



# UNIFIED COUNCIL

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## NATIONAL LEVEL SCIENCE TALENT SEARCH EXAMINATION (UPDATED)

CLASS - 5

Question Paper Code : **UN449**

### KEY

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

### SOLUTIONS

#### MATHEMATICS

1. (B)  $99,99,999 - 10,000 = 99,89,999$

2. (B) Words typed by Ramya in one minute

$$= \frac{180}{4} = 45$$

$$\text{Time taken to type 405 words} = \frac{405}{45}$$

= 9 minutes.

3. (B)  $\frac{4}{3} \times \frac{13}{4} \times \frac{7}{8} = \frac{91}{24} = 3\frac{19}{24}$

4. (C)  $18 \times 5 = 90$  &  $19 \times 5 = 95$

5. (C)  $\left(\frac{1}{4} \text{ cm}\right)^3 = \frac{1}{64} \text{ cm}^3$

6. (A) '3' should be there in place of zero

7. (C) Observing the given pattern, we find that the two fractions in a row add up to the one on its top row

$$\text{i.e., } \frac{1}{2} + \frac{1}{4} = \frac{3}{4} \text{ and } \frac{1}{4} + \frac{1}{5} = \frac{9}{20}.$$

So, similarly,

$$X = \frac{1}{3} + \frac{1}{2} = \frac{2+3}{6} = \frac{5}{6}$$

$$Y = \frac{5}{6} + \frac{3}{4} = \frac{10+9}{12} = \frac{19}{12}$$

$$\text{and } Z = \frac{19}{12} + 1\frac{1}{5} = 2\frac{47}{60}$$

8. (D)  $\frac{₹ 2.25}{5} = ₹ 0.45$
9. (A)  $\frac{0.1}{0.01} + \frac{0.01}{0.1} = \frac{10}{1} + 0.1 = 10.1$
10. (A) Nissi marks =  $92 - 15 = 77$   
Rishi marks =  $77 + 4 = 81$   
Difference marks of jessy & Rishi  
=  $92 - 81 = 11$
11. (A)  $155^\circ + x = 180^\circ \Rightarrow x = 25^\circ$   
 $x + a = 90^\circ$   
 $25^\circ + a = 90^\circ$   
 $a = 65^\circ$
12. (B) 15% of total investment = ₹ 1305  
 $\frac{15}{100}$  total investment = ₹ 1305  
Total investment = ₹  $1305 \times \frac{100}{15}$  ₹ 8700
13. (D) 51 & 34 LCM is 102 & sum =  $51 + 34 = 85$
14. (A)  $2 : 5 = 6 \text{ cm} : BC$   
 $30 \text{ cm} = 2BC$   
 $BC = 15 \text{ cm}$   
 $AC = AB + BC = 6 \text{ cm} + 15 \text{ cm} = 21 \text{ cm}$
15. (C) ₹  $300 - ₹ 300 \times ₹ 15\% - ₹ 300 \times 35\%$   
= ₹  $300 - ₹ 45 - ₹ 105$   
= ₹ 150
16. (B)  $\frac{23}{40} - \frac{9}{40} = \frac{14}{40}$
17. (A) Required area = rectangle area – square  
area =  $12 \times 9 - 5^2 = 108 - 25 = 83$
18. (A)  $36\frac{1}{3} - 12\frac{2}{5} - 13\frac{1}{2} - 5\frac{4}{15} = \frac{109}{3} - \frac{62}{5} - \frac{27}{2} - \frac{27}{15}$   
=  $\frac{1090 - 372 - 405 - 158}{30}$   
=  $\frac{155}{30} = \frac{31}{6}$   
=  $5\frac{1}{6}$
19. (B) LCM of 8, 16, 24 is 48  
 $\therefore p = 24$

20. (A) Sum of digits = 45  
 $\therefore$  '3' to be added so that the sum is divisible by 3 but not divisible by 9.
21. (D) 0.0054 is the smallest decimal
22. (C) 8 triangles are there
23. (D) HCF of two twin primes is 1
24. (A)  $90^\circ$
25. (B)  $90^\circ + 40^\circ + \angle x = 180^\circ$   
 $\angle x = 50^\circ$

### GENERAL SCIENCE

26. (C) Seeds need air (Oxygen), water and warmth (right temperature) for germination.  
Sunlight is needed only after leaves have developed.
27. (C) In the given food chain caterpillar is a herbivore, it feeds on leaves. So, 'X' is a leaf.
28. (D) A shark, tadpole and a stingray (fish) breathe in dissolved oxygen in water with their gills. Dolphin takes in from air, oxygen through to low holesW
29. (B) Pumice is igneous rock that forms durnn explosive valconic eruptions.
30. (D) A ocean is composed of salt water. By evaporating salt water salt is obtained.
31. (D) A salmon has gills in a chamber filled with water.  
A whale (sea mammal) has a blowhole (nostril) on top of its head.  
A tadpole has gill to breathe without gill chamber.
32. (D) Earthworms do not feed on the green leaves of crops. They speed up the decomposition of fallen leaves. When the leaves decompose in the soil, the soil becomes fertile. Their casting also make the soil fertile. They help to loosen and aerate the soil too.
33. (A) Skull is made up of bones which are fused firmly to protect brain.
34. (C) saprophyte feed on dead and decaying matter.

35. (D) Symbol shown in option D is related to hospital.
36. (C) Shortage of water and food leads to famine.
37. (A) During burning and respiration carbon dioxide is released.
38. (A) Skeletal system gives support and allows body movement.
39. (C) The picture of insects at option C shows the correct outline of insect.
40. (C) All living things need air, water and food to stay alive and grow healthy. Garden soil is fertile. It contains a lot of minerals for healthy growth of plants, it is well aerated (has quite a lot of air). Fertilizers are required only when the soil does not contain enough minerals for healthy growth of plants.
41. (A) Incisors are cutting or biting teeth.
42. (B) A seesaw is a class 1 lever.
43. (B) Seeds of beans are dispersed by explosion.
44. (D) The spoon gains heat when it is placed in boiling water.
45. (A) The lever, inclined plane, pulley, screw, wheel and axle are simple machines.
46. (D) The tree blocks sunlight, absorbs water and minerals from the soil and makes it less available to the plants growing under it. This limits the growth of the small plant.
47. (C) Camel stores fat in its hump.
48. (D) Heart pumps blood to all parts of the body. It works all the time and is protected by the ribcage.
49. (B) Cockroach passes through three stages of its life cycle: egg → nymph → adult.
50. (B) The given figure shows a ball and socket joint.
51. (C) Green plants can make their own food, hence they are called autotrophs.
52. (C) Potato is a stem tuber.
53. (D) Wooden chopsticks and paper plates and paper cups are biodegradable.
54. (A) Sand gets heated up quickly. This causes the rise in temperature.
55. (C) Water plants provide oxygen, food and shelter.

**CRITICAL THINKING**

56. (D) The given medicine is suitable for use before 2 years.
57. **Delete**
58. (C)  $8 - 1 = 7$   
 $7 \times 4 + 1 = 29$   
 The answer is 29 students.
59. (A) In 24 hours, the hands coincide or are in opposite direction 22 times.
60. (A) Because the balls are the same size, only the steepness of the incline influences how fast they will roll, the steeper the incline, the more easily an object will move downward. Hence, ball A is able to roll faster than ball B.

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**THE END**

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