# **Talent Search Exam. 2019**



for IX



## **Duration : 2 Hours**

Please read the instructions carefully. You are alloted 5 minutes specifically for this purpose.

#### INSTRUCTIONS Α. General : 1. This booklet is your question paper containing **90 questions**. The booklet has **12 pages**. 2. The question paper contains blank space on back for your rough work. No additional sheets will be provided for rough work. It is mandatory to use **Blue or Black Ball Point Pen** to darken to appropriate circle in the answer sheet. 3. 4. Blank papers, clipboards, log tables, slide rules, calculators, cellular phones, pagers and electronic gadgets in any form are not allowed to be carried inside the examination hall. Fill in the boxes provided below on this page and also write your Name and Roll Number in the space 5. provided. Do not use white-fluid or any other rubbing material on answer sheet. Before handing over the answer sheet 6. to the invigilator, candidate should check that Roll No, Test code and Book Code have been filled and marked correctly. Immediately after the prescribed examination time is over, the Answer sheet is to be returned to the invigilator. Β. Filling the Answer Sheet : 7. On Side-1 of Answer Sheet write your name, Enrollment Number and Name of the centre in the respective boxes. Do not write anything on Side-2. Put your signature space provided on the Answer Sheet affirming that you have verifed this. 8. All guestion carry +4 Marks for Right Answer. No Negative Marking. 9. PROCEDURE OF FILLING UP THE ANSWERS IN ANSWER SHEET Wrong Filling **Right Filling** ABCD Tick mark ■B C D Fully darken with Pen **X**BCD Cross mark ●B C D Fully darken with Pen ● B C D Fully darken with Pen ♠ B C D Half filled or semi dark A B C D Light filled BCD Fully darken with Pen Name of the candidate (In Capital Letters) **Enrollment Number** I have verified all the information filled in I have read all the instruction and shall abide by them. by the candidate. ..... .....

(Signature of the candidate)







## TSE EXAM. 2019 ''उठो, जागो और तब तक मत रूको, जब तक लक्ष्य की प्राप्ति ना हो जाये।'' CLASS: IX

- 20. The area of a quadrilateral is 342 sq. m. The perpendiculars from two of its opposite vertices to the diagonal are 12 m and 12 m. What is the length of the diagonal?
  - (A) 28.6 cm (B) 25.3 cm
  - (C) 28.5 cm (D) 25.5 cm
- 21. Solve for y, if



(C) 
$$\frac{3}{10}$$
 (D)  $\frac{12}{17}$ 

- 22. Two quantities x and y vary inversely with each other, then\_\_\_\_\_
  - (A) x/y remains constant
  - (B) x y remains constant
  - (C) x + y remains constant
  - (D)  $x \times y$  remains constant

23. ABCD is a parallelogram. Find the angles x, y and z in the given figure.



25. In the five digit number 1b6a3, a is the greatest single digit perfect cube and twice of it exceeds b by 7. Then then the sum of the number and its cube root is\_\_\_\_.

(A) 18700	(B) 11862
(C) 19710	(D) 25320

## PART-II (SCIENCE)

## 26. Slope of V-T graph gives us

- (A) Average velocity
- (C) Displacement (D) Time travelled
- 27. Displacement time graph shown below of two particles moving in a straight line along x-axis are

(B) Acceleration



- (A) Particle (I) has uniform acceleration
- (B) Particle (I) has non uniform acceleration
- (C) Particle (II) has uniform motion
- (D) Particle (II) has a accelerated motion
- 28. The speed of a magnetic audio tape is 4.5 cms<sup>-1</sup>. What is the length of the tape in 60 minute cassette?
  - (A)  $0.162 \times 10^3$  m (B) 162 cm
  - (C) 162 mm (D) 1.62 cm
- 29. A body is initially at rest, A force F acting on it varies with time as shown in figure. Then the body



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CLASS: I)



- (A) Remains at rest
- (B) Moves with constant acceleration
- (C) Oscillates about a point
- (D) Finally comes to rest at a distance from the original position
- 30. A ball rolling down a field comes to stop as its momentum runs out
  - (A) Because conservation of linear momentum holds good only over small distances
  - (B) Because gravity slows down the ball
  - (C) Because the ball is rolling, linear momentum does not apply.
  - (D) Because there is a net force acting in the direction opposite to its motion.
- 31. If earth is at one fourth of its present distance from sun, the duration of the year will be
  - (A) Half the present year
  - (B) One eighth the present year
  - (C) One fourth the present year
  - (D) One sixth the present year
- 32. Three particles each of mass m are placed on three coners of a square of side L meter. Calculate the Gravitational force on the fourth particle of mass 'm' placed at the corner D.



