UIM
Unified International Mathematics Olympiad

UNIFIED INTERNATIONAL MATHEMATICS OLYMPIAD (UPDATED)

CLASS - 3
Question Paper Code : 4P104

KEY

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

SOLUTIONS

MATHEMATICS

01. (D)   100000 (6 digits)

02. (D)   To round 39453 to the nearest ten thousand, the digit in the thousands place (9) will determine whether or not 1 is added to 3. If this digit is 5 or more, 1 will be added to 3, making it 40000.

03. (B)   6 + 8 = 14

7 + 7 = 14

04. (A)   You know the products

8 × 5 = 40 and 8 × 4 = 32.

To find 8 × 9, you can break it down like this:

8 × 9 = (8 × 5) + (8 × 4).

This is because 8 × 9 is the same as

(8 × 5) + (8 × 4), or 40 + 32 = 72.

05. (A) The 6 numbers between 100 and 1000 where the sum of the digits is 3 are:

1. 102 (1 + 0 + 2 = 3)

2. 111 (1 + 1 + 1 = 3)

3. 120 (1 + 2 + 0 = 3)

4. 201 (2 + 0 + 1 = 3)

5. 210 (2 + 1 + 0 = 3)

6. 300 (3 + 0 + 0 = 3)

These are the six numbers where the sum of the digits equals 3.

06. (C) 5000+2100+180+7=7287

So, the numeral is 7287.

07. (D) Peter has 3986 stamps.

Peter has 1328 more stamps than Ali, so Ali's number of stamps is:

3986 − 1328=2658

Raju has 867 fewer stamps than Ali, so Raju's number of stamps is:

2658 − 867=1791

Therefore, Raju had 1791 stamps.

08. (D) Order from least to greatest :

$$\frac{7}{11}, \frac{9}{11}, \frac{10}{11}, \frac{11}{11}$$

09. (C) Option(A) Multiplication table of 2

The multiplication table of 2 is: 2, 4, 6, 8, 10, 12, ...

All these numbers are even.

Does not contain odd numbers.

Option(B) Multiplication table of 4

The multiplication table of 4 is: 4, 8, 12, 16, 20, ...

All these numbers are even.

Does not contain odd numbers.

Option(C) Multiplication table of 5

The multiplication table of 5 is: 5, 10, 15, 20, 25, 30, ...

This table contains both odd and even numbers.

Contains both odd and even numbers.

Option(D) In the series 1000, 2000, 3000, 4000, ...

This series consists of multiples of 1000, which are all even numbers.

Does not contain odd numbers.

The correct option is (C) Multiplication table of 5, as it contains both odd and even numbers.

10. (D) Total distance=6×50=300 m

11 (D) Option(A) : 3 hundreds + 42 tens

3 hundreds = 3 × 100 = 300

42 tens = 42 × 10 = 420

Total = 300 + 420 = 720

Option(B) : 1 thousand + 60 ones

1 thousand = 1 × 1000 = 1000

60 ones = 60 × 1 = 60

Total = 1000 + 60 = 1060

Option(C) : 9 hundreds + 2 tens

9 hundreds = 9 × 100 = 900

2 tens = 2 × 10 = 20

Total = 900 + 20 = 920

Option(D) : 7 hundreds + 56 tens

7 hundreds = 7 × 100 = 700

56 tens = 56 × 10 = 560

Total = 700 + 560 = 1260

12. (D) B= 4 x 9 = 36

A = 36 +10 = 46

13. (A) Ravi has 450 cards, and Hari has 450 - 128 = 322 cards.

To make Hari have 298 more than Ravi, the total number of cards (450 + 322 = 772) must be split so that Hari has 298 more than Ravi. By adding 298 to the total and dividing by 2, Hari should have (772 + 298) ÷ 2 = 535 cards. Since Hari initially had 322 cards, Ravi must give 535 − 322 = 213 cards to Hari.

