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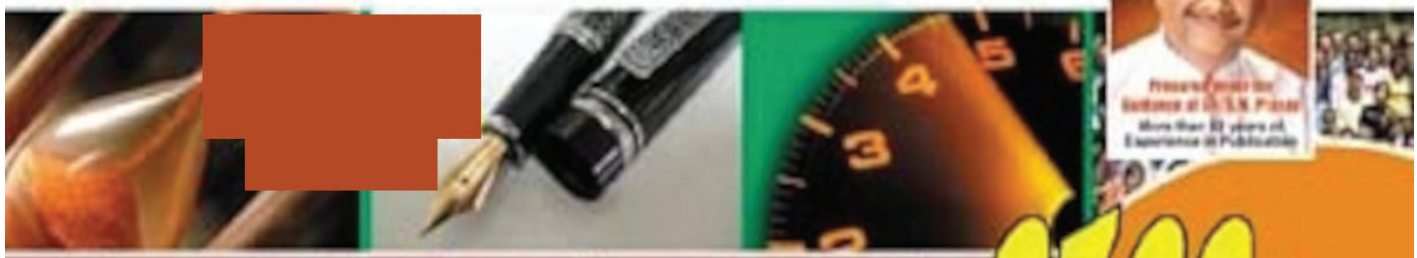
BANK PO

QUANTITATIVE APTITUDE

CHAPTERWISE

SOLVED PAPERS

1999 - TILL DATE



Chapterwise Questions with explanation of Previous Years' exams conducted by Nationalised Banks, Gramin Banks, IBPS (PO/MT/SO, RRBs Officer), SBI, RBI (Grade 'B') & Insurance Sector (AAO, AO etc)

9300+ OBJECTIVE QUESTIONS with Explanations

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Delhi : RU-67,
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NEW EDITION

Reviewed by : **Think Tank of PRATIYOGITA KIRAN, KIRAN PRAKASHAN & KICX**
Assistance : ● **Rakesh Kumar** ● **Govind Pd. Singh** ● **Sanket Sah** ● **Auranjeb Khan**
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About the Book.....

The significance of past never diminishes, either in effect or substance. To forget this moot point becomes suicidal sometimes. A minute observation of the past and accumulated experiences help us in shaping our present. The positive and compendious conclusions drawn from the past become our pioneer in charting new ways and teach us to rectify our remedies. Our present is, thus, beautified. Where there is beauty, attraction cannot be negated. It is in this way that the foundation of a concrete future is further solidified. Aspirations turn into realities. This is a realistic reflection. If the past is forgotten by marginalizing this realism, the truth of past surfaces as a path strewn with pebbles. If we preserve and cherish these pebbles of the past and make correct use of them, they become the linchpin of an edifice called success. Thus, the intricacies of our path become effortless and our destination gets more and more intelligible. **Kiran Prakashan Pvt. Ltd.**, which has been at your service for decades and helping you with the multitude of relevant offerings, has made a meaningful effort to put together these invaluable and very useful pebbles in the form of a book, titled **Kiran's BANK PO QUANTITATIVE APTITUDE Chapterwise Solved Papers**.

It is indeed a momentous occasion to present the **Kiran's BANK PO QUANTITATIVE APTITUDE Chapterwise Solved Papers**, based on the latest syllabus and pattern announced by the Institute of Banking presonnel selection (IBPS), SBI, RBI, NABARD and Insurance Sector. **Kiran Prakashan** has been keeping you updated with all the relevant information related to these very changes. This Book is another example of the commitment we feel towards our readers, imparting completeness in their search for a better and secure future.

The book before you, **Kiran's BANK PO QUANTITATIVE APTITUDE Chapterwise Solved Papers**, is a compilation of chapterwise questions of Quantitative Aptitude/ Numerical ability that have been asked in the various competitive examinations by Nationalised Banks, Gramin Banks, IBPS (PO/MT/SO RRBs Officer), SBI, RBI (Grade'B'), NABARD & Insurance Sector (AAO, AO etc.). This book has been conceived as a holistic treatment and single solution to all the difficulties that a candidate encounters while appearing at the **Nationalised Banks, Gramin Banks, IBPS, SBI, RBI, NABARD & Insurance Sector examinations**. The **Think-Tank of Kiran Prakashan** has taken into account the needs and difficulties of candidates and made an attempt to simplify the subject matter by de-constructing every thread and each pattern. Not only have the questions asked in the different examinations conducted by Banks Exams been compiled at one place, but also they have been compartmentalized topically and made easy to grasp and digest with the help of comprehensive explanations. This is a rare collection of **more than 9300 questions** and their respective explanations. It wouldn't be bragging if we say, do master these questions and their explanations, you will automatically find yourself at ease with most of what surfaces in form of examination questions. In other words, master this book sincerely; success will itself become the mistress.

