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Railway NTPC Pre

Read the following instructions carefully before you begin to attempt the questions. **INSTRUCTIONS TO CANDIDATE**

- (1) This booklet contains 100 Questions.
 - CBT I (Mathematics, Mental Ability, General Science & General Awareness) (100 Questions)
- (2)All the questions are compulsory and carry equal marks.
- (3)Before you start to attempt the questions, you must explore this booklet and ensure that it contains all the pages and find that no page is missing or replaced. If you find any flaw in this booklet, you must get it replaced immediately.
- (4)Each question carries negative marking also as 1/3 mark will be deducted for each wrong answer.
- (5)Answer must be shown by completely blackening the corresponding circles on the Answer-Sheet against the relevant question number by Black/Blue ball pen only.
- (6)Failure to comply with any of the above Instructions will make a candidate liable to such action/penalty as may be deemed fit.
- (7)Answer the questions as quickly and as carefully as you can. Some questions may be difficult and others easy. Do not spend too much time on any question.
- (8)Mobile phones and wireless communication device are completely banned in the examination halls/rooms. Candidates are advised not to keep mobile phones/any other wireless communication devices with them even switching it off, in their own interest. Failing to comply with this provision will be considered as using unfair means in the examination and action will be taken against them including cancellation of their candidature.
- (9)No rough work is to be done on the Answer-Sheet.
- No candidate can leave the examination hall before completion of the exam.

NAME OF CANDIDA	TE:
DATE :	CENTRE CODE :
ROLL No	

Maximum Marks 100 **Total Questions** 100 Time Allowed 90 Min.

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Two pipes A and B can fill a tank in 24 minutes and

32 minutes respectively. If both the pipes are opened

simultaneously, after how much time (in minutes) should B be closed so that the tank is full in 18

 $\frac{1}{\sqrt{3}+\sqrt{4}}+\frac{1}{\sqrt{4}+\sqrt{5}}+\frac{1}{\sqrt{5}+\sqrt{6}}+\frac{1}{\sqrt{6}+\sqrt{7}}+\frac{1}{\sqrt{7}+\sqrt{8}}+\frac{1}{\sqrt{8}+\sqrt{9}}~?$

The particle with 13 protons and 10 electrons is

(B) 8

(D) 10

(D) $5 - \sqrt{3}$

(B) Al+3 ion



(A) Kerala (C) Bihar

strong. Give answer:

Ellora caves are located in

(A) If only I is strong

(B) If only II is strong (C) Both I and II are strong (D) Neither I nor II is strong

development of the country.

Statement:

encouraged?

Direction 2 to 4: In the following question, based on the given

Should young

Arguments: I. Yes, they will help in the industrial

II. Yes, they will reduce the burden on the

statement which of the following argument(s) is/are

(B) Telangana

(D) Maharashtra

entrepreneurs

1.

2.

(Mathematics, Mental Ability, General Science & General Awareness)

9.

10.

11.

minutes?

