FTRE
FIITJEE TALENT REWARD EXAM

SAMPLE PAPER
for Students presently in Class V

Paper 2 - NTSE Science & Mathematics

Duration : 60 minutes   *Maximum Marks : 48*

Please read the instructions and guidelines carefully :

Important Note : Please ensure to accurately input the details for the Class and Paper No. as indicated at the top of this sheet into the corresponding columns / fields on the OMR sheet before proceeding with the paper. Incorrectly filled information regarding the class or paper may result in inaccurate outcomes or results.

"This paper has been scientifically designed to evaluate your potential – manifested and hidden for the target examinations mentioned in various sections of the paper. Thus, your adherence to the instructions is critical in the evaluation of the same"

1. This Question paper consists of 2 sections.

2. **Student should devote allotted time for each section. If a section is easy, then it is easy for everyone & was meant to be like that with a goal in mind. Do not switch over to another section if you find the section to be easy. If a section is tough, then it is tough for everyone.** Please note that each section has been allocated a time limit of 30 minutes. Dedicating the full 30 minutes to finish each section successfully is essential. Opening the next section before completing the allotted time for the preceding section is not permitted. This adherence is crucial for assessing your true potential, as each section is meticulously crafted to evaluate your potential for the corresponding competitive examinations.

3. Candidate should open the seal of Section-II only after completing 30 minutes of Section-I.

4. Sheets will be given to each candidate for rough work. Candidate must fill all details on the rough sheet and submit the sameto invigilator along with OMR sheet. Candidate must mention the Question No. while doing the rough work in the sheet.

5. Please note candidates are not allowed to bring any prohibited items into the exam hall such as electronic devices, mobile phones, smart watch, earphones, calculators, books, notes, formula sheets, and bags.

6. Marking scheme is given in table below:

Section	Subject		Question no.	Marking Scheme for each question	
				Correct answer	**Wrong answer**
SECTION – I **(NTSE-Science)** **Time Allotted: 30 Minutes**	PHYSICS	(Part-A)	1 to 3	**+1**	**0**
	CHEMISTRY	(Part-B)	4 to 6	**+1**	**0**
	BIOLOGY	(Part-C)	7 to 9	**+1**	**0**
	PHYSICS	(Part-D)	10 to 14	**+1**	**0**
	CHEMISTRY	(Part-E)	15 to 19	**+1**	**0**
	BIOLOGY	(Part-F)	20 to 24	**+1**	**0**
SECTION – II **(NTSE-Mathematics)** **Time Allotted: 30 Minutes**	MATHEMATICS	(Part-A)	25 to 33	**+1**	**0**
	MATHEMATICS	(Part-B)	34 to 48	**+1**	**0**

Section – I

Time: 30 Minutes

PHYSICS (PART-A)

*This part contains **3 Multiple Choice Questions** number **1 to 3**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

1. Which of the following is an example of a wedge?
   (A) Knife   (B) Scissors
   (C) Stapler   (D) both (A) and (B)

2. Grease is used to
   (A) reduce friction   (B) increase friction
   (C) make a surface shiny   (D) make a surface oily

3. Size of moon keeps changing when viewed from earth. This change is called
   (A) Segment of moon   (B) Solar eclipse
   (C) Lunar eclipse   (D) Phases of moon

CHEMISTRY (PART-B)

*This part contains **3 Multiple Choice Questions** number **4 to 6**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

4. Matter has_____
   (A) Area   (B) Weight
   (C) Volume   (D) All of these

5. Lithosphere contain which of the following
   (A) Ozone   (B) Water
   (C) Land   (D) Air

6. Coal, petroleum & minerals are
   (A) Artificial resources   (B) Natural underground resources
   (C) Natural resource on earths surface   (D) None of these

BIOLOGY (PART-C)

*This part contains **3 Multiple Choice Questions** number **7 to 9**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

7. Changes and development of body, habit in animals which help them to survive
   (A) adaptation   (B) training
   (C) Exercise   (D) Adjustment