Kiran's BANK PO QUANTITATIVE APTITUDE Chapterwise Solved Papers has been parceled out into **22 Chapters**, each dealing with bulk of questions and explanations. The Chapters are : **Number System, Simplification, Percentage, Average , Ratio and Proportion, Alligation or Mixture, Partnership, Profit and Loss, Discount, Simple Interest, Compound Interest, Time and Work, Time and Distance, Approximate Value, Permutation and Combination, Probability, Equations and Inequations, Mensuration, Data Sufficiency, Data Interpretation, Number Series and Miscellaneous.**

An attempt has been made to impart completeness to this work which you will find more and more indispensable, the more you get acquainted with it.

Explanations to the questions serve in some way as highly directed study material. We have ensured not to bombard you with bulky study materials which sometimes prove futile if a candidate is facing severe crunch of time. Johann Wolfgang von Goethe, considered the supreme genius of modern German literature, said once: "What is not started today is never finished tomorrow." We have turned the key on with the Book titled **Kiran's BANK PO QUANTITATIVE APTITUDE Chapterwise Solved Papers**, where facts have been consolidated and refined and presented in the easy-to-digest objective question format which have actually been already asked in the different levels and formats of competitive examinations. Scientifically it has been proved that you tend to remember anything for long if that has been asked from you and you found yourself in a testing situation. So, this book has been scientifically weaved on the principle of 'test to prepare.

Some Important Facts

- Never read Mathematics (Quantitative Aptitude), always use pen and paper to solve Maths.
- Study the facts and formulae of every topic.
- Always try to understand the root/source of the formulae.
- Give a subjective approach to your study, otherwise objective approach will serve no objective.
- Comprehend the application of formulae.
- A proper use makes the solution easy whereas an improper use hardens it.
- Solve questions of varied kind and degree.
- Go ahead from easy to harder questions.
- Believe in complete solution of questions.
- Practice makes a man perfect.
- Mathematics (Quantitative Aptitude) needs continuous practice.
- While preparing, underline the important points.
- This will help you during revision.
- It is perilous walking on a tight rope and give a wide dimension to your study.
- Most importantly, think positive, do positive.

On making a microscopic appraisal of the above given explanations, you will discover that they are not merely explaining a specific question but they are more in the nature of introducing you to a subject or a theme. You will find yourself at ease in similar other questions as well. In short, this unique compilation of **more than 9300 questions** will serve you in more than one way.

Last, but not the least, there is no shortcut to success. Only hard work and perseverance pays rich dividends in the long term. So, it is desirable on your part to make the best out of this unique offering before you. Let us remind you that the questions you find in this book will not only help you prepare for the Banks PO/Management Trainees, Specialist Officer Examinations, they will equip you with the much required knowledge and insight in 'cracking' other examinations as well.

Hugh Nibley, the famous American author and **Mormon** apologist said: "Only if you reach the boundary will the boundary recede before you. If you don't, if you confine your efforts, the boundary will shrink to accommodate itself to your efforts. You can only expand your capacities by working to the very limit." Our researchers have taken painstaking efforts in the direction of accommodating and expanding to the limit. The guiding principle has been to have an eye on whatever is significant, and when you do have such a microscopic eye, there is little that can be expected to have been ignored. So, here is our new, novel and unique offering to you, **Kiran's BANK PO QUANTITATIVE APTITUDE Chapterwise Solved Papers**. Read it, incorporate and digest it to reach the limits of life. See to know what it is all about.

With the Best Wishes

(Publisher)
Satyanarayan Prasad
Email : sanket2000_us@yahoo.com

CONTENTS

[TOTAL NO. OF QUESTIONS 9374 (6726+2648*)]

*** No. of questions available online/visit kicx.in**

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■ Indian Political System And Constitution
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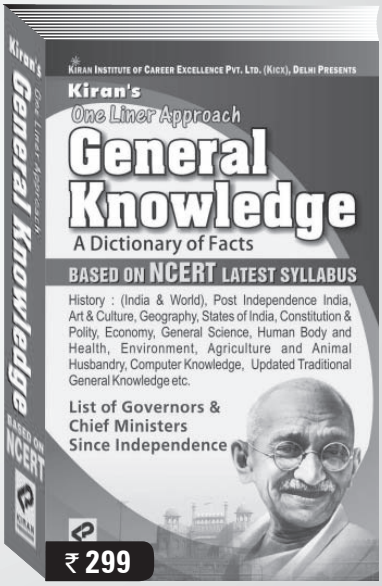

