SAMPLE PAPERS

NAT
National Admission Test

For **Students**

Going to Class 6th

1 Year Program

PRE FOUNDATION

Head Office: Aggarwal Corporate Heights, 1st Floor, Netaji Subhash Place, Opp. Wazirpur Depot, Pitampura, Delhi.

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Sample Paper – 1 Year Program

NATIONAL ADMISSION TEST

Duration: 2.5 Hrs   **Maximum Marks: 350**

PAPER SCHEME:

- The paper contains **60 Objective Type Questions** divided into three sections: **Section - I, Section – II and Section – III.**

- **Section I** contains **10 Multiple Choice Questions (1-10)** based on **Mental Aptitude**. Each question has 4 choices **(A)**, **(B)**, **(C)** and **(D)**, out of which **ONLY ONE CHOICE is correct**.

- **Section II** contains **35 Multiple Choice Questions (11-45)** based on **Mathematics**. Each question has 4 choices **(A)**, **(B)**, **(C)** and **(D)**, out of which **ONLY ONE CHOICE is correct**.

- **Section III** contains **15 Multiple Choice Questions (46-60)** based on **Science**. Each question has 4 choices **(A)**, **(B)**, **(C)** and **(D)**, out of which **ONLY ONE CHOICE is correct**.

MARKING SCHEME:

- **Section I** : For each question, **5 marks** will be awarded for correct answer and **–1 negative marking** for incorrect answer.

- **Section II & III** : For each question, **6 marks** will be awarded for correct answer and **–1 negative marking** for incorrect answer.

GENERAL INSTRUCTIONS:
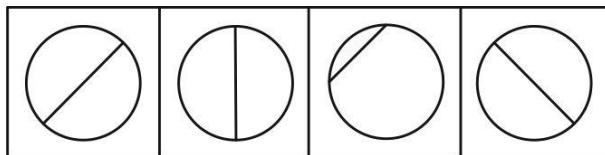
- For answering a question, an **ANSWER SHEET (OMR SHEET)** is provided separately. Please fill your **Name, Roll Number, Seat ID, Date of Birth** and the **PAPER CODE** properly in the space provided in the **ANSWER SHEET.** IT IS YOUR OWN RESPONSIBILITY TO FILL THE OMR SHEET CORRECTLY.

- Violating the examination room discipline will immediately lead to the cancellation of your paper and no excuses will be entertained.

- No one will be permitted to leave the examination hall before the end of the test.

- Please submit both the question paper and the answer sheet to the invigilator before leaving the examination hall.

SUGGESTIONS: *Before starting the paper, spend 2-3 minutes to check whether all the pages are in order and report any issue to the invigilator immediately.*

- Try to attempt the Sections in their respective order.
- Do not get stuck on a particular question for more than 3-4 minutes. Move on to a new question as there are 60 questions to solve.

SECTION - I [MENTAL APTITUDE]

1. Choose the figure which is different from the rest.
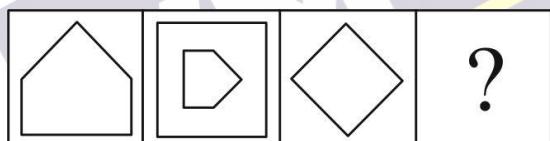
(1)   (2)   (3)   (4)

(A) 1   **(B)** 2   **(C)** 3   **(D)** 4

2. In this question consists of two sets of figures. Figures A, B, C and D constitute the Problem Set while figures 1, 2, 3, 4 constitute the Answer Set. There is a definite relationship between figures A and B. Establish a similar relationship between figures C and D by selecting a suitable figure from the Answer Set that would replace the question mark (?) in fig (D).
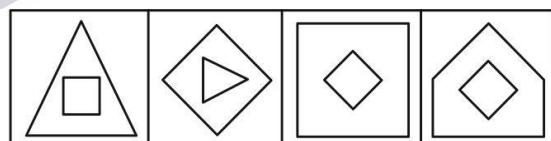
Select a suitable figure from the Answer Figures that would replace the question mark (?).