(A) 
$$\frac{GM^2}{L^2} \left[ \sqrt{2} + \frac{1}{2} \right] \text{along DB}$$
  
(B) 
$$\frac{GM^2}{L^2} \left[ \sqrt{2} + \frac{1}{2} \right] \text{along DA}$$
  
(C) 
$$\frac{GM^2}{L^2} \left( \sqrt{2} + \frac{1}{2} \right) \text{along DC}$$

**4** 7

(D) 
$$\frac{GM^2}{I^2}$$
 along DB

(C) -

- To attain a maximum height the angle of projection 33. must be
  - (A) 0° with respect to Horizontal
  - (B) 90° with respect to Horizontal
  - (C) 45° with respect to Horizontal
  - (D) 45° with respect to vertical
- 34. The angular velocity of a particle in uniform circular motion is 30 rpm. The time period of particle is
  - (A) 0.5 sec (B) 1 sec
  - (C) 2 sec (D) 30 sec
- 35. A ball dropped from a height 20 m rebounds to a height of 10m. The lose in energy is
  - (A) 10% (B) 25%
  - (C) 50% (D) 100%
- 36. Cotton and iron of weight 1 kg each in air are weighed in vaccum. Then
  - (A) Iron in heavier (B) Cotton is heavier
  - (C) Both weight 1 kg
  - (D) Both ahve zero weight
- 37. A hydrometer is floating in water in a beaker. It rises up a little if.
  - (A) Salt is added to water
  - (B) Alcohol is added to water
  - (C) Water is heated (D) Water is cooled

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- 38. A toy boat is floating on water in a bucket. It some water is taken form the bucket andpoured into the boat, the level of water is the bucket,
  - (A) Rises (B) Goes down
  - (C) Remains same
  - (D) First rises and then goes down
- 39. Water in a trough transmits pressure equally in all direction. This is known as
  - (A) Pascal Law (B) Boyels Law
  - (C) Archimedes Principle
  - (D) Law of Floatation
- 40. A test tube filled with water is tilted as shown in fig. pressure at A and B are  $\rm P_{A}$  and  $\rm P_{B}$  respectively. Then



41. Aditya, a class 9 student investigated the reactivity to four metals, iron, copper, zinc and an unknown metal X. He arranged three experimental set-ups as shown in the diagram and observed the changes carefully.



If reactions occur in all the three beakers then, the metal  $\boldsymbol{X}$  is

(A) Cu (B) Mg

- (C) Fe (D) Au
- 42. Each beaker contains two metal strips of same size fastened together and immersed in hydrochloric acid. After 5 minutes, which beaker will contain the least amount of zinc ions?



43. Fill in the blanks with the most appropriate option.

'W' is a very reactive metal, reacts vigorously with oxygen and water therefore, stored in\_\_\_(1)\_\_\_.

'X' is a non-metal, soft and dull and forms\_(2)\_ oxides with oxygen.

'Y' is very reactive\_\_\_(3)\_\_\_, catches fire if exposed to air, therefore, stored in water. 'Z' does not react with dilute hydrochloric acid even on heating but it reacts with sulphuric acid. When it is exposed to moist air for long, it acquires a dull\_\_\_(4)\_\_\_coating.