SALIENT FEATURES

- ♦ Very simple and lucid language used to express the fundamental and textual concepts.
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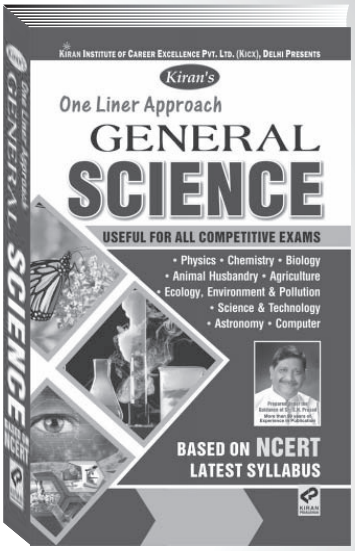
- ♦ Each Unit with well listed contents covered under its umbrella at the beginning engrossed in *Italics Font* to help you save time while turning over the pages to look for a particular text.
- ♦ Each unit enriched and suspplemented with labeled Pictures, Tables, Flow Charts along with solved numerical problems wherever necessary realizing
- ♦ the value of picture/ diagram in proper comprehension of the text.
- ♦ the types of numerical based questions that had so far been asked in different spheres of examinations.
- ♦ Above all, the points of significance have been highlighted in red colour text, not to scare but draw attention, hence, minimizing any chance of overlooking the text.



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Chapterwise Distribution of Questions asked in the Nationalised Banks, Gramin Banks, IBPS (PO/MT/SO) Exams Held from 2011 to 2021.

QUANTITATIVE APTITUDE																
S. No.	CHAPTERS	Indian Overseas Bank PO Exam, 22.05.2011	IBPS Bank PO/MT CWE, 18.09.2011	IBPS Bank PO/MT CWE, 17.06.2012	IBPS RRBs Office Assistant CWE, 09.09.2012	IBPS Specialist Officer CWE, 17.03.2013	Corporation Bank Specialist Officer (Marketing) Exam. 22.02.2014	IBPS Bank PO/MT CWE-IV, 18.10.2014	IBPS Bank PO/MT CWE-V (Main Exam) 31.10.2015	IBPS Specialist Officer (IT) CWE, 14.02.2016	IBPS Bank PO/MT CWE (Main Exam), 18.11.2016	IBPS Specialist Officer (Agriculture) CWE, 29.01.2017	IBPS Bank PO/MT CWE (Prelim Exam), 14.10.2018	IBPS Bank PO/MT CWE (Prelim Exam), 12.10.2019	IBPS RRBs Officer CWE (Prelim Exam), 31.12.2020	IBPS Bank PO/MT CWE (Prelim Exam), 04.12.2021
1.	Number System	2	—	2	3	—	—	—	—	—	1	—	—	—	1	2
2.	Simplification	5	8	5	15	5	1	—	—	—	—	—	—	—	—	—
3.	Percentage	—	4	2	3	—	—	—	4	2	—	1	—	2	—	—
4.	Average	1	1	—	2	1	5	—	1	—	1	—	—	1	—	1
5.	Ratio and Proportion	—	1	2	2	1	2	3	2	1	1	2	1	—	1	—
6.	Alligation or Mixture	—	—	—	—	—	—	—	1	1	1	1	1	—	—	—
7.	Partnership	—	—	1	—	—	1	1	1	1	1	1	—	1	—	1
8.	Profit and Loss	—	—	1	—	1	1	1	2	1	1	1	—	1	2	—
9.	Discount	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
10.	Simple Interest	—	—	—	—	—	1	—	—	1	—	—	—	—	—	—
11.	Compound Interest	—	1	1	1	1	—	1	1	—	1	1	1	—	—	—
12.	Time and Work	—	—	1	—	—	—	1	—	1	1	1	—	—	6	—
13.	Time and Distance	1	—	—	1	1	1	2	2	1	—	—	1	—	2	1
14.	Approximate Value	5	5	5	5	1	5	—	5	5	5	6	5	5	5	—
15.	Permutation and Combination	—	—	1	1	1	1	—	2	—	—	—	—	1	—	—
16.	Probability	—	5	1	—	1	2	—	2	—	1	—	1	—	5	—
17.	Equations and Inequations	5	—	—	—	5	5	5	—	6	—	6	—	5	3	3
18.	Mensuration	3	—	1	1	1	—	3	—	—	—	1	—	1	—	1
19.	Data Sufficiency	—	—	—	—	5	5	—	—	5	5	5	4	—	—	5
20.	Data Interpretation	20	20	20	—	20	14	28	21	18	20	18	15	15	10	15
21.	Number Series	5	5	5	5	5	5	5	5	6	5	5	5	—	5	5
22.	Miscellaneous	3	—	2	1	1	1	—	1	1	5	1	1	3	—	1
	Total Number of Questions	**50**	**50**	**50**	**40**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**35**	**35**	**40**	**35**

Chapterwise Distribution of Questions asked in the SBI Exams Held from 2011 to 2019.