Problem Figures: Answer Figures:

(A)   (B)   (C)   (D)   (1)   (2)   (3)   (4)

(A) 1   **(B)** 2   **(C)** 3   **(D)** 4

3. A and B are brothers. C and D are sisters. A's son is D's brother. How is B related to C?

(A) Father   **(B)** Brother   **(C)** Uncle   **(D)** Grandfather

**4.** Choose the alternative which is closely resembles the water-image of the given combination.
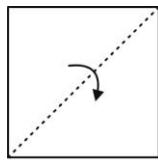
monday

(1) y a d n o m   **(2)** γ ʁ b ɪ o ɯ   **(3)** λ ʁ q u o ɯ   **(4)** ɯ o ɪ q ʁ λ

(A) 1   **(B)** 2   **(C)** 3   **(D)** 4
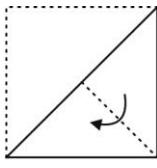
5. If air is called green, green is called blue, blue is called sky, sky is called yellow, yellow is called water and water is called pink, then what is the color of clear sky?

(A) Blue   **(B)** Sky   **(C)** Yellow   **(D)** Water

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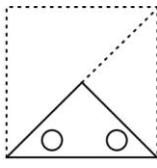
6. Choose a figure which would most closely resemble the unfolded form of Figure (Z).
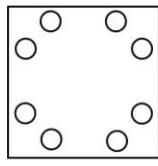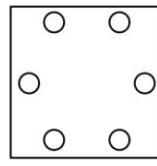
X   Y   Z
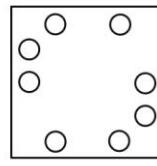
(1)   (2)   (3)   (4)

(A) 1 **(B)** 2 **(C)** 3 **(D)** 4

7. Look at this series: 22, 21, 23, 22, 24, 23, … What number should come next?
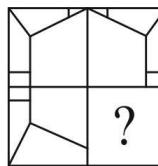
(A) 22 **(B)** 24 **(C)** 25 **(D)** 26

8. Identify the figure that completes the pattern.

(X)   (1)   (2)   (3)   (4)

(A) 1 **(B)** 2 **(C)** 3 **(D)** 4
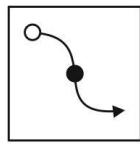
9. Arrange the words given below in a meaningful sequence.

1. Protect **2.** Pressure **3.** Relief
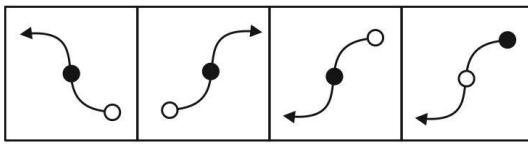
4. Rain **5.** Flood

(A) 2, 4, 3, 1, 5 **(B)** 2, 4, 5, 1, 3 **(C)** 2, 5, 4, 1, 3 **(D)** 3, 2, 4, 5, 1
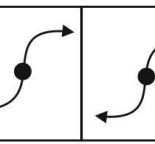
10. Choose the correct mirror image of the given figure (X) from amongst the four alternatives.
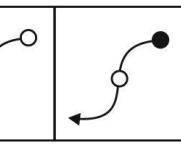
(X)   (1)   (2)   (3)   (4)

(A) 1 **(B)** 2 **(C)** 3 **(D)** 4
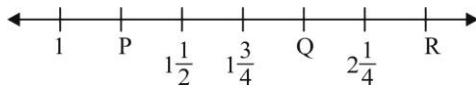
SECTION - II [MATHEMATICS]

11. Vijay and Ajay are filling a fish tank with water. Vijay fills $\frac{1}{5}$ of the tank. Then Ajay fills $\frac{2}{5}$ of the tank.

How much of the tank have they filled in all?