8. Food contains _____ that keeps us healthy.
    (A) nutrients   (B) all of these
    (C) components   (D) substances

9. Which of these is absorbed by roots of plants from the soil?
    (A) Water   (B) Nutrients
    (C) Both (A) & (B)   (D) None of these

PHYSICS (PART-D)

*This part contains **5 Multiple Choice Questions** number **10 to 14.** Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

10. Force is cause of
    (A) inertia   (B) charging
    (C) change in momentum   (D) all are correct

11. Arrange the following planets in ascending order of their distance from the sun.
    I. Jupiter II. Venus III. Mercury IV. Mars V. Earth
    (A) I, V, IV, II, III   (B) III, II, V, IV, I
    (C) III, II, IV, V, I   (D) I, IV, V, II, III

12. When a stone tied to a string is whirled in a circle, the work done on it by the string is
    (A) zero   (B) negative
    (C) positive   (D) none of these

13. $1 \text{ km} \times 1 \text{ m} = $ _____
    (A) 10^5 m   (B) 1000 m^2
    (C) 10^5 m^2 (D) None

14. When a man applies 10 N force on a body in south direction and another man applies 20 N force on same body in north direction. Then the net force acting on the body is
    (A) 20 N in north   (B) 10 N in north
    (C) 10 N in south   (D) 20 N in south

CHEMISTRY (PART-E)

*This part contains **5 Multiple Choice Questions** number **15 to 19.** Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

15. Which of the following is a sedimentary rock?
    (A) Slate   (B) Marble
    (C) Granite   (D) Sandstone

16. Molecules are made up of
    (A) Atoms   (B) Crystals
    (C) Compounds   (D) Gases

17. _____have a definite volume but do not have a definite shape
    (A) Solids   (B) Liquids
    (C) Gases   (D) Crystals

18.   Presence of toxic and harmful substances in soil is known as
       (A) Water cycle   (B) Oxygen cycle
       (C) Nitrogen cycle   (D) Water Pollution

19.   The liquid that flows out of an active volcano is?
       (A) Water   (B) Petrol
       (C) Lava   (D) Magma

BIOLOGY (PART-F)

*This part contains **5 Multiple Choice Questions** number **20 to 24**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

20.   Hibernation means:
       (A) Winter sleep of the animals
       (B) Summar-sleep of the animals
       (C) Blending-behaviour of an animal with its surrounding
       (D) None of these

21.   Camouflage means:
       (A) resemblance of one species with another species
       (B) Interaction of organism with environment
       (C) Blending-behaviour of an animal with its surrounding
       (D) Development of plants and animals over years of time

22.   Native place where animals live is called
       (A) habitat   (B) forest
       (C) home   (D) none of these

23.   Bone at the centre of the chest is
       (A) Femur   (B) Limbs
       (C) Ulna   (D) Sternum

24.   Which among the following is not included in a balanced diet?
       (A) Roughage   (B) Minerals
       (C) Protein   (D) None of these

Section – II

Time: 30 Minutes

MATHEMATICS – (PART – A)

*This part contains **9 Multiple Choice Questions** number **25 to 33**. Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

25. In a primary school with strength 600, there are 100 students in Nursery, Lower KG and KG 50% of all students are boys and 50% are girls.
How many students are boys ?
(A) 100
(B) 200
(C) 300
(D) 400

26. Find the average of 5 primes between 15 and 35.
(A) 23.5
(B) 23.6
(C) 23.7
(D) 23.8

27. Find simple interest on Rs 1250 for 2 years at 5% per annum
(A) 124
(B) 125
(C) 120
(D) 250

28. If 510.237 = 5A + B + $\dfrac{23}{C} + \dfrac{7}{D}$ then find value of A + B + C + D.

(A) 1200
(B) 1210
(C) 1310
(D) 1300

29. If Ramya types 180 words in 4 minutes, how many words will she type in 9 minutes?
(A) 405
(B) 450
(C) 80
(D) 360

30. Two equal sides of a triangle are each 8 m less than twice the third side. If perimeter of triangle is 59 m. Find third side.
(A) 22
(B) 15
(C) 30
(D) 8