QUANTITATIVE APTITUDE											
S. No.	CHAPTERS	SBI Associate Banks PO Exam, 07.08.2011	SBI PO Exam, 28.04.2013	SBI Management Executive Exam. 23.02.2014	SBI PO Online Exam, 28.06.2014	SBI PO Phase – I (Preliminary) Online Exam, 27.06.2015	SBI PO Online (Main) Exam, 31.07.2016	SBI PO Online (Preliminary) Exam, 07.05.2017	SBI PO Phase-II (Main) Exam, 04.06.2017	SBI PO (Prelim) Exam, 08.07.2018	SBI PO (Prelim) Exam, 09.06.2019
1.	Number System	—	—	—	—	—	—	—	—	—	—
2.	Simplification	—	—	—	—	—	—	—	—	—	—
3.	Percentage	2	—	—	—	2	1	—	—	—	—
4.	Average	1	—	—	—	—	—	1	—	1	1
5.	Ratio and Proportion	1	—	—	—	1	1	1	—	—	—
6.	Alligation or Mixture	—	—	—	—	—	—	—	1	—	1
7.	Partnership	—	—	—	—	1	—	1	—	—	1
8.	Profit and Loss	2	—	—	—	1	—	1	—	—	—
9.	Discount	—	—	—	—	—	—	—	—	—	—
10.	Simple Interest	—	—	—	—	1	—	—	—	—	1
11.	Compound Interest	—	—	—	—	—	—	1	—	—	—
12.	Time and Work	1	—	—	—	1	1	1	—	—	1
13.	Time and Distance	—	—	—	—	1	—	—	—	1	1
14.	Approximate Value	5	—	—	—	5	—	5	—	5	—
15.	Permutation and Combination	—	—	—	—	—	—	—	—	—	—
16.	Probability	1	—	—	—	1	1	1	—	2	—
17.	Equations and Inequations	—	—	—	—	5	—	5	5	—	5
18.	Mensuration	2	—	—	—	1	—	1	1	1	1
19.	Data Sufficiency	—	—	5	7	—	5	—	5	—	—
20.	Data Interpretation	30	50	40	43	10	25	10	23	15	17
21.	Number Series	5	—	5	—	5	—	5	—	5	5
22.	Miscellaneous	—	—	—	—	—	1	2	—	5	1
	Total Number of Questions	**50**	**50**	**50**	**50**	**35**	**35**	**35**	**35**	**35**	**35**

Chapterwise Distribution of Questions asked in the RBI Officer Grade–B/ NABARD Officer GRADE–A Exams Held from 2011 to 2021.

