



**NATIONAL LEVEL SCIENCE TALENT SEARCH EXAMINATION (UPDATED)**

**CLASS - 4**

**Question Paper Code : UN494**

**KEY**

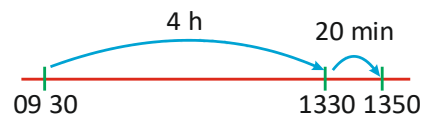
1. C	2. D	3. D	4. D	5. A	6. D	7. D	8. C	9. C	10. B
11. C	12. C	13. B	14. D	15. D	16. B	17. D	18. A	19. D	20. C
21. B	22. B	23. B	24. D	25. C	26. A	27. D	28. B	29. A	30. A
31. C	32. B	33. B	34. A	35. D	36. D	37. C	38. A	39. D	40. D
41. C	42. B	43. D	44. C	45. B	46. D	47. C	48. A	49. B	50. B
51. C	52. B	53. C	54. C	55. C	56. A	57. D	58. A	59. A	60. C

**SOLUTIONS**

**MATHEMATICS**

01. (C) AH is parallel to BC and EF is perpendicular to DE.
02. (D)  $20 \times 20 = 400 \text{ cm}^2$   
The area of square is  $400 \text{ cm}^2$ .  
 $400 \div 25 = 16 \text{ cm}$   
The breadth of the rectangle is 16 cm.
03. (D)  $5121 \div 9 = 569$   
 $569 = 500 + 69$

04. (D) The duration is 4 h 20 min.



- 05 (A) ★ has to be 4 or 8 only since it is a multiple of 4.

Since ★ + □ + ○ = 21

if ★ is 4, □ + ○ = 17 and

if ★ is 8, □ + ○ = 13

You will see that only 498, 876 and 894 satisfy the above two conditions and the fact that the number is even.

Of these numbers, only 876 is a multiple of both 4 and 6.

So, ☆ □ ○ = 876

06. (D) We first understand that the last 3 digits of the number X should be 500.

X should be 69 500, so as to give 70 000, when being rounded off to the nearest 1000.

There are 695 (not just 5) hundreds in 69 500.

07. (D) Vamsi – 137 cm  
Kunal – 100 cm  
Rohan – 92 cm  
Prasad – 120 cm  
Children from tallest to shortest is Vamsi, Prasad, Kunal, Rohan

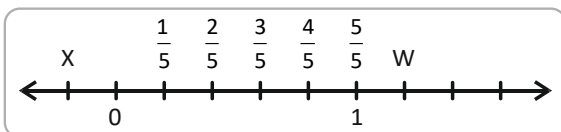
08. (C)  $\frac{2}{3}$  of 12 slices is 8 slices, so 8 out of 12 slices would have toppings.

09. (C) 999 can be estimated to 1000. 103 can be estimated to 100.

Now their difference will be  $1000 - 100 = 900$ .

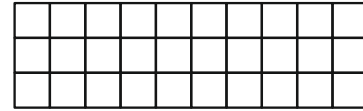
∴ 900 is between 700 and 1000

10. (B)



11. (C) The number 657 is not divisible by 2, not a multiple of 5 and it is divisible by 3 not by 6 and one of its factor is 9.
12. (C) XXX represents a valid Roman numeral, which stands for 30
13. (B)  $8 \times 1,000 = 8,000$  g;  
 $8,000$  g –  $800$  g =  $7,200$  g;  
 $7,200$  g  $\div$  4 =  $1,800$  g  
 $1800$  g +  $800$  g =  $2600$  g

14. (D)



15. (D)

- (A) 5 milliliters > 50 litres
- This is incorrect. 50 litres is equal to 50,000 milliliters, which is much greater than 5 milliliters.
- (B) 2 litres < 200 millilitres
- This is also incorrect. 2 litres is equal to 2,000 milliliters, which is greater than 200 milliliters.
- (C) 100 litres = 1000 millilitres
- This is incorrect. 100 litres is equal to 100,000 milliliters, which is much greater than 1,000 milliliters.
- (D) 3000 millilitres = 3 litres
- This is correct. 3 litres is equivalent to 3,000 milliliters.

16. (B)  $14 \times 5 = 70$ ,  $10 \times 7 = 70$   
But option in option there is only 5

17. (D) Option (A) :  $\frac{1}{9} < \frac{1}{3} > \frac{5}{9}$  (✗)

Option (B) :  $\frac{10}{9} < 1 < \frac{5}{9}$  (✗)

Option (C) :  $\frac{5}{9} > \frac{1}{9} > 1$  (✗)

Option (D) :  $\frac{1}{3} < \frac{10}{9} > \frac{1}{9}$  (✓)

18. (A) Option (A) :  $1600 + 70 = 1670$  (✓)  
Option (B) :  $100 + 670 = 770$  (✗)  
Option (C) :  $1000 + 600 = 1600$  (✗)  
Option (D) :  $16000 + 70 = 16070$  (✗)
19. (D)  $50 \text{ ml} + 1 \text{ l } 150 \text{ ml} + 440 \text{ ml} = 1640 \text{ ml}$   
 $1640 \text{ ml} \div 8 = 205 \text{ ml}$   
The volume of lemon tea in each cup was 205 ml.
20. (C)  $358 \text{ kg} + 127 \text{ kg} = 485 \text{ kg}$   
 $9 \times 10 \text{ kg} = 90 \text{ kg}$   
 $485 \text{ kg} - 90 \text{ kg} = 395 \text{ kg}$   
 $395 \text{ kg} \div 5 \text{ kg} = 79$   
 $79 - 9 = 70$   
Ganesh packed 70 more five kg packets than ten kg packets.