(A) $\frac{3}{25}$ **(B)** $\frac{3}{10}$ **(C)** $\frac{3}{5}$ **(D)** $\frac{2}{5}$

12. Figure below shows a number line.

The value of $P + Q + R$ is:

(A) $5\dfrac{1}{4}$ (B) $5\dfrac{1}{2}$ (C) $5\dfrac{3}{4}$ (D) $6\dfrac{1}{4}$

13. The number $2*3*$ has the same digit in the place of the asterisks and is divisible by 3. Which of the following digits should replace the asterisks?

(A) 6   (B) 7   (C) 8   (D) 9

14. Which multiplication is not correct?

(A) $\dfrac{1}{2} \times 4.12l = 2600\text{m}l$ (B) $\dfrac{2}{3} \times 2.19l = 1460\text{m}l$

(C) $\dfrac{3}{4} \times 3l = 2250\text{m}l$ (D) $\dfrac{4}{5} \times 2l = 1600\text{ m}l$

15. There are 45 animals in a pet shop. $\dfrac{2}{3}$ of them are puppies, 6 of them are parrots and the rest are kittens. How many kittens are in the pet shop?

(A) 10   (B) 9   (C) 8   (D) 7

16. Sameer was told to multiply 126 by 32. Instead he multiplied 126 by 23. The difference in his answer, is:

(A) 1134   (B) 1143   (C) 2898   (D) 4032

17. A watermelon is 10 times as heavy as two apples of equal mass. If the mass of each apple is 214 g, find the mass of 3 such watermelons.

(A) 12840 g   (B) 6420 g   (C) 2140 g   (D) 4280 g

18. The adjoining figure is made up of 2 similar squares, A and B. Find the perimeter of the figure if the area of square A is 36 cm^2.

(A) 24 cm   (B) 48 cm   (C) 30 cm   (D) 36 cm

19. The charges for hiring a boat are shown below.

For the first hour	Rs. 15
For every additional hour or part there of	Rs. 10

Mr. Paul hired a boat from 9.00 a.m. to 2.30 p.m. How much did he pay?

(A) Rs. 30   (B) Rs. 45   (C) Rs. 65   (D) Rs. 70

20. The decimal representation of $6 + 2\dfrac{21}{25} + \dfrac{9}{1000}$ is _____.

(A) 6.849   (B) 8.0849   (C) 8.849   (D) 8.93

21. Find the value of the expression $\dfrac{2012 + 2012 + 2012 + 2012 + 2012 + 2012 + 2012}{2012 + 2012 + 2012 + 2012}$.

(A) 6036   (B) 2012   (C) $\dfrac{4}{7}$ (D) $1\dfrac{3}{4}$

22. How many numbers containing 8 in their tens place are there between 300 and 400 ?

(A) 9   (B) 10   (C) 19   (D) 20

23. What is the difference of the greatest 7 digit number and the smallest 5 digit number?

(A) 9, 98, 099   (B) 99, 899   (C) 9, 98, 999   (D) 99, 89, 999

24. A number is made up of 3 digits. The digit in the hundred's place is twice the digit in the one's place. The digit in the ten's place is 1 less than the digit in the one's place. If the digit in the ten's place is 2. What is the number?

(A) 623   (B) 432   (C) 622   (D) 224

25. A way is given to express 660 as a product of prime numbers. Find the value of P, Q and R respectively.

$$\overset{2}{\underset{660}{\diagdown}}\overset{P}{\underset{330}{\diagdown}}\overset{3}{\underset{165}{\diagdown}}\overset{5}{\underset{Q}{\diagdown}}\underset{R}{}$$

(A) 11, 55, 2   (B) 55, 11, 2   (C) 2, 55, 11   (D) 55, 2, 11

26. The pictograph shows the number of eggs sold by a trader in three days.

Monday	⬭ ⬭ ⬭
Tuesday	⬭ ⬭ ⬭ ⬭ ⬭
Wednesday	⬭ ⬭ ⬭ ⬭

⬭ represents 25 eggs.

If the trader still had 115 eggs left after the three days, calculate the number of eggs he had at first.