14. (B) 312 + 321 + 132 + 123 + 231 + 213

= 1332

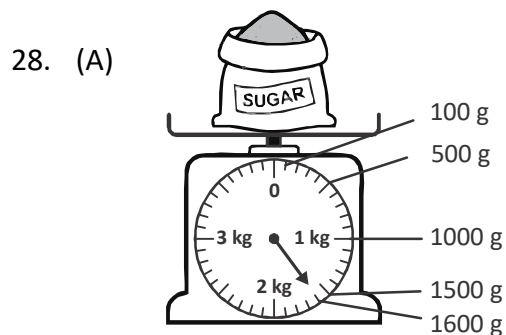| 15. | (C) | Option(A) : 8 × 425 = 3400 → 1 zero |
		Option(B) : 80 × 425 = 34,000 → 3 zeros
		Option(C) : 800 × 425 = 340,000 → 4 zeros
		Option(D) : 8000 × 425 = 3,400,000 → 5 zeros
		The correct answer is (C) 800 × 425, as it has exactly 4 zeros in the product.
16.	(B)	Among all 837cm is smallest
17.	(A)	Find the total time taken:
		Add the hours: 1 hour + 2 hours = 3 hours
		Add the minutes: 20 minutes + 45 minutes = 65 minutes
		Since 65 minutes = 1 hour 5 minutes, we add 1 extra hour to the total hours:
		3 hours + 1 hour = 4 hours
		5 minutes remain
		Thus, the total time taken by Ajay is 4 hours 5 minutes.
18.	(C)	Rs. 15.25 + Rs. 2.50= Rs. 17.75
		So, the final amount is Rs. 17.75.
19.	(B)	In option B ; circles = 3 and rectangles = 3
20.	(C)	Zara is 20 years old, and she is twice as old as her sister.
		This means her sister is 20 ÷ 2 = 10 years old now.
		When her sister turns 21 years old, 11 years will have passed.
		So, Zara will be 20 + 11 = 31 years old at that time.
21.	(B)	= $\frac{5}{8}$
22.	(B)	14kg ÷ 7 = 2 kg
23.	(A)	Rs. 27.30 + Rs. 20 = Rs. 47.30
		Rs. 23.80 + Rs. 40 = Rs. 63.80
		Rs. 63.80 − Rs. 47.30 = Rs. 16.50
24.	(A)	4785 + 2902 = 7687

25.	(B)	2000 ml − 1600 ml = 400 ml
26.	(B)	First, subtract 5 tens (which is 50) from 800
		800 − 50=750
		Next, divide the difference by 25
		750 ÷ 25=30
		So, the quotient is 30
27.	(D)	Let's check each option:
		16 × 15 = 240 (ones place is 0)
		16 × 54 = 864 (ones place is 4)
		16 × 43 = 688 (ones place is 8)
		16 × 28 = 448 (ones place is 8)
		So, the correct answer is (D).
28.	(A)	
		1600 g = 1 kg 600 g
29.	(D)	Subtract the number of stamps Vishal collected from Manish's stamps. Vishal collected 1904 fewer stamps than Manish, so:
		4873 − 1904 = 2969
		This means Vishal collected 2969 stamps.
		Now, add the number of stamps Manish collected to Vishal's total:
		4873 + 2969 = 7842
		So, Manish and Vishal collected a total of 7842 stamps.
30.	(B)	$\frac{72 \text{ apples}}{8 \text{ baskets}}$ = 9 apples per basket
		So, each basket will have 9 apples

31. (C) Let's check each option:

2008: Divisible by 4 (leap year).

1992: Divisible by 4 (leap year).

2013: Not divisible by 4 (non-leap year).

1988: Divisible by 4 (leap year).

So, the non-leap year is (C) 2013.

