UNIFIED COUNCIL

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NATIONAL LEVEL SCIENCE TALENT SEARCH EXAMINATION

CLASS - 4

Question Paper Code : UN465

KEY

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

SOLUTIONS

MATHEMATICS

1: (D) Number of eggs he had left

= 1849 − 28 − 32 = 1789

2: (A) Mass of sugar sold more than flour

$$= 3\frac{1}{3} - 1\frac{3}{5}$$

$$= 3\frac{5}{15} - 1\frac{9}{15}$$

$$= 2\frac{20}{15} - 1\frac{9}{15}$$

$$= 1\frac{11}{15} \text{kg}$$

3: (B) 6 dictionaries → 4 kg 284 g = 4284 g

1 dictionary = 4284 ÷ 6 = 714 g

Which is 286 g less than 1 kg

4: (C) The 2nd number, 3, is one less than twice 2. The 3rd number, 5, is one less than twice 3. The 60th number will be one less that twice 60, or 119

5: (C) Cost of 1 bag = ₹ 268

Cost of 4 bags = ₹ 268 × 4 = ₹ 1072

Amount left = ₹ 2500 − ₹ 1072 = ₹ 1428

6: (D) 48 × 10 = 480

59 × 9 = 531

531 − 480 = 51

**7:** **(A)** Amount of time Aliya spent on her science project

= 5 h 20 min − 1 h 50 min

= 4 h 80 min − 1 h 50 min

= 3 h 30 min

5 h 20 min + 3 h 30 min = 8 h 50 min. The two girls spent 8 h 50 min on their science projects in all

8: **(B)** Number of candies with Aadya = 2500 ÷ 5 = 500

Number of candies with Navya = 500 ÷ 2 = 250

Number of candies Navya ate = 250 ÷ 2 = 125

Number of candies Navya had left = 250 − 125 = 125

9: **(B)** Weight of basket of vegetables = 2 kg 25 g

= 2 × 1000 g + 25 g

= 2000 g + 25 g = 2025 g

Weight of the basket = 650 g

Weight of the vegetables = 2025 − 650 = 1375 g

10: **(C)** Latest time at which surya had to leave for school = 7.25 a.m.

−20 min

7.25 a.m.   7.45 a.m.

−20 min

7.05 a.m.   7.25 a.m.
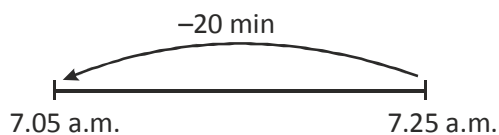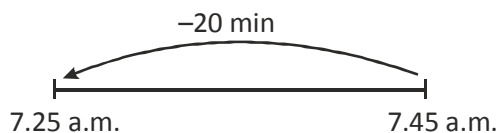
The maximum amount of time he could spend eating his breakfast was 20 min

11: **(B)** Number of tables seated with 10 people

= 28 − 1 = 27

Number of people seated at tables of 10

= 27 × 10 = 270

270 + 9 = 279

279 people attended the wedding lunch

12: **(A)** Note that AB + CD = FE = 9 cm

Similarly, BC + DE = AF = 12 cm

(DE can be found separately but it is not necessary)

Perimeter = 12 + 12 + 9 + 9 = 42 cm
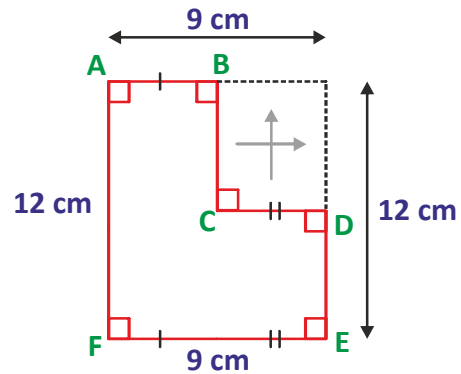
13: **(B)** ₹ 20 a dozen is the same as ₹ 10 for 6 oranges. The ₹ 30 price means there are now 18 oranges in the bag. Six were added

14: **(C)** Distance Mrs Nitya's husband brisk-walked

= 10 ÷ 2 = 5 km

15: **(A)** 1 + 2 = 3 kg

3 + 1 = 4 kg

The total mass of the two fruits is 4 kg

16: **(C)** FG is parallel to BC and GH is perpendicular to HA.

17: **(D)** 5 × 8 = 40

Greatest factor of 15 → 15

40 + 15 = 55

18: **(D)** 2 × 3 × 4 = 24, 7 + 8 + 9 = 24

19: **(A)** Number of loaves of bread used to make the egg sandwiches = $3 - \dfrac{1}{5} = 2 + \dfrac{5}{5} - \dfrac{1}{5}$

$= 2 + \dfrac{4}{5} = 2\dfrac{4}{5}$

20: **(B)** 3 + 3 + 15 + 15 = 36 m

21: **(D)** The number of minutes from the start of the match until the end is 45 + 3 + 15 + 45 + 3, a total of 111 minutes. This is 1 hour and 51 minutes (or 9 minutes less than 2 hours), and so the match finished at 9.36 p.m.