31. The value of -84 × 13 + 365 is equal to

(A) 627
(B) −727
(C) −627
(D) 727

32. 0.04 × 0.0162=?
(A) 6.48
(B) 0.00648
(C) 64.8
(D) 0.000648

33. Which of the following numbers is divisible by 8?
(A) 87653234
(B) 78956042
(C) 64298602
(D) 98741032

MATHEMATICS – (PART – B)

*This part contains **15 Multiple Choice Questions** number **34 to 48.** Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.*

34. Which statement is false?
(A) 4.69 > 4.6
(B) 1061 > 10.601
(C) 1.09 < 1.089
(D) 921.6 > 92.1601

35. What is the sum of the reciprocals of 8 and $\dfrac{1}{6}$.

(A) $6\dfrac{1}{8}$
(B) $\dfrac{8}{49}$

(C) $8\dfrac{1}{6}$
(D) $\dfrac{6}{49}$

36. Two numbers are in the ratio 7 : 9. If the sum of the numbers is 112, then the larger number is:
(A) 63
(B) 42
(C) 49
(D) 72

37. If $121 \times 169 = 143 \times X$ then X is
(A) 143
(B) 121
(C) 13
(D) 11

38. The least number divisible by each of the number 15, 20, 24, 32 and 36 is
(A) 1460
(B) 1440
(C) 1480
(D) 1420

39. If ∠A of a ΔABC measure 56°, ∠C = 3∠B, find the measure of ∠B.
(A) 62°
(B) 31°
(C) 93°
(D) 56°

40. The L.C.M. of 12, 24 and 36 is
(A) 24
(B) 36
(C) 108
(D) 72

41. Simplify $\dfrac{1}{3 - \dfrac{1}{2 - \dfrac{1}{5/7}}}$.

(A) $\dfrac{2}{3}$
(B) $\dfrac{3}{5}$

(C) $\dfrac{3}{4}$
(D) $\dfrac{2}{5}$

42. If $\dfrac{4}{5}$ of a number exceeds its $\dfrac{2}{3}$ by 8, then the number is
(A) 30
(B) 45
(C) 90
(D) 60

43. Simplify $\dfrac{\dfrac{5}{4}-\dfrac{1}{4}}{1\dfrac{9}{20}+1\dfrac{3}{10}}$

    (A) $\dfrac{4}{11}$ (B) $\dfrac{3}{11}$

    (C) $\dfrac{2}{11}$ (D) None

44. A machine prints 1500 news papers in 45 min. How many news papers will be printed in 2 hrs?
    (A) 3000 (B) 4000
    (C) 2000 (D) 1000

45. The value of $12.05 \times 5.4 \div 0.6$ is equal to
    (A) 108.45 (B) 109.45
    (C) 111.45 (D) 1084.5

46. The product of three numbers is 29500, if two of the three numbers are 25 and 59 then the third number is
    (A) 15 (B) 18
    (C) 22 (D) 20

47. If $(321 \times 9) - x = 2{,}888$, then x =
    (A) 1 (B) 0
    (C) 2 (D) 3

48. Find the average of 2, 4, 6, 3, 7, 9, 4
    (A) 0 (B) 1
    (C) 5 (D) 3

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ANSWER KEY
(SAMPLE PAPER)

1.	D	2.	A	3.	D	4.	D
5.	C	6.	B	7.	A	8.	A
9.	C	10.	C	11.	B	12.	A
13.	B	14.	B	15.	D	16.	A
17.	B	18.	D	19.	C	20.	A
21.	C	22.	A	23.	D	24.	D
25.	C	26.	D	27.	B	28.	B
29.	A	30.	B	31.	B	32.	D
33.	D	34.	C	35.	A	36.	A
37.	A	38.	B	39.	B	40.	D
41.	C	42.	D	44.	B	45.	A
46.	D	47.	A	48.	C		