(A) 185   (B) 300   (C) 215   (D) 415

27. What is the missing sign in the box?

$$4\frac{1}{5}+9\frac{1}{5}-3\frac{1}{3}\;\boxed{}\;6\frac{1}{4}-8\frac{1}{4}+5\frac{1}{4}$$

(A) <   (B) =   (C) >   (D) Can't be determined

28. Saurabh can read 6 books in a day. How many weeks will he take to finish 1440 such books?

(A) 33   (B) 35   (C) 240   (D) 10

29. Monu is thinking of a four digit number.

- The fourth digit is the greatest.
- When the third digit is divided by the first digit, the quotient is 2.
- The difference between the second and third digit is 1.
- The first digit is double of 2.

(A) 3768   (B) 4789   (C) 5698   (D) 1239

30. In a semi-final match against Pakistan, runs scored by M.S. Dhoni was divisible by 11, 7 and 2. If total score of India is 302 runs, then find the runs scored by M.S. Dhoni is:

(A) 144   (B) 154   (C) 124   (D) Data is not sufficient

31.   Which expression is true?

(A) $\dfrac{1}{5} > 0.2$ (B) $\dfrac{1}{4} < 0.25$ (C) $\dfrac{1}{4} > 0.5$ (D) $\dfrac{1}{4} > 0.2$

32.   Which of the following numbers is divisible by 24?
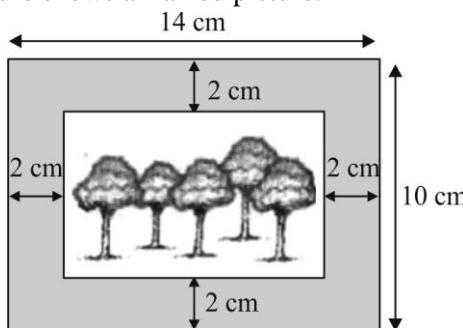
(A)   88888   (B)   76542   (C)   301632   (D)   30567

33.   What is the missing number in the box?

$$3\dfrac{3}{4},\ 3\dfrac{1}{2},\ \boxed{?},\ 3,\ 2\dfrac{3}{4}$$

(A) $3\dfrac{2}{3}$ (B) $3\dfrac{1}{4}$ (C) $3\dfrac{2}{5}$ (D) $3\dfrac{1}{6}$

34.   The figure shows a framed picture.

Find the area of the picture in cm^2.

(A)   96   (B)   80   (C)   72   (D)   60

35.   Figure below shows an incomplete bill of the items bought by Mary. She paid the shopkeeper Rs. 50.
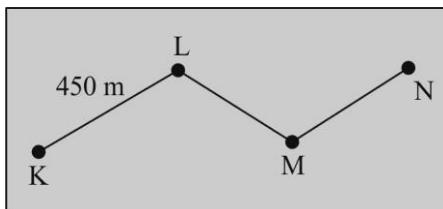
Quantity	Item	Price per kg	Price
1.5 kg	Biscuits	Rs. 9.00	
4 kg	Beans	Rs. 3.50	
1 kg	Cooking oil	Rs. 4.80	

What else can she buy with the balance of the money?

(A)   3 kg of biscuits   (B)   5 kg of beans

(C)   4 kg of cooking oil   (D)   1 kg of biscuit and 2 kg of cooking oil

36.   The figure shows the road map of four places, *K*, *L*, *M* and *N*. The distance from *K* to *L* is the same as the distance from *L* to *M*. The distance from *M* to *N* is $\dfrac{1}{3}$ of the distance from *K* to *M*.
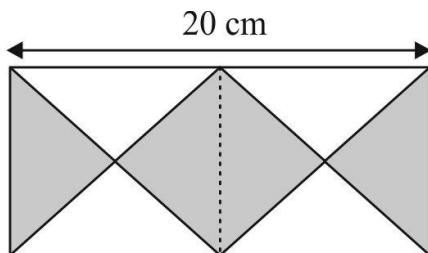
What is the distance in km, from *K* to *N*?