(A) $\sqrt{3}$ (C) $3 - \sqrt{3}$

(A) AI

What is the value of

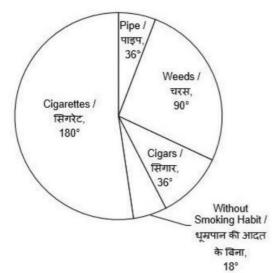
(A)5(C) 6

	епроупент такет.		(C) nitrogen isotope	(D) None of these				
3.	Statement: Should school education be made free in India? Arguments: I. Yes, this is the only way to improve the level of literacy. II. No, it will add to the already heavy burden on the exchequer.	12.	ratio of the speeds of A	vel from points X to Y and the to that of B's 2 : 7. What is the and B to reach from X to Y? (B) 3 : 5 (D) 7 : 2				
4.	In the following question, based on the given statement which of the following assumption(s) is/are implicit. Statements: Postal ratio have been increased to	13.	mathematical sign to r the given equation? 5 * 5 * 5 * 3 * 10	is the correct combination of eplace * sign and to balance				
	meet the deficit.		(A) × + = × (C) + ÷ = ×	$(B) + - \times = (D) + \div \times =$				
	Assumptions: I. The present rates are very low.		4100	(5)				
	II. If the rates are not increased, the deficit cannot be met.(A) If only I is implicit	Direc	tion 14 to 16: Select the re the given alternatives.	elated word/letter/number fron				
	(B) If only II is implicit	14.	Nation: Flag::?:?					
	(C) Both I and II are implicit		(A) Emblem : Sign	(B) School : Uniform				
	(D) Neither I nor II implicit		(C) Peacock : Animal	(D) Company : Biscuits				
5.	Which two rivers meet and form the largest delta in	15.	ABZY : CDXW : : EFVU	:?				
	the world?		(A) IJRQ	(B) KLPO				
	(A) Jhelum-Chenab (B) Rabi-Beas		(C) MNST	(D) GHTS				
	(C) Narmada-Tapi	16.	50:65::101:?					
	(D) Ganga-Brahmaputra		(A) 12	(B) 117				
6.	What approximate value should come in place of the		(C) 122	(D) 145				
0.	question mark (?) in the following question?	17.	The process in which	no heat enters or leaves fron				
	$\sqrt{6080} \div \sqrt[3]{74000} + \sqrt[4]{6560} = ?$	17.	the system is termed as					
			(A) Isochoric	(B) Isobaric				
	(A) 30 (B) 10 (C) 130 (D) 170		(C) Isothermal	(D) Adiabatic				
	(C) 130 (D) 170							
7.	An article is sold for ₹ 300 at a profit of 20%. Had it	18.	What is the Least Common Multiple of 8, 15, 24 a					
	been sold for ₹ 235, the loss percentage would have		72? (A) 350	(B) 360				
	been		(C) 720	(D) 735				
	(A) 16 (B) 3		(0) 720	(6) 700				
	(C) 5 (D) 6	Direc	tion 19 to 21: The pie-cha	rt shows the result of a survey				
8.	When two bodies stick together after the collision is		among 119060 people	concerning the use of tobacco				
na an	said to be .		Study the pie-chart and	answer the question.				
	(A) Perfectly elastic (B) Partially elastic							

(C) Completely inelastic

(D) None of these





19. What is the percentage of people under survey, who do not have any smoking habit?

(A) 7.5%

(B) 10%

(C)5%

(D) 5.2%

20. What is the number of people smoking cigarettes?

(A) 53905

(B) 59305

(C) 59530

(D) 11906

21. What is the difference between the number of cigarette smoking people and the pipe smoking people?

(A) 59530

(B) 47624

(C) 11906

(D) 29765

22. In a certain code language, 'SCOOTER' is written as 'SOCOETR'. What is the code for 'TRACTOR' in that code language?

(A) TRACTOR

(B) TARTOCR

(C) TRACOTR

(D) TARCOTR

23. If 'Tiger' is called 'Fox', 'Fox' is called 'Lion', 'Lion' is called 'Rat', 'Rat' is called 'Goat', 'Goat' is called 'Cow', then which of the following is the king of forest?

(A) Fox

(B) Lion

(C) Rat

(D) Cow

What is the area (in cm2) of a rhombus one of whose 24. diagonals measures 8 cm and the other 10 cm?

(A) 20

(B) 32

(C)40

(D)48

25. In a class of 45 students, a boy is ranked 20th. When two boys joined, his rank was dropped by one. What is his new rank from the end?

(A) 25th

(B) 26th

(C) 27th

(D) 28th

26. Two numbers are respectively 20% and 50% more than a third number. What percentage is the first number of the second number?

(A) 60

(B) 50

(C)80

(D) 75

27. Chong is the folk dance of which state?

(A) West Bengal

(B) Kerala

(C) Nagaland

(D) Andhra Pradesh

28. The vertical lines in modern periodic table are called

(A) Period

(B) Group

(C) Non-metal

(D) Metal

29. In a certain code language, '341782' is written as 'DONKEY' and '0596' is written as 'SAGS'. What is the code for '75195044' in that code language?

(A) KANGASOO

(B) KANSAGOO

(C) KANGAROO

(D) KARNAGOO

30. In a charged capacitor the energy is stored in _

(A) positive charge

(B) negative charge

(C) the electric field between the plates

(D) the edges of the capacitor plates

Directions 31 to 34: A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.

31. A, C, F, J, O, ?, B

(A) I

(B) H

(C) U

(D) D

32. 17, 14, 15, 12, 13, ?, ?