22:	(A)	Sum of first 5 odd numbers 1, 3, 5, 7 and 9 = 25
		Sum of first 5 even numbers 2, 4, 6, 8 and 10 = 30
23:	(B)	Smallest factor of 18 → 1
		Greatest factor of 18 → 18
		18 − 1 = 17
24:	(B)	Factory A
		1 day → 125
		4 days → 125 × 4 = 500 toys
		Factory B
		1 day → 78
		6 days → 78 × 6 = 468 toys
		1 week both factory A & B Produce
		= 500 + 468 = 968 toys
		In 2 weeks the produce = 968 × 2 = 1936 toys
25:	(A)	346 + 32 = 378 (total number of coins)
		378 − 68 = 310
		310 ÷ 2 = 155
		(number of coins in Box A after transfer)
		155 − 32 = 123

SCIENCE

26. (D) Maria can wash her hands. She can cover her nose and mouth with a mask. She can tell her friend to wear a mask. She should not touch her face without washing hands.

27. (C) Tiny drops of water falling on the Earth is called rain.

28. (C) A group of stars is called the constellation.

29. (D) Influenza spread when you inhale droplets in the air when a infected person cough or sneeze, through sharing foods and drinks contaminated by an infected person.

30. (A) Plants make their food in the presence of sunlight taking in water from the soil and carbon dioxide from the air.

31. (B) Young cockroach is called nymph. It looks the most like the adult form.

32. (B) Heat energy always from a hot body to a cold body.

33. (C) Green plants make their own food.

34. (A) Fish breathe through gills.

35. (B) The yellow portion of the egg is called yolk.

36. (B) Pitcher plant is an insectivorous plants.

37. (A) Fat layers under the skin helps penguin to keep warm.

38. (C) Sun ➡ Plant ➡ Herbivore shows the correct food chain.

39. (B) Smaller particles dissolving faster (or similar). The fine salt has the smallest size of crystals, so they will dissolve faster. The coarse salt is in big blocks that do not dissolve very well. The fine salt is already partly broken down.

40. (C) Milk products are rich in calcium.

41. (C) The instrument below is a stethoscope. It helps to hear heart beat.

42. (C) Sugarcane plant reproduces vegetatively from the stem.

43. (D) Tadpoles are the young ones of frog. Frogs lay their eggs in water. The eggs hatch into tadpoles.

44. (B) Option (B) is large intestine it absorbs water from undigested food.

45. (D) Leaves are green due to the presence of a green pigment called chlorophyll. The main function of chlorophyll is to trap the sunlight and help in photosynthesis.

46. (C) Two insects that feed on human blood are mosquitoes and bed bugs.

47. (C)

Egg   Tadpole   Frog
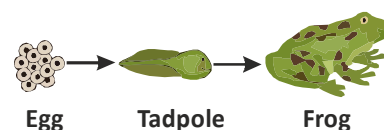
is the life cycle of frog.

48. (A) Hilly trees are generally tall and straight and they have needle like leaves and cone-like parts instead of flowers.

49.	(D)	Q is the moon. It is earth's closest neighbour and reflects light from the sun.
50.	(C)	The coconut fall on the ground is due to gravitational force of earth.
51.	(B)	Rate of evaporation depends on the surface area of the container exposed.
52.	(A)	Penguins use flippers to swim.
53.	(B)	Insects have three body parts. Head, thorax and abdomen.
54.	(D)	A tooth decay results in bad breathe, cavities and toothache. It is due to the growth of bacteria.
55.	(B)	The process labelled Q is precipitation.

CRITICAL THINKING

56: (B)
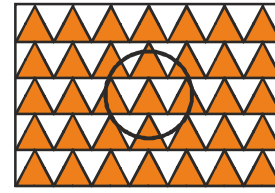
57: (C)   70

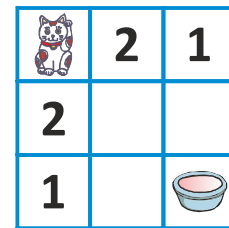| Frog = 7 steps (up)	Monkey = 3 steps (down)
1st time = 7	1st time = 97
2nd time = 14	2nd time = 94
3rd time = 21	3rd time = 91
4th time = 28	4th time = 88
5th time = 35	5th time = 85
6th time = 42	6th time = 82
7th time = 49	7th time = 79
8th time = 56	8th time = 76
9th time = 63	9th time = 73
10th time = 70	10th time = 70

58: (B)   3

From top to bottom : 6, 4, 7, 3, 5, 1, 2

59: (A)

60: (D)   6 ways

THE END