(A)   1.20   (B)   1.05   (C)   1.10   (D)   0.30

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37. The figure given below shows 8 identical triangles in 2 squares each of side 10 cm. Find the area of all the shaded triangles.

20 cm
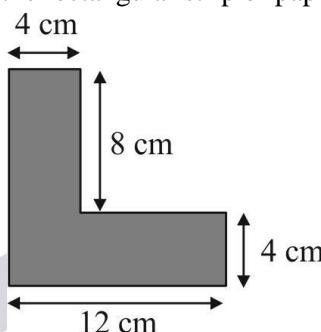
(A) 200 cm^2 **(B)** 150 cm^2 **(C)** 125 cm^2 **(D)** 100 cm^2

38. The value of $15 \times (17 + 19) \div 4 - 35 \div 7$ is _____ .

(A) 100   **(B)** 120   **(C)** 125   **(D)** 130

39. Find the area of the shaded part of the rectangular strip of papers.

4 cm

8 cm

4 cm

12 cm

(A) 8 cm^2 **(B)** 32 cm^2 **(C)** 72 cm^2 **(D)** 80 cm^2

40. Javed saved some notes which consist of Rs. 1, Rs. 10 and Rs. 20, notes. If his savings was Rs. 200, and he has 10 - Re. 1 note and 3 - Rs. 10 notes then how many Rs. 20 notes he had?

(A) 8   **(B)** 10   **(C)** 12   **(D)** 9

41. Anil transferred eggs from 24 paper trays into plastic trays. Each paper tray could hold 30 eggs while each plastic tray held 20 less. How many plastic trays did he use?
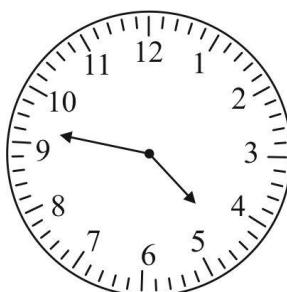
(A) 36   **(B)** 72   **(C)** 84   **(D)** 108

42. If △ ÷ ■ = 84 and ■ + ■ + ■ + ■ + ■ = 15, then what is the value of △ − ■ ?
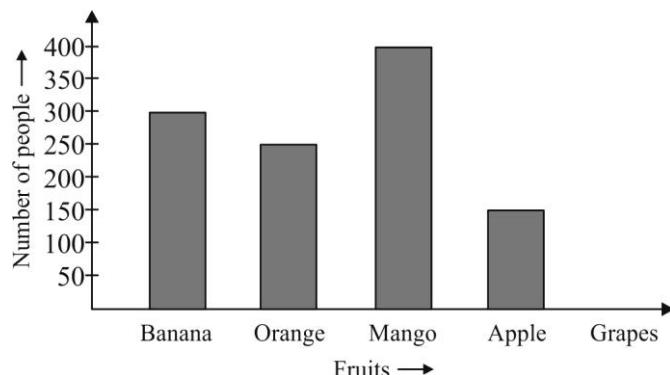
(A) 3   **(B)** 249   **(C)** 252   **(D)** 255

43. Mr. Sharma drove from town *P* to town *Q*. He took 2 hours 15 minutes for the journey. The clock shows the time he arrived at town *Q* in the evening. When did he set off from town *P*?

(A) 2:32 a.m.   **(B)** 2:32 p.m.   **(C)** 3:32 a.m.   **(D)** 2:23 p.m.

44. The given bar graph shows the number of people like different types of fruits. Study the graph and answer the question that follows.

If number of people like grapes is double to the number of people like apple, then find the total number of people in the survey.

(**A**)   1450   (**B**)   1500   (**C**)   1400   (**D**)   1350

45. Identify the number Z.

- Add 156 to number Z, it will be 9800.
- Subtract 156 from number Z, it will be 9488.