QUANTITATIVE APTITUDE														
S. No.	**CHAPTERS**	**RBI Grade – B Officer Exam, 06.02.2011**	**RBI Grade – B Officer Exam, 18.12.2011**	**RBI Grade – B Officer Exam, 25.08.2013**	**RBI Officer Grade 'B' Phase-I Exam, 03.08.2014**	**NABARD Officer Grade 'A' Exam, 01.03.2015**	**RBI Officer Grade 'B' Phase-I Exam, 21.11.2015**	**NABARD A.M. Online Exam, 15.05.2016**	**RBI Officer Grade 'B' Phase-I Exam, 04.09.2016 (Shift-II)**	**RBI Officer Grade 'B' Phase-I Exam, 17.06.2017**	**NABARD A.M. Online Exam, 06.08.2017**	**RBI Officer in Grade 'B' Phase-I Exam 16.08.2018**	**RBI Grade 'B' Officer Exam, 09.11.2019**	**RBI Officer Grade 'B' Phase-I Exam, 06.03.2021**
1.	Number System	1	—	1	—	—	—	—	—	—	—	—	1	1
2.	Simplification	5	5	5	—	1	—	—	—	—	—	—	—	—
3.	Percentage	—	—	2	—	1	1	—	—	—	—	—	—	—
4.	Average	—	—	—	—	1	—	—	—	—	—	—	—	1
5.	Ratio and Proportion	1	—	1	1	1	1	—	1	—	—	1	2	1
6.	Alligation or Mixture	—	—	—	—	—	1	1	—	1	2	1	1	—
7.	Partnership	—	—	—	—	1	1	—	—	1	3	2	—	—
8.	Profit and Loss	—	—	—	—	—	—	1	1	—	—	1	1	1
9.	Discount	—	—	—	—	1	—	—	—	—	—	—	—	—
10.	Simple Interest	—	—	—	—	—	—	—	—	2	—	—	—	—
11.	Compound Interest	1	—	—	—	1	1	1	—	—	1	1	1	—
12.	Time and Work	—	—	1	1	1	—	1	1	1	1	1	1	1
13.	Time and Distance	1	—	1	1	1	—	1	—	2	—	1	—	—
14.	Approximate Value	5	—	—	—	—	—	—	—	—	5	—	4	—
15.	Permutation and Combination	1	—	—	—	—	2	—	—	—	—	—	—	—
16.	Probability	—	—	1	1	1	1	—	1	1	—	—	—	—
17.	Equations and Inequations	5	5	—	5	5	—	5	—	5	3	—	—	2
18.	Mensuration	—	—	—	1	1	1	1	—	1	—	1	1	—
19.	Data Sufficiency	5	—	—	5	4	—	—	10	—	—	—	3	—
20.	Data Interpretation	10	15	15	10	24	15	15	10	15	5	10	11	15
21.	Number Series	5	5	3	5	5	5	3	5	—	—	5	4	5
22.	Miscellaneous	—	—	—	—	1	1	1	1	1	—	6	—	3
	Total Number of Questions	**40**	**30**	**30**	**30**	**50**	**30**	**30**	**30**	**30**	**20**	**30**	**30**	**30**

Chapterwise Distribution of Questions asked in the Insurance Officer Exams Held from 2012 to 2019.

QUANTITATIVE APTITUDE										
S. No.	CHAPTERS	United India Insurance AAO Exam, 03.06.2012	United India Insurance AAO Exam, 03.06.2013	LIC Assistant Administrative Officer Exam, 12.05.2013	NICL (GIC) AO (Finance) Exam, 15.12.2013	NIACL Administrative Officer (AO) Exam, 11.01.2015	LIC (AAO) Exam, 06.03.2016	NICL AO Exam, 05.06.2017	LIC AAO Prelim Exam, 05.05.2019	LIC AAO Main Exam, 28.06.2019
1.	Number System	4	1	—	2	—	—	—	—	1
2.	Simplification	3	6	5	—	—	—	—	—	—
3.	Percentage	2	3	1	1	—	2	—	2	1
4.	Average and Age	2	—	1	—	2	1	1	—	—
5.	Ratio and Proportion	2	1	1	5	—	1	3	1	—
6.	Alligation or Mixture	—	—	1	—	—	—	1	1	—
7.	Partnership	—	1	—	—	1	—	1	—	—
8.	Profit and Loss	2	1	—	2	1	1	1	1	2
9.	Discount	—	—	—	1	—	—	—	—	—
10.	Simple Interest	—	—	1	—	2	—	—	—	—
11.	Compound Interest	1	1	—	1	1	1	—	1	1
12.	Time and Work	—	1	1	—	—	1	—	—	1
13.	Time and Distance	1	—	1	1	1	—	1	—	—
14.	Approximate Value	—	—	5	—	5	—	—	5	—
15.	Permutation and Combination	—	—	1	—	—	—	—	—	1
16.	Probability	—	—	1	—	3	1	1	—	
17.	Equations and Inequations	—	—	—	—	5	5	5	—	—
18.	Mensuration	3	—	1	3	1	1	—	2	—
19.	Data Sufficiency	—	5	—	—	—	—	—	4	5
20.	Data Interpretation	5	25	5	—	28	10	15	11	15
21.	Number Series	1	5	5	—	—	5	5	5	—
22.	Miscellaneous	4	—	—	4	—	1	1	1	3
	Total Number of Questions	**30**	**50**	**30**	**20**	**50**	**30**	**35**	**35**	**30**

1 NUMBER SYSTEM

QUESTIONS FROM 1999 TO 2010 ARE AVAILABLE ONLINE

NATIONALISED BANKS & IBPS PO/MT/SO EXAMS

1. What is the least number that can be added to the number 1020 to make it a perfect square ?
(1) 65 (2) 12
(3) 59 (4) 4
(5) None of these
(Indian Bank PO Exam. 02.01.2011)

