them. Candidates have to identify the figure which contains figure (x).





70. Which letter should be fourth to the left of twelfth letter from the right in the alphabet series.
(1) J
(2) K
(3) L
(4) M

- 71. Choose the alternative which closely resembles the water-image of the given combination.
 - V A Y U 8 4 3 6
 - **6 3 4 8 U Y A V** (1)
 - (3) V A Y U 8 4 3 8

- (4) V A Y U 8 4 5 6
 (5) V A Y U 8 4 3 6
- 72. Find the mirror image of following figure-





- **73.** Find the missing number in following series.

 4, 2.5, 3.5, _____, 15.5, 41.25

 (1) 5.5
 (2) 5.25

 (3) 6.5
- 74. Choose the alternative which shows the correct water-image of the given combination. DL2CA34OO
 - (1) DL2CA3400

(2) D120A3400

(4) 6.75

(3) DFZC∀£400 (4) DTZO∀£700
75. Which of the following Venn Diagram given below best represents the relation between : Mammals, Tigers, Cows



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79. Choose the figure which is different from the rest.



80. If P = 10, Q = 12, R = 8 and S = 4, then, what is $P + Q + R \times S = ?$ (1) 54(2) 120(3) 56(4) 58



SPACE FOR ROUGH WORK

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