(**A**)   9544   (**B**)   9644   (**C**)   9744   (**D**)   9844

SECTION - III [SCIENCE]

46. The muscles found in front of your thighs are known as :

(**A**)   Iris   (**B**)   Cerebrum   (**C**)   Quadriceps   (**D**)   Melanin

47. Read the statements carefully and choose the correct option :

Statement A : There are 2 stomachs in the human body

Statement B : There are 2 lungs in the human body

(**A**)   A is true   (**B**)   B is true

(**C**)   Both A and B are true   (**D**)   Both A and B are False

48. Match the following :

A	Lungs	1	Urinary system
B	Kidneys	2	Nervous system
C	Stomach	3	Respiratory system
D	Brain	4	Digestive system

(**A**)   A-3 B-1 C-4 D-2   (**B**)   A-2 B-3 C-1 D-4

(**C**)   A-1 B-2 C-3 D-4   (**D**)   A-4 B-3 C-1 D-2

49. What simple machine uses a slanted surface that connects a lower level to a higher level ?

(**A**)   Inclined Plane   (**B**)   Screw   (**C**)   Wedge   (**D**)   Lever

50. A dry comb after combing the hairs is brought near the tiny pieces of paper, what happens?

(**A**)   The paper pieces will get repelled due to magnetic force

(**B**)   The paper pieces will get repelled due to electrostatic force

(**C**)   The paper pieces will get attracted and stick with comb due to electrostatic force

(**D**)   The paper pieces will get attracted to comb due to friction force
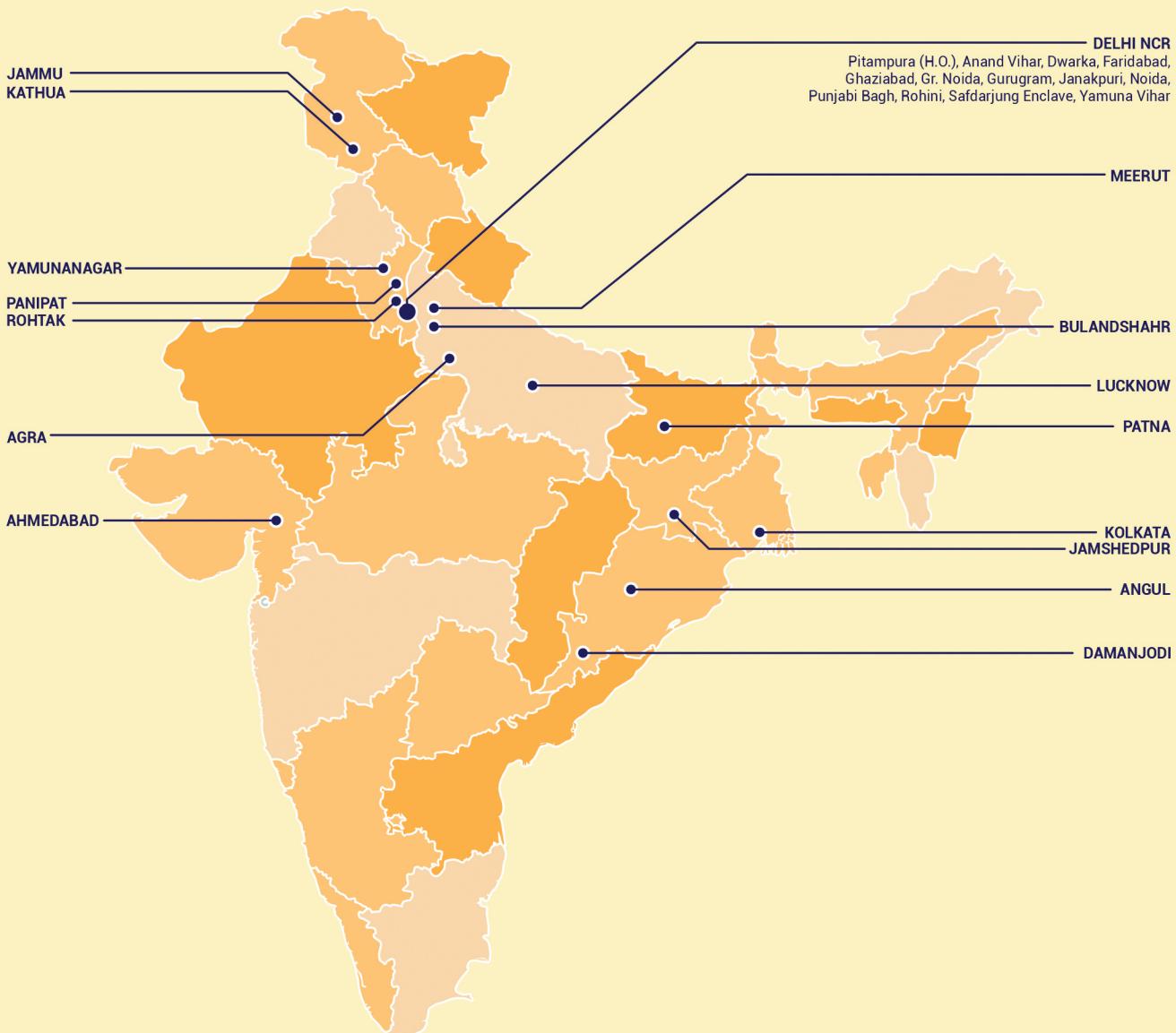
51. (i) Scissors (ii) bottle opener (iii) nail cutter, (iv) forceps. Which of the followings are example of levers?