(A) 10, 11

(B) 14, 11

(C) 11, 13

(D) 12, 15

33. NAT, LCR, JEP, HGN, ?

(A) GHL

(B) FIL

(C) FHM

(D) GIM

34. A1Z, E2V, I6R, M21N, Q88J, ?

(A) F445U

(B) U445F

(C) G342C

(D) U441F

35. The average of 11 results is 30, that of the first five is 25 and that of the last five is 28. What is the value of the 6th number?

(A) 65

(B)62

(C) 67

(D) 70

36. What approximate value should come in place of the question mark (?) in the following question? $572.112 + 38.106 \times 0.75 - 16 = ?$

(A) 289

(B) 305

(C)448

(D) 584

37. Geostationary orbit is at a height of

(A) 6 km

(B) 1,000 km

(C) 3,600 km

(D) 36,000 km

Direction 38 to 40: Select the odd word/letter from given alternatives.

38.

39.

(A) Silver

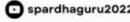
(B) Platinum (D) Diamond

(C) Zinc

(A) CCDFGG (C) MMNOPP (B) HHIKLL (D) QQRTUU

40. (A) CBA (B) YWX

(C) IHG (D) MLK





Direction 41 and 42: In the following question, based on the given statement which of the following conclusion(s) is/are follow.

Give answer:

- (A) If only I follows.
- (B) If only II follows.
- (C) Both I and II are follow.
- (D) Neither I nor II follows.
- 41. Statements: I. Some lights are rays.

II. All rays are optics.

Conclusions: I. Some lights are definitely not optics.

II. Some rays are definitely not lights.

42. Statements: I. All C are T.

II. No T is J.

III. All J are E.

Conclusions: I. No C is a J. II. All C being E is a possibility.

43. Which one of the following does not form amalgam?

- (A) Ag
- (B) Cu
- (C) Fe
- (**D**) Zn

44. A person bought an article and sold it at a loss of 10%. If he had bought it for 20% less and sold it for ₹ 55 more he would have had a profit of 40%. What is the cost price (in ₹) of the article?

- (A) 200
- (C) 300
- (D) 350

45. S is older than K. I is older than K but younger than S. X is younger than both M and K. K is older than M. Who is the youngest?

- (A) X
- (B) M

(C) I

(D) K

If $\frac{\sec\theta + \tan\theta}{\sec\theta - \tan\theta} = \frac{5}{3}$, then $\sin\theta$ is equal to 46.

(C) $\frac{2}{3}$

47. Present age of Meena is 8 times of her daughter's age. After 8 years, the ratio of the ages of Meena and her daughter will be 10:3. Find the present age of Meena.

- (A) 32 years
- (B) 40 years
- (C) 36 years
- (D) 35 years

48. How many protons are there in deuterium?

(A) 0

(B) 1

- (C) 2
- (D) 3

49. If $7\sin^2\theta + 3\cos^2\theta = 4$, $(0^{\circ} \le \theta \le 90^{\circ})$ then what is the value of θ?

50. When did Cabinet Mission arrive in India?

- (A) 1942
- (B) 1945
- (C) 1946
- (D) 1947

Direction (51-52) Read the following information carefully and answer the questions given below follow.

I. 'P × Q' means 'P is the father of Q'

II. 'P - Q' means 'P is the sister of Q' III. 'P + Q' means 'P is the mother of Q'

51. Which of the following represents 'R is the niece of M'?

- (A) M ÷ K × T R
- **(B)** M J + R N
- (C) R M × T ÷ W
- (D) M + J R N

52. In the expression B + D × M ÷ N, how is M related to

- (A) Granddaughter
- (B) Son
- (C) Grandson
- (D) Daughter

53. What is the compound interest accrued on an amount of ₹ 8500 in two years at the rate of interest 10% per annum?

- (A) ₹ 1875
- (B) ₹ 1885
- (C) ₹ 1785
- (D) ₹ 1765

54. The massacre of the crowd at Jallianwala Bagh at Amritsar took place on

- (A) 1st June, 1918
- (B) 13th April, 1919
- (C) 14th April, 1920
- (D) 6th July, 1921

Direction 55 to 57: Six plays K, L, M, N, O and P are to be staged. Each play is to be staged in a different month starting from March to August of the same year. Play K will be staged in a month that has only thirty days. Two plays will be staged between play L and K. Three plays will be staged between play P and O. The month in which play P will be staged does not have thirty one days. Play N will not staged immediately before or immediately after play P.