2. If the numerator of a fraction is increased by 150% and the denominator of the fraction is increased by 300%, the resultant fraction is $\frac{5}{18}$. What is the original fraction ?
(1) $\frac{4}{9}$ (2) $\frac{4}{5}$
(3) $\frac{8}{9}$ (4) $\frac{8}{11}$
(5) None of these
(Punjab & Sind Bank PO Exam. 23.01.2011)

3. Sum of two numbers is equal to sum of square of 11 and cube of 9. Larger number is $(5)^2$ less than square of 25. What is the value of the sum of twice of 24 percent of the smaller number and half of the larger number?
(1) 415 (2) 400
(3) 410 (4) 425
(5) None of these
(UCO Bank PO Exam. 30.01.2011)

4. The difference between the sum of four consecutive odd numbers and three consecutive even numbers together is 20. Also, the largest even number is 5 more than the largest odd number. What is the sum of the smallest odd number and the smallest even number ?
(1) 75 (2) 77
(3) 85
(4) Cannot be determined
(5) None of these
(UCO Bank PO Exam. 30.01.2011)

5. Sum of square of first number and cube of second number together is 568. Also square of the second number is 15 less than square of 8. What is the value of three-fifth of the first number? (assuming both the numbers are positive)
(1) 18 (2) 8
(3) 9 (4) 16
(5) None of these
(Bank Of Baroda PO Exam. 13.03.2011)

6. The sum of six consecutive even numbers of set-A is 402. What is the sum of another set-B of four consecutive numbers whose lowest number is 15 less than **double** the lowest number of set-A ?
(1) 444 (2) 442
(3) 440 (4) 446
(5) None of these
(Allahabad Bank PO Exam. 17.04.2011)

7. The sum of nine consecutive odd numbers of set-A is 621. What is the sum of different set of six consecutive even numbers whose lowest number is 15 more than the lowest number of set-A ?
(1) 498 (2) 468
(3) 478 (4) 488
(5) None of these
(Indian Overseas Bank PO Exam. 22.05.2011)

8. The product of three consecutive even numbers is 4032. The product of the first and the third number is 252. What is five times the second number?
(1) 80 (2) 100
(3) 60 (4) 70
(5) 90
(IBPS Bank PO/MT CWE 17.06.2012)

9. The sum of the age of 4 members of a family 5 years ago was 94 years. Today, when the daughter has been married off and replaced by a daughter-in-law, the sum of their age is 92. Assuming that there has been no other change in the family structure and all the people are alive, what is the difference in the age of the daughter and the daughter-in-law ?
(1) 22 years (2) 11 years
(3) 25 years (4) 19 years
(5) 15 years
(IBPS Bank PO/MT CWE 17.06.2012)

10. Which of the following is second largest ?
(1) 138.6 – 38.4 + 479.3
(2) 36.5 – 844.6 + 1289
(3) 931 – 564 + 156
(4) 564 – 213 + 120
(5) 130 – 461 + 888
(IDBI Bank Officer Exam.16.09.2012)

11. Which of the following is the largest ? (You are not expected to calculate the exact value)
(1) $(56 \times 15) \div 4^2$
(2) $(25 \times 72) \div 6^2$
(3) $(6 \times 441) \div 7^2$
(4) $(28 \times 78) \div 56$
(5) $(32 \times 48) \div 26$
(IDBI Bank Officer Exam.16.09.2012)

12. Which of the following is the smallest ? (You are not expected to calculate the exact value)
(1) $\left(\frac{5}{9} \text{ of } 1250\right)^{\frac{1}{2}}$
(2) $\left(\frac{7}{13} \text{ of } 4112\right)^{\frac{1}{3}}$
(3) $\left(\frac{5}{19} \text{ of } 3221\right)^{\frac{1}{2}}$

(4) $\left(\frac{15}{11} \text{ of } 412\right)^{\frac{1}{2}}$

(5) $\left(\frac{17}{13} \text{ of } 3444\right)^{\frac{1}{3}}$

(IDBI Bank Officer Exam.16.09.2012)

13. The cost of 8 dozen of eggs is ₹ 256. Which calculation is needed to find the cost of 9 eggs ?

(1) $(9 \times 256) \times (8 \div 12)$

(2) $(12 \times 256) \div (8 \times 9)$

(3) $(8 \times 256) \div (9 \times 12)$

(4) $(9 \times 256) \times (8 \times 12)$

(5) $(9 \times 256) \div (8 \times 12)$

(IDBI Bank Officer Exam.16.09.2012)

14. On a particular day, sweets were to be equally distributed among 495 students of a school. However, on that particular day 396 students from a nearby school also joined them. Hence each student present on that day got four sweets less. How many sweets were distributed ?