- (A) 1-Water, 2-basic, 3-metal, 4-reddish brown
- (B) 1-Kerosene, 2-acidic, 3-metal, 4-reddish brown
- (C) 1-Kerosene, 2-acidic, 3-non-metal, 4-green
- (D) 1-water, 2-basic, 3-non-metal, 4-green
- 44. Destructive distillation of coal is carried out by heating coal strongly to 1000°C in the absence of air. The various useful products obtained are
  - (A) Crude oil, kerosene, naptha and heavy oil
  - (B) Coke, coal gas, coal tar and ammonium compounds
  - (C) Coal gas, petroleum gas and lignite
  - (D) None of these

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45.	Read the given passage and fill in the blanks by selecting an appropriate option.							(Δ)	<b>P</b> (i)	Q (v)	R (iii)	<b>S</b> (ii)	T (iv)
	The call whi 96 cen carl (A) (B) (C)	e process of ed _i There ch vary in the per cent of o t carbon whi con. (i) Destructive distillation Carboni- sation Carboni - sation Destructive	convers e are thre eir carbon, _ ileiv (ii) Lignite Anthr- acite Anthr - acite Bitum -	ion ee n cor _iii_ _ ha _ ha (iii An ac Lig Bit inc co An	otion. In of wood into coal is a main varieties of coal contentii has upto _iii has about 65 per has about 38 per cent (iii) (iv) Anthr- Bitum- acite inous coal Lignite Bitum- inous coal Bitum - Lignite inous coal Anthr - Lignite			<ul> <li>(A) (i) (v) (iii) (ii) (iv)</li> <li>(B) (v) (iv) (iv) (ii) (iii) (i)</li> <li>(C) (ii) (iii) (iv) (i) (v)</li> <li>(D) (v) (iv) (ii) (i) (i) (iii)</li> <li>Read the given statements and select the corroption.</li> <li>Statement 1 : Kerosene oil and wood do catch fire on their own at room temperature.</li> <li>Statement 2 : A combustible material can catch fire as long as its temperature is lower the its ignition temperature.</li> <li>(A) Both statements 1 and 2 are true a statement 1</li> <li>(B) Both statements 1 and 2 are true statement 2 is not the correct explanation statement 1.</li> </ul>					<ul> <li>(i)</li> <li>(i)</li> <li>(v)</li> <li>(iii)</li> <li>select the correct</li> <li>and wood do not</li> <li>temperature.</li> <li>material cannot</li> <li>ature is lower than</li> <li>2 are true and</li> <li>ct explanation of</li> <li>2 are true but</li> <li>ect explanation of</li> </ul>
46.	distillation inous acite coal Match column I with column II and select the correct option from the codes gives below. Column I Column II (Amorphous forms (Uses)						48.	<ul> <li>(C) Statement 1 is true and statement 3 is false.</li> <li>(D) Both statements 1 and 2 are false.</li> <li>Liquids and gaseous fuels have more advantages over solid fuels. Some of the advantages are</li> <li>(i) Calorific value of liquid and gaseous fuels is higher than the solid fuels.</li> </ul>					
	(P) (Q) (R) (S) (T)	of carbon P) Lamp black (i) Q) Bone charcoal (ii R) Wood charcoal (ii S) Gas carbon (iv T) Coke (v)		(i) (ii) (iii) (iv) (v)	For making electr- odes for dry cell In gas masks In extraction of metals To remove colour from sugarcane juice For making black shoe polish			<ul> <li>(ii) Liquids and gaseous fuels have temperatures than the solid fuel</li> <li>(iii) Liquids and gaseous fuels are or since solid fuels occupy lot of s</li> <li>(iv) Liquids and gaseous fuels but leaving no residue.</li> <li>The correct advantages are</li> <li>(A) (i), (ii) and (iii) only (B) (i), (iii)</li> <li>(C) (ii), (iii) and (iv) only (D) (i), (ii)</li> </ul>					have higher ignition fuels. are easier to store of space. burn completely, , (iii) and (iv) only , (ii) and (iv) only
						(For Rou	gh Wo	ork					