55. Which play will be staged in April?

- (A) K
- (B) L
- (C) O
- (D) P

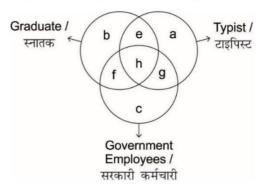
Play M will be staged in which of the following 56. months?

- (A) August
- (B) April
- (C) June
- (D) May

57. How many plays will be staged before play N?

- (A) One
- (B) Three
- (C) Four
- (D) Two

Direction 58 and 59: Below is given a figure. Study the diagram carefully and answer the questions below.





58.	Which of the following I who are only graduates? (A) e (C) g	(B) h (D) a		what is the difference reduced price per kg? (A) 75 paise (C) 62 paise	between the original and (B) 53 paise (D) 60 paise
59.		letter represents the typists loyees but not graduates? (B) g (D) h	71.	Which of the following is (A) Pigeon (C) Humming bird	(B) Parrot (D) House sparrow
60.		rkman as B. Together, they . In how many days can it be	72.	What is the value of 1 + 2 (A) 5565 (C) 5835	(B) 4875 (D) 5775
	(A) 20 (C) 19	(B) 25 (D) 21	73.	In which of the following (A) Mysore (C) Hyderabad	cities is Charminar situated? (B) Rajkot (D) Lucknow
61.	Indian Air Force Day is of (A) 2 October (C) 15 October	oserved on which date? (B) 8 October (D) 19 October	74.	If '+' means '÷', 'x' mea	ns '+', '–' means 'x' and '÷' of the following equations is
62.	Who founded Independer (A) Ilyas Shah (C) Husain Shah	nt Sultanate of Bengal? (B) Murshid Quli Khan (D) Alivardi Khan		(A) $36 + 6 - 3 \times 2 = 20$ (C) $36 \times 6 + 3 \times 2 > 20$	
63.	metres in 20 seconds. We to cross a man standing of		75.	What is the least numbe 8, 12, 15 and 21? (A) 720 (C) 900	(B) 840 (D) 1050
	(A) 8 seconds (C) 10 seconds	(B) 12 seconds (D) 15 seconds	76.	Insect resistant cotton engineered by inserting a	plant have been genetically gene from a/an
64.	M is daughter of S. S is w M is related to my wife? (A) Cousin	rife of my wife's brother. How (B) Sister-in-law		(A) Virus (C) Insect	(B) Bacterium (D) Plant
	(C) Niece	(D) Sister	77.	Megasthenes was an en kings?	voy of which of the following
65.	When did the British G directly? (A) After the Battle of Pla	overnment start ruling India		(A) Seleucus (C) Darius	(B) Alexander (D) Antiochus
	(B) After the Battle of Par (C) After the War of Myso (D) After Sepoy Mutiny	nipat rre	78.	If the product of two prir is their Least Common M (A) 1 (B) 21	ne numbers is 21, then what ultiple?
66.	The sum of two numbers 4. What is the ratio of the (A) 11:7	is 40 and their difference is both numbers? (B) 11:8		(C) Equal to their Highes (D) 42	t Common Factor
	(C) 11 : 9	(D) 7 : 6	79.	the following games/spor	
67.	(A) The Chief Minister(B) The Governor	d of the State Government?		(A) Golf (C) Badminton	(B) Tennis (D) Table Tennis
	(C) The Secretary of the (D) The Chief Secretary		80.	What is the maximum ag of the President of India? (A) 58 years (B) 60 years	e limit prescribed for the Post
68.	value of abc?	$(a \neq b \neq c)$, then what is the		(C) 62 years (D) There is no maximum	n age limit
	(A) ± 1 (C) 0	(B) ± 2 (D) $\pm \frac{1}{2}$	81.		s itself in 4 years at a simple ears will it amount to 8 times (B) 28
69.	Keratin, a fibrous protein (A) Hair and nails	is present in (B) Wool		(C) 16	(D) 32
	(C) Skin	(D) All of the above	82.	Rigidity of cell wall is due (A) Cellulose	(B) Lignin
70.		ing gone down by 10%, a more sugar for ₹ 270. Then		(C) (A) and (B) both	(D) Suberin