(1) 5445 (2)4950

(3)4455 (4)3960

(5) None of these

(IBPS RRBs Office Assistant CWE Exam. 09.09.2012)

15. A student requires 324 pencils in 6 years. How many dozen pencils will he require in 14 years ?

(1) 52 (2) 64

(3) 59 (4) 62

(5) None of these

(IBPS RRBs Office Assistant CWE Exam. 09.09.2012)

16. What is the least number to be added to 4523 to make it a perfect square ?

(1) 101 (2) 34

(3) 238 (4) 121

(5) None of these

(IBPS RRBs Office Assistant CWE Exam. 09.09.2012)

17. How many natural numbers are there lying between 134 and 467 which are divisible by 7 ?

(1) 46 (2) 47

(3) 49 (4) 51

(5) None of these

(Indian Overseas Bank PO Online Exam. 01.09.2013)

18. If sum of smaller number x and two times the other number is equal to the sum of two times the smaller number and 16. The difference between the numbers is 6. Find the smaller number.

(1) 4 (2) 3

(3) 6 (4) 8

(5) None of these

(IBPS RRBs Officer Scale-I CWE, 06.09.2014)

19. Sum of three consecutive numbers is 2262. What is 41% of the highest number?

(1) 301.51 (2) 303.14

(3) 308.73 (4) 306.35

(5) 309.55

(IBPS Bank PO/MT CWE 17.06.2012)

20. What value will you obtain if twenty five per cent of 2340 is subtracted from four-ninth of square of 36 ?

(1) 9 (2) – 18

(3) 18 (4) – 9

(5) 3

(IDBI Bank Officer Exam.16.09.2012)

21. The product of two consecutive even numbers is 7568. What is 150% of the sum of the two numbers?

(1) 204 (2) 261

(3) 304 (4) 198

(5) None of these

(IBPS RRBs Office Assistant CWE Exam. 09.09.2012)

22. The difference between 20% of a number and $\frac{4}{5}$ th of the same number is 2499. What is $\frac{2}{7}$ th of that number ?

(1) 2156 (2) 1190

(3) 1090 (4) 1465

(5) None of these

(IBPS RRBs Office Assistant CWE Exam. 09.09.2012)

23. Amit's present age is three times Pratibha's present age and nine-thirteenth of his father's present age. The sum of the present age of all of them is 150 years. What is the difference between Pratibha's present age and Amit's father's present age ?

(1) 56 years

(2) 64 years

(3) 60 years

(4) Cannot be determined

(5) None of these

(IDBI Bank Officer Exam.16.09.2012)

24. Farah was married 8 years ago. Today her age is $1\frac{2}{7}$ times to that at the time of marriage. At present her daughter's age is $\frac{1}{6}$th of her age. What was her daughter's age 3 years ago?

(1) 6 years (2) 7 years

(3) 3 years

(4) Cannot be determined

(5) None of these

(IBPS Specialist Officer CWE 17.03.2013)

25. There are three consecutive odd numbers and three consecutive even numbers. The smallest even number is 9 more than largest odd number. If the square of average of all the three given odd numbers is 507 less than the square of the average of all the three given even numbers, what is the smallest odd number?

(1) 11 (2) 13

(3) 17 (4) 19

(5) 9

(IBPS RRBs Officers CWE (Prelim Exam) 09.09.2017) IInd Sitting)

26. Philip, Tom and Brad start jogging around a circular field and complete a single round in 18, 22 and 30 seconds respectively. In how much time will they meet again at the starting point?

(1) 8 mins. 15 secs.

(2) 21 mins.

(3) 16 mins. 30 secs.

(4) 12 mins.

(5) None of these

(Indian Bank PO Exam. 02.01.2011)

27. When 9 is subtracted from a two digit number, the number so formed is reverse of the original number. Also, the average of the digits of the original number is 7.5. What is definitely the original number ?