32. (D)

$$\frac{28 \text{ yellow roses}}{4 \text{ vases}} = 7 \text{ yellow roses per vase}$$

33. (C) John used 3 cups of oil, and each cup contained 70 ml. So, the total oil used is:

$3 \times 70 = 210$ ml

Now, convert 4 litres of oil to millilitres (since 1 litre = 1000 ml)

4 litres=4000 ml

Next, subtract the oil used from the total oil:

4000 ml – 210 ml = 3790 ml
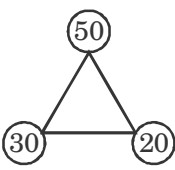
Therefore, 3790 ml of oil is left.

34. (D) There are 4 quarters in 1 whole. To find how many quarters are in 5 wholes, we multiply:

$4 \times 5 = 20$

35. (D) $682 \times 3 = 2046$

REASONING

36. (A)

$\rightarrow$ 50 + 20 + 30 = 100

Similarly, 25 + 40 + **35** = 100.

∴ The required number is 35.

37. (B) In the given series the number of sides of the shapes increases by 1 successively.

Hence, the next shape should have ten sides which is given in option (B).

38. (B) In each row the first figure is quarter and the second figure is half of the third figure.

Hence, the figure in option (B) replaces the question mark.

39. (C) Three of the given words form meaningful words, when they are reversed.

RATS $\rightarrow$ STAR; MADAM $\rightarrow$ MADAM; MALAYALAM $\rightarrow$ MALAYALAM
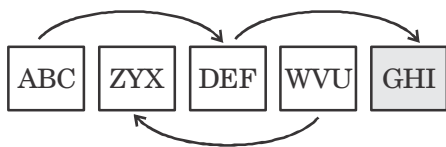
40. (D) 2 3 4 $\rightarrow$ E, O, E

3 4 5 $\rightarrow$ O, E, O   E – Even

4 5 6 $\rightarrow$ E, O, E   O – Odd

6 5 7 $\rightarrow$ E, O O

657 has odd digits that are continuous unlike in (A), (B) and (C).

41. (Delete)

42 (A) The first figure is flipped to obtain the second figure.

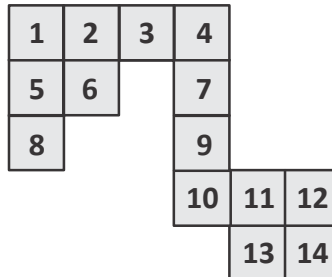Hence, the curved arrow in option (A) is the required matching pair.

43. (C)

∴ GHI completes the given series.

44. (C) January has 31 days.

Republic day $\rightarrow$ January 26th (Saturday)

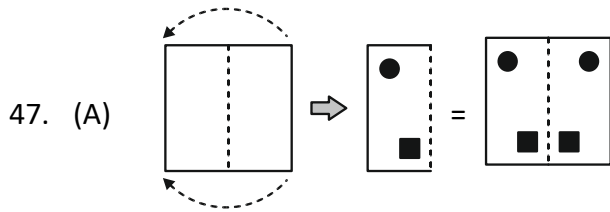$\Rightarrow$ 1st of next month (February) is a Friday.

Hence, 14th of next month is a Thursday, as 1 + 14 = 15th is a Friday.
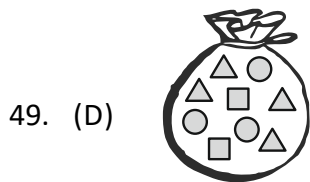
45. (A)

Hence, there are **14** squares like [ ] in the given shape.

CRITICAL THINKING

46. (C) This object is not a pencil. This conclusion logically follows from the given statement that all pencils are yellow.

47. (A)

48. (C) Stars are what that come out at night without being called and are lost in the day without being stolen.

49. (D)

50. (C) To determine which picture correctly represents the relationship:

   • The number of oranges should be twice the number of bananas.

   • The number of bananas should be twice the number of strawberries.

   Oranges : 4 ; Bananas : 2 ; Strawberries : 1

   4 = 2 × 2 (correct)

   1 = 2 × 1 (correct)