83.		ncil was held in which of the	92.	Blood group which have no antibodies is						
	following cities?	24-24K-930		(A) A	(B) B					
	(A) Nalanda	(B) Gaya		(C) AB	(D) O					
	(C) Rajgriha	(D) Bodh Gaya								
			93.		shopkeeper gains the selling					
84.		nally. The sum of their area is		price equal to 20 pens. V	What is his gain percent?					
	130π cm ² and the distar	nce between their centre is 14		(A) 25%	(C) 20%					
	cm. What is the radius o	f the smaller circle?		(C) 15%	(D) 12%					
	(A) 2 cm	(B) 3 cm								
	(C) 4 cm	(D) 5 cm	94.	Which state assembly if first time in September 2	introduced Zero Hour for the 024?					
85.	Finance Commission is	constituted .		(A) Punjab	(B) Uttar Pradesh					
	(A) every year	(B) once in two years		(C) Haryana	(D) Himachal Pradesh					
	(C) once in four years									
	, ,	,	95.	One thousand bytes is a						
86.	Who led Indian parlian	nentary delegation at the 6th		(A) Kilobyte	(B) Megabyte					
	G20 parliamentary spea			(C) Gigabyte	(D) Terabyte					
		(B) Om Birla								
		(D) Nitin Gadkari	96.	With which sport the terr	n 'caddie' is associated?					
	.,,	. ,		(A) Polo	(B) Golf					
87.	Which famous singer is	awarded with Bharat Ratna		(C) Bridge	(D) Billiards					
	Award in the year 2019?									
	(A) Bhupen Hazarika	(B) Asha Bhosle	97.	Where will the Uttar Pi	radesh government construct					
	(C) Manna Dey	(D) Lata Mangeshkar			dedicated to Indian astrology,					
				astronomy, and Vedic lit	erature?					
88.	Which union minister I	has launched the AgriSURE		(A) Lucknow	(B) Varanasi					
	Fund in New Delhi in Se			(C) Agra	(D) Ayodhya					
	(A) Nirmala Sitharaman									
	(B) Bhagirath Choudhar	У	98.		ed as a selector of the Indian					
	(C) Shivraj Singh Chouh			men's cricket team by	the BCCI, replacing Salil					
	(D) Ram Nath Thakur			Ankola?						
				(A) Rahul Dravid	(B) Ajay Ratra					
89.	In which state was the	Nalanda University located in		(C) Saurav Ganguly	(D) VVS Laxman					
	India?			DI.						
	(A) Bengal	(B) Bihar	99.	The first postal stamp in	India was issued in					
	(C) Orissa (D) Uttar Pradesh			(A) 1855	(B) 1853					
				(C) 1857	(D) 1852					
90.	Let ABC be an ed	quilateral triangle and AD								
	perpendicular to BC, the	$AB^2 + BC^2 + CA^2 = ?$	100.	Seismograph is used to measure						
	(A) 3AD ²	(B) 5AD ²		(A) earthquake waves	(B) tidal waves					
	(C) 2AD ²	(D) 4AD ²		(C) cyclonic waves	(D) sea waves					
		SP								
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Space for rough work

(A) Delhi (C) Chennai



(B) Kolkata (D) Mumbai



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7	A	B	C	D	Ш	27	A	B	C	D		47	A	B	C	D		67	A	B	C	0	8	7 (0	B	C	0	
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12	A	B	0	D		32	A	B	C	0		52	A	B	C	D	П	72	A	B	0	0	9	12	0	B	0	D	
13	A	B	C	D	Ш	33	A	B	C	0	3	53	A	B	C	D	П	73	A	B	C	0	9	13 (A	0	B	C	D	
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18	A	B	0	0		38	(A)	(B)	0	0	Ш	58	(A)	B	0	0		78	A	B	0	0		18		В	0	0	
19	(A)	B	0	0		39	(A)	B	0	0	Ш	59	(A)	B	0	0		79	(A)	B	0	0		19		B	0	0	
20	(A)	B	0	D		40	(A)	В	C	D		60	(A)	B	C	0		80	(A)	В	C	0	10	0 (4	9	B	C	(D)	
Cor	rect					Cor	rect					Cor	rect					Correct					C	Correct					
Inco	orrect					Inco	orrect					Inco	rrect					Inco	orrect				Ir	corre	ct				
Mar	ks					Mar	ks		-			Mar	ks					Mar	ks				N	larks					
Student's Signature		Maximum Marks						Marks Obtained						Marks in %					Remarks										