(1) 87 (2) 92

(3) 90 (4) 69

(5) 96

(IBPS RRBs Officer CWE (Pre.) 14.11.2016 (Shift-I))

28. The sum of a series of 5 consecutive odd numbers is 195. The second lowest number of this series is 9 less than the second highest number of another series of 5 consecutive even numbers. What is 40% of the second low-

est number of the series of consecutive even numbers?
(1) 16.8 (2) 18.8
(3) 19.4 (4) 17.6
(5) 16.4
(IBPS RRBs Officer CWE (Pre.) 14.11.2016 (Shift-II))

29. The sum of a series of 5 consecutive odd numbers is 225. The second number of this series is 15 less than the second lowest number of another series of 5 consecutive even numbers. What is 60% of the highest number of this series of consecutive even numbers?
(1) 36.0 (2) 34.6
(3) 38.4 (4) 40.8
(5) 39.2
(IBPS RRBs Officer CWE (Pre.) 14.11.2016 (Shift-III))

30. $\left(x^{2a}\right)^{b} = \sqrt{x^{\frac{4b}{c}}}$ and $\frac{x^{4b}}{x^{3a}}$ $= x^{3(a-b)}.x^{b}$, a, b and c being natural numbers.
(1) $a \neq b \neq c$ (2) $a = b < c$
(3) $a < b = c$ (4) $a = b = c$
(5) None of these
(IBPS Bank PO/MT CWE (Main) 18.11.2016

31. The ten's digit of a three digit number X is 3. If the digits of X are interchanged and the number thus formed is 396 more than the previous one. The sum of unit digit and hundred digit is 14, then what is the number ?
(1) 480 (2) 539
(3) 593 (4) 935
(5) Other than those given as options
(IBPS Bank PO/MT CWE-VII (Prelim Exam) 15.10.2017)

32. The product of digits of a 2-digit number (X) is 16. When the digits of X are reversed, the resultant number is 54 more than X. What is the value of 75% of X?
(1) 15 (2) 20
(3) 21 (4) 11
(5) 61.5
(IBPS RRBs Officer CWE (Prelim Exam) 11.08.2018)

33. The average of a series of four consecutive even numbers (S_1) is 31. If the lowest number of another series of five consecutive odd numbers (S_2) is 13 less than the 2nd highest number of S_1, what is the difference between the highest number of S_1 and that of S_2?
(1) 7 (2) 13
(3) 5 (4) 9
(5) 11
(IBPS RRBs Officer CWE (Prelim Exam) 11.08.2018)

34. When 9 is subtracted from a two digit number, the number so formed is reverse of the original number. Also, the average of the digits of the original number is 7.5. What is definitely the original number?
(1) 87 (2) 92
(3) 90 (4) 69
(5) 96
(IBPS Specialist Officer CWE (Prelim Exam) 31.01.2019)

35. There are 6 consecutive odd numbers. The square of the average of the last three numbers is 386 more than the product of the first two numbers. What is the value of the first odd number?
(1) 25 (2) 23
(3) 27 (4) 29
(5) 21
IBPS Bank PO/MT CWE (Prelim Exam) 19.10.2019

36. A number is such that when it is multiplied by 3, it gives another number which is as much above 116 as the original number itself is below 116. What is 40% of the original number?
(1) 23.2 (2) 24.8
(3) 20 (4) 20.8
(5) 21.6
IBPS Bank PO/MT CWE (Prelim Exam) 19.10.2019

37. What is the least number which when divided by 10, 15, 18 and 30 leaves the remainders 6, 11, 14 and 26 respectively?
(1) 90 (2) 74
(3) 86 (4) 100
(5) 96
(IBPS RRBs Officer Scale-I CWE Main Exam, 13.10.2019)

38. The average of three consecutive positive even integers is more than that of four consecutive positive odd integers by 10. The sum of second highest even integer and the second highest odd integer is 27. What is the lowest odd integer?
(1) 9 (2) 11
(3) 5 (4) 3
(5) 7
(Indian Bank Specialist Officer SO Exam, 08.03.2020)

39. If the sum of three consecutive even perfect square number be 116, what is the largest number?
(1) 4 (2) 16
(3) 100 (4) 144
(5) 64
(IBPS RRBs Officer CWE Prelim Exam, 31.12.2020)

40. There are six consecutive odd numbers in ascending order and each is divisible by 3. The average of all the numbers is 48. What is the average of next 3 consecutive odd numbers divisible by 3?
(1) 57 (2) 63
(3) 75 (4) 81
(5) 93

41. Now many six digit numbers divisible by 4 can be formed from the digits 1, 2, 3, 4, 5 and 6. If repetition of digits is allowed?
(1) 10368 (2) 11234
(3) 10246 (4) 12232
(5) 10256
(IBPS RRBs Officer CWE Prelim Exam, 07.08.2021)

42. The sum of three consecutive odd numbers and three consecutive even numbers together is 231. The difference between the smallest odd number and the smallest even number is 11. What is the sum of the largest even number and the largest odd number?
(1) 67 (2) 79
(3) 81 (4) 93
(5) 101

43. 25 times the square of a number is added to 15 times the same number. The result is equal to –2. Find the bigger number.
(1) –0.4 (2