    (A) (i) and (iv)   **(B)** (ii) and (iv)   **(C)** (i), (ii) and (iii)   **(D)** (i), (ii), (iii), (iv)

52. Which of the following takes place when water vapour changes into ice?

    (A) Condensation   **(B)** Vaporisation   **(C)** Desublimation   **(D)** Evaporation

53. Which of the following is a physical change ?

    (A) Melting of ice   **(B)** Baking of Cake

    (C) Breaking of Glass   **(D)** Both A and C

54. Which of the following can be compressed easily?

    (A) A block of wood   **(B)** A Glass of milk

    (C) Balloon filled with air   **(D)** All of these

55. Which Disease is caused by Vitamin B1 deficiency?

    (A) Rickets   **(B)** Beriberi   **(C)** Pellagra   **(D)** Gingivitis

56. Deficiency of which element is caused by using purgatives on a regular basis?

    (A) Iron   **(B)** Potassium   **(C)** Iodine   **(D)** Sodium

57. Select the group of Diseases that spread by the same means or have the same cause :

    (A) Goitre, Anaemia , Scurvy   **(B)** Dengue , Malaria , Night Blindness

    (C) Cholera, Typhoid, Allergy   **(D)** BeriBeri, Malaria, Pellagra

58. Herbicides are used to :

    (A) Remove the weeds   **(B)** Remove the insects

    (C) Beautify the fields   **(D)** Make the crops healthier

59. Eating Fish is healthy as compared to meat because fish contains :

    (A) Essential vitamins   **(B)** Essential fatty acids

    (C) More essential vitamins and Proteins   **(D)** All the nutrients of food

60. In addition to proteins and carbohydrates, the other elements of nutritional value in milk include:

    (A) Potassium and iron   **(B)** Calcium and potassium

    (C) Calcium, potassium and iron   **(D)** Calcium and iron

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1 Year Foundation Sample Paper | Answer Key