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49.	<ul><li>Different zones of a candle flame are marked by the letters P, Q, R and S.</li><li>Which of the following statements are correct?</li><li>(i) P is the luminous zone and is the hottest part of candle flame</li></ul>	53.	<ul> <li>(D) None of these</li> <li>When 200 gms of ice 0°C is mixed with 100 gms of water at 100°C, the final physical state of the mixture after equilibrium has been established is:</li> <li>(A) Solid state</li> <li>(B) Liquid state</li> </ul>
	<ul> <li>(ii) In zone Q, there is inadequate supply of oxygen.</li> <li>(iii) Zone R contains unburnt wax vapours produced by melting of wax.</li> <li>(iv) In S zone, carbon monoxide burns with a blue flame.</li> </ul>	54. 55. 56.	(c) Gaseous state (D) None of these Which of the following is an example of a mixture? (A) Sagar (B) Brass (C) $CO_2$ (D) $NO_2$ The temperature at absolute zero is (A) 273.15°C (B) 0°C (C) -373.15°C (D) -273.15°C Following is the data of four species (S <sub>1</sub> - S <sub>4</sub> ) present (+) or absent (-) in five different habitats (P, Q, R, S and T). Which species has the maximum diversity?
50.	<ul> <li>(A) (i) and (ii) only</li> <li>(B) (ii), (iii) and (iv) only</li> <li>(C) (ii) and (iv) only</li> <li>(D) (i), (ii) and (iii) only</li> <li>The purity of any substance can be checked by the following properties :</li> <li>(A) Refractive index</li> <li>(B) Density</li> <li>(C) Melting point and Boiling point</li> <li>(D) All of these</li> <li>Air is homogeneous mixture because</li> <li>(A) It components can not seen by naked eyes</li> <li>(B) They do not settle down under gravity</li> <li>(C) Both (A) and (B)</li> <li>(D) Air is neither homogenous nor heterogeneous mixture</li> </ul>	57.	PQRST $S_1$ ++ $S_2$ ++++- $S_3$ +- $S_4$ +-+-+(A) $S_1$ -+(B) $S_2$ (C) $S_3$ (D) $S_4$ Match different terms in column I with their related description in column II and select the correct option from the given codes.(a) Wedding(i) Loosening and turning of soil(b) Threshing(ii) Removing unwanted plants from a field
52.	<ul><li>When relative humidity is 100% then :</li><li>(A) No evaporation takes place</li><li>(B) Maximum evaporation takes place</li><li>(C) Minimum evaporation takes place</li></ul>		<ul> <li>(c) Tilling</li> <li>(iii) Cutting and gathering of mature crop</li> <li>(d) Harvesting</li> <li>(iv) Separation of grain from the chaff</li> </ul>

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## For Rough Work

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- (A) (a) (i), (b) (iii), (c) (ii), (d) (iv)
- (B) (a) (ii), (b) (i), (c) (iv), (d) (iii)
- (C) (a) (ii), (b) (iv), (c) (i), (d) (iii)
- (D) (a) (iv), (b) (iii), (c) (i), (d) (ii)
- 58. Study the following table and select the correct option for P, Q, R and S.

Disease	Causative	Mode of			
Disease	organism	transmission			
Chicken-pox	Virus	Р			
Q	Bacterium	Water/Food			
Malaria	R	Mosquito			
S	Virus	Water			

- (A) P-Air/contact ; Q-Cholera ; R-Protozoan ; S-Polio
- (B) P-Mosquito ; Q-Measles ; R-Fungi ; S-Polio
- (C) P-Water ; Q-Polio ; R-Protozoan ; S-Hepatitis B
- (D) P-Air ; Q-Typhoid ; R-Fungi ; S-Measles
- 59. Refer to the given passage.

The mosquito P is a carrier of virus that spreads a disease Q. Another mosquito R is a carrier of protozoan S that spreads a disease called T.

Select the option which correctly identifies P, Q, R, S and T.