21. (B) The numbers between 1 and 100, containing 6 in them are 6, 16, 26, 36, 46, 56, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 76, 86 & 96

22. (B)  $CX - XC = 20$   
 $= (100 + 10) - (100 - 10)$   
 $= 110 - 90 = 20$

23. (B) The smallest possible sum is 125

$$\begin{array}{r} 57 \\ + 68 \\ \hline 125 \end{array} \quad \begin{array}{r} 58 \\ + 67 \\ \hline 125 \end{array}$$

24. (D) Prime number between 40 and 50 are 41, 43, 47

Prime number between 50 and 60 are 53, 59

Prime number between 70 and 80 are 71, 73, 79

25. (C) The cycle repeats, every two minutes the next green comes at 5:24 pm, then after every 6 minutes the 5:48 pm is possible to be green.

### GENERAL SCIENCE

26. (A) The sun changes the weather conditions.

27. (D) Hot air has less weight.

28. (B) Humus-rich soil is dark black in colour. This soil is rich in nutrients and humus, which gives it dark black colour. Clay soil is dark red in colour. Although clay soil is dark but it is lighter than humus-rich soil, Sandy soil is light brown in colour.

29. (A) The capacity to do work is called energy. Energy is available in different forms such as heat energy, light energy etc.

30. (A) Moving air has energy. Since moving air can make a pin-wheel move, it has energy.

31. (C) The characteristics of leaves mentioned here are possessed by aquatic plants (that live in water).

32. (B) Photosynthesis produces glucose.

33. (B) Ozone is present in stratosphere.

34. (A) Elephant is a mammal.

35. (D) Garden soil contains humus, holds enough water and contain air. Hence, it is most suitable for plant growth.

36. (D) The teeth marked 'X' are called premolars.

37. (C) Erosion is the process in which rock material is being moved over Earth surface by wind and water.

38. (A) Talcum powder is sprinkled on the carrom board to reduce friction force so that the carrom coins can move faster on the carrom board.

39. (D) Fossil fuels are non-renewable, rest all are renewable.

40. (D) Earthworm is an invertebrate.

41. (C) A moving body stops due to applied force.

42. (B) Conversion of solid into liquid is known as melting.

43. (D) Diarrhoea is caused due to unhygienic surroundings and bad food habits.

44. (C) The water droplets seen on grass in the winter mornings are due to condensation of water vapour present in the air.

45. (B) Cactus plants living in desert where there is water scarcity. Thus to prevent water loss they do not have leaves. Stem becomes green to perform photosynthesis. This is called adaptation. Plants modify according to the habitat in which they live.

46. (D) Snakes, birds and frogs lay eggs, whereas cats give birth to young ones.

47. (C) An animal that hunts for its food is called a predator.

48. (A) Mercury is very close to the Sun. This is why, it can be seen in the morning and evening.

49. (B) In the small intestine, digestion takes place by the release of juices.

50. (B)

	Animals	Young ones
P	Butterfly	Larva
Q	Frog	Tadpole
R	Fish	Fry
S	Cockroach	Nymph

51. (C) When there is a crack in the bone it is called a fracture.
52. (B) Planet Earth has been called the “Blue Planet” due to the abundant water on its surface. Here on Earth, we take liquid water for granted; after all, our bodies are mostly made of water. However, liquid water is a rare commodity in our solar system.
53. (C) Conversion of water vapour to water is called condensation.
54. (C) Keeping the engine topped up with oil will lubricate the car and the engine, which will help reduce the friction.
55. (C) Lemon juice and sugar get dissolved in water. Only seeds remain.

### CRITICAL THINKING

56. (A) Object P will fall first when the table is shaken/disturbed.
57. (D)
1. Ganesh said : “Black pen” – Lets take “black” as the correct half.
  2. Arya said : “Brown pencil” – Lets take “pencil” as the correct half.
  3. Rakesh said : “Black crayon” – We already have “black from Ganesh, so this does not add new information.

Combining the halves that are likely correct, Hari wrote his name using a ‘Black pencil’.

58. (A)
- |   |   |   |
|---|---|---|
|   | 1 | 2 |
| 3 | 4 | 5 |
|   | 6 | 7 |

59. (A) The paragraph clearly states that "Tanish and his sister, Mohini, went on a hiking trip," which means Tanish did not go alone.

60. (C)
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==== The End =====