Code-A Mapping	Code-A_Answer Key	Code-A Difficulty	Code-A Subject	Code-A Topic	Code-A Skill	Code-A +Ve Marks	Code-A -Ve Marks
1	C	Easy	Mental Aptitude	Classification	Logical	5	1
2	A	Medium	Mental Aptitude	Analogy	Conceptual	5	1
3	C	Medium	Mental Aptitude	Blood Relation	Application	5	1
4	D	Medium	Mental Aptitude	Water Image	Logical	5	1
5	B	Easy	Mental Aptitude	Coding - Decoding	Memory	5	1
6	A	Medium	Mental Aptitude	Paper Cutting & Folding	Memory	5	1
7	C	Easy	Mental Aptitude	Verbal and Non Verbal Series	Calculation	5	1
8	D	Difficult	Mental Aptitude	Figure Completion	Memory	5	1
9	B	Medium	Mental Aptitude	Logical Sequence of Words	Logical	5	1
10	C	Easy	Mental Aptitude	Mirror Image	Memory	5	1
11	C	Easy	Mathematics	Fraction and decimal	Calculation	6	1
12	C	Medium	Mathematics	Numbers	Conceptual	6	1
13	C	Medium	Mathematics	Integers	Application	6	1
14	A	Easy	Mathematics	Fraction and decimal	Application	6	1
15	B	Medium	Mathematics	Fraction and decimal	Calculation	6	1
16	A	Medium	Mathematics	Integers	Conceptual	6	1
17	A	Difficult	Mathematics	Integers	Application	6	1
18	D	Difficult	Mathematics	Mensuration	Conceptual	6	1
19	C	Medium	Mathematics	Integers	Application	6	1
20	C	Medium	Mathematics	Fraction and decimal	Calculation	6	1
21	D	Medium	Mathematics	Integers	Logical	6	1
22	B	Easy	Mathematics	Numbers	Logical	6	1
23	D	Medium	Mathematics	Integers	Calculation	6	1
24	A	Difficult	Mathematics	Numbers	Conceptual	6	1
25	C	Medium	Mathematics	Numbers	Conceptual	6	1
26	D	Easy	Mathematics	Data handling	Calculation	6	1
27	C	Easy	Mathematics	Fraction and decimal	Calculation	6	1
28	B	Medium	Mathematics	Integers	Logical	6	1
29	B	Difficult	Mathematics	Numbers	Logical	6	1
30	B	Difficult	Mathematics	Numbers	Application	6	1
31	D	Easy	Mathematics	Fraction and decimal	Calculation	6	1
32	C	Medium	Mathematics	Integers	Logical	6	1
33	B	Medium	Mathematics	Fraction and decimal	Calculation	6	1
34	B	Medium	Mathematics	Mensuration	Conceptual	6	1
35	B	Difficult	Mathematics	Fraction and decimal	Application	6	1
36	A	Medium	Mathematics	Data handling	Logical	6	1
37	D	Medium	Mathematics	Mensuration	Conceptual	6	1
38	D	Medium	Mathematics	Integers	Calculation	6	1
39	D	Medium	Mathematics	Mensuration	Application	6	1
40	A	Medium	Mathematics	Integers	Conceptual	6	1
41	B	Difficult	Mathematics	Integers	Conceptual	6	1
42	B	Difficult	Mathematics	Shapes	Logical	6	1
43	B	Easy	Mathematics	Fraction and decimal	Application	6	1
44	C	Medium	Mathematics	Data handling	Logical	6	1
45	B	Easy	Mathematics	Numbers	Logical	6	1
46	C	Easy	Science	The skeletal system	Conceptual	6	1
47	B	Easy	Science	The skeletal system	Memory based	6	1
48	A	Medium	Science	The skeletal system	Memory based	6	1
49	A	Easy	Science	Force and Energy	Application	6	1
50	C	Easy	Science	Force and Energy	Conceptual	6	1
51	D	Medium	Science	Force and Energy	Conceptual	6	1
52	C	Easy	Science	States of Matter	Memory based	6	1
53	D	Medium	Science	States of Matter	Application	6	1
54	C	Easy	Science	States of Matter	Application	6	1
55	B	Easy	Science	Deficiency and Communicable disease	Memory based	6	1
56	B	Easy	Science	Deficiency and Communicable disease	Memory based	6	1
57	A	Medium	Science	Deficiency and Communicable disease	Application	6	1
58	A	Medium	Science	Food and its components	Memory based	6	1
59	B	Easy	Science	Food and its components	Memory based	6	1
60	B	Medium	Science	Food and its components	Memory based	6	1

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