- (A) P-Aedes, Q-Dengue, R-Anopheles, S-Plasmodium, T-Malaria
- (B) P-Tse-tse fly, Q-Dengue, R-Anopheles, S-Plasmodium, T-Malaria
- (C) P-Aedes, Q-Dengue, R-Tse-tse fly, S-Entamoeba, T-Amoebic dysentery
- (D) P-Tse-tse fly, Q-Dengue, R-Aedes, S-Entamoeba, T-Amoebic dysentery.
- 60. Refer to the given figure and select the labelled part where implantation of fertilised ovum takes place.
- (A) P (B) Q (C) R (D) S Increase in oil production is (A) Golden revoution (B) Yellow revolution (C) White revolution (D) Blue revolution 62. The technique used to obtain variety with high yield and other desirable characters is (A) Introduction (B) Selection (D) both (A) and (B) (C) Hybridization 63. Growing two or more crops in definite row pattern is (A) Mixed farming (B) Mixed cropping (C) Inter-cropping (D) Crop rotation 64. Site of respiration in bacteria is (A) Episome (B) Mesosome (D) Mitochondria (C) Ribosome 65. The chemical substance present most abundantly in the middle lamella is (A) Calcium pectinate (B) Suberin (D) Lamellenin (C) Lignin 66. The inner membrane of mitochondrion is usually highly convoluted forming a series of in-foldings known as (A) Thylakoids (B) Grana (C) Cristae (D) Lamella 67. Functions of a Centriole is (A) Formation of spindle fibres (B) Formation of nucleolus (C) Initiation of cell division (D) Formation of cell plate

	(C) Mast cells	(D)	All of these	(A) Apical meristems					
69.	Following is the most		(B) I	ntercalary meri	stems				
	(A) Epithilial tissue	(B)	(B) Neural tissue		(C) L	_ateral merister	ms		
					(D) A	All of these			
					、 ,				
			PART-III (RE	EAS	ON	NG)			
71.	If in a certain languag LBBIHOD, which woul (A) RKSLEMA (C) RMSNEOA	ge, MA d be co (B) (D)	CHINE is codded as ded as SLTMFNB? TKULGMC TMUNGOC	76.	(C) One south turne cycle	S × Q + R ÷ F day, Ravi lef hwards, turned d right and cyc ed 10 kms. Hov	D (D) It home a I right and I	$P \div S \times Q$ and cycled 10 kms d cycled 5 kms and s and turned left and ometers will he have	
12.	thumb, thumb is called		to cy	cle to reach his	s home str	aight?			
	and palm is called knee	, which o	one finger has different		(A)	10 kms	(B)	15 kms	
	name?	-			(C)	20 kms	(D)	25 kms	
	(A) Thumb (C) Knee	(B) (D)	Ankle Palm	77.	A clo point its ho	ck is so placed is towards Nort	that at 12 h-east. In at 1 : 30 p	noon its minute hand which direction does	
73.	In a certain code lang bright', '629' means ' means 'I prefer bright 'Light' in that language	uage, Girl is clothes ?	'324' means 'Light is beautiful' and '4758' s'. Which digit means	78	(A) (C)	North East	(B) (D)	South West	
	(A) 3	(B)	2		arere	ecorded as follo	DW :	the uncrent positions	
	(C) 4	(D)	7			$\land$			
74.	Sohan introduces Mo brother of his father's v	han as vife. Ho	the son of the only w is Mohan related to		[			4 2	
	$(\Lambda)$ Cousin	(B)	Son			(i) (ii)	(iii)	(iv)	
	(C) Uncle	(D)	Son-in-law	1	Which number is no the face opposite 6?				
75	(C) Cheic	(D)	Contineidw		(A)	1	(B)	2	
75.	(i) P + O means P '	is the h	usband of O	79.	(C)	3	(D)	4	
	(i) $P \div Q$ means $P$	'ie the	sister of $O$		YEB,	, WFD, UHG, S	SKI,		
	(ii) $P \times O$ means $P$	is the g	son of O		(A)	QOL	(B)	QGL	
	then which of the fol	lowina	shows that P is the		(C)	TOL	(D)	QNL	
	daughter of Q?	80.	C 4X	., F 9 U, I 16 R,	 (D)				
	(A) R×Q÷P	(B)	(B) Q + R × P		(A) (C)	K 25 P	(B) (D)	L 25 P	
						L 23 U	(D)		
			(For Rou	gh Wo	ork				
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- 68. Which of the following cell present in areolar tissue?
  - (A) Fibroblasts (B) Macrophages

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- (C) Msucular tissue (D) Connected tissue
- 70. The meristem which occurs between xylem and phloem is :

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सभी शक्तियां आपके अंदर है आप कुछ भी और सब कुछ कर सकते है....

