



UNIFIED COUNCIL

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SLSTSE

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STATE LEVEL SCIENCE TALENT SEARCH EXAMINATION

CLASS - 5

Question Paper Code : US757

KEY

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

SOLUTIONS

MATHEMATICS

- (C)** 2, 5, 8, 11, 14, 17
There will be 17 students in 6th row
- (C)** Greater number
- (A)** $HCF = 2 \times 3 \times 5 = 30$
- (C)** Given length = 2 breadth
Given area = 72 sq m
 $\therefore lb = 72 \text{ sq m}$
 $2 \times \text{breadth} \times \text{breadth} = 72 \text{ sq m}$
Breadth \times breadth = 36 sq m
Breadth \times breadth = 6 m \times 6 m
 \therefore Breadth = 6 m

- (C)** 10th odd prime number is 31
6th composite number is 12
 \therefore Required number = $31 \times 12 = 372$
- (A)** $SI = \frac{PTR}{100}$
 $\text{₹ } 108 = \frac{\text{₹ } 90 \times T \times 4}{100}$
 $T = \frac{108}{90} \times 25$
 $T = 30 \text{ years}$
- (B)** LCM of 9,12 & 16 is 144
 \therefore Required number = $144 + 3 = 147$

8. (C) LCM of 4, 2, 3, 6 & 12 is 12

$$\therefore \frac{3}{4} = \frac{3}{4} \times \frac{3}{3} = \frac{9}{12}$$

$$\frac{1}{2} = \frac{1}{2} \times \frac{6}{6} = \frac{6}{12}$$

$$\frac{2}{3} = \frac{2}{3} \times \frac{4}{4} = \frac{8}{12}$$

$$\frac{1}{6} = \frac{1}{6} \times \frac{2}{2} = \frac{2}{12}$$

$$\frac{7}{12} = \frac{7}{12}$$

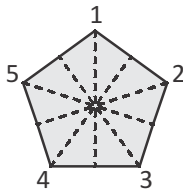
\therefore Descending order of fractions

$$\frac{2}{12}, \frac{6}{12}, \frac{7}{12}, \frac{8}{12}, \frac{9}{12}$$

\therefore Middle most fraction in descending

$$\text{order} = \frac{7}{12}$$

9. (B) Always less than one
 10. (A) HCF of a prime number and a composite number is 1
 11. (D) The figure is a regular pentagon
 Then it has 5 lines of symmetry



12. (A) $\frac{1000 \text{ mts}}{8 \text{ mts/sec}} = 125 \text{ sec}$
 13. (D) Profit = SP – CP = 1,000 – 800 = 200
 Profit percentage
 $= \frac{\text{Profit}}{\text{CP}} \times 100 = \frac{\text{₹ } 200}{\text{₹ } 800} \times 100 = 25\%$
 14. (D) Centre of circle
 15. (B) Ramu's age + father's age = 60 years
 Ramu's age + 3 Ramu's age = 60 years
 4 times Ramu's age = 60 years
 Ramu's age = 15 years
 16. (C) Total Area = 4 cm × 1 cm + 3 cm × 1 cm + 4 × 1 cm² = 11 cm²

17. (C) $14x = 154 \Rightarrow \frac{\text{₹ } 125 \times 14 \times 4}{100} = \text{₹ } 70$

18. (B) $SI = \frac{\text{₹ } 125 \times 14 \times 4}{100} = \text{₹ } 70$

19. (C) Given the ratio = $\frac{1}{3} : \frac{1}{4} = \frac{x}{3} : \frac{x}{4}$

Given $\frac{x}{4} = 12 \text{ cm}$

$\therefore x = 48$

A's height = $\frac{x}{3} = \frac{48}{3} = 16 \text{ cm}$

20. (B) Given breadth = $\frac{4}{7}$ of length = $\frac{4}{7} \times 126 \text{ m}$
 = 72 cm

Perimeter = 2(l+b) = 2(126+72) m = 396 m

21. (A) Volume = a³ = (6 cm)³ = 216 cm³

22. (C) DF = 20 × $\frac{3}{5}$ = 12 cm

EF = DF – DE = 12 – 5 = 7 cm

23. (D) Arc is part of circumference

24. (B) CP of 50 dozen bananas = ₹ 500

Remaining bananas = 50 – 2 = 48 dozens

\therefore SP = 48 × 12 = ₹ 576

\therefore Profit = SP – CP = 576 – 500 = ₹ 76

25. (B) Average speed

$$= \frac{\text{Total distance}}{\text{Total time}} = \frac{92 \text{ km} + 48 \text{ km}}{3\text{h} + 2\text{h}} = \frac{140 \text{ km}}{5 \text{ h}}$$

= 28 KMPH

GENERAL SCIENCE

26. (C) Aquatic birds have webbed feet for moving in water.
 27. (D) Stripes on tigers help it to blend with its surroundings this helps it to hunt.
 28. (B) Plants provide us food and give out oxygen.
 29. (A) A soil that has mineral nutrients humus is called fertile soil.
 30. (D) Earthworm is called farmer's friend.

31. (A) Seeds need space around to germinate and get sufficient sunlight to avoid competition.
32. (A) The heart rate is the number of times our heart beats in a minute.
Our heart rate is affected by our age, the activities that we are carrying out and our health condition.
When we are exercising, our heart beats faster.
When we are resting, our heart rate drops.
33. (C) Earth rotates on its own axis rotation of earth takes 24 hours and formation of day and night.
34. (B) Runners grow roots when its stem touch the ground.
35. (B) Whale is a mammal that give birth to young ones.
36. (D) Soil is formed due to weathering of rocks by wind, water and temperature.
37. (C) A skeleton gives shape and support to the human body.
38. (D) Hump to store fat and padded feet too walk on sand eyelashes to prevent sand.
39. (D) Crop rotation, using organic manures and growing pea plants increases soil erosion.
40. (C) An insect has three body segments and three pairs of legs.
41. (D) We call things environment friendly if they can be reused and cause new pollution in making and biodegradable.
42. (C) The moon reflects light from the sun.
43. (D) An egg shell, a paper cup and a vegetable pool are biodegradable.
44. (D) Animals that hunt and kill animals (Predator) & (Prey) to get their food.
45. (C) Organisms that are invisible to the naked eye are called microbes.
46. (C) Ribs which are not attached to the breast bone are called floating ribs.
47. (B) The earth's gravity allows a satellite to stay in orbit around the earth.
48. (B) Lion is a carnivore.
49. (B) Elbow joint is an example of hinge joint.
50. (B) In the given figure, parts labelled as 1 is ovary, 2 is petal, 3 is stamen and 4 is sepal.
51. (C) Frog is an amphibian.
52. (B) In the given figure I - skull, II - ribcage, III - back bone, IV - thigh bone.
53. (D) Gills of a fish adapted to respire under water gills always remain moist to ensure that gas exchange take place in water, gills have tiny folds to increase surface area for gas exchange.
54. (C) We can reuse and reduce the wastes like husk and dried leaves by converting them into useful compost.
55. (D) Desert plants store water in their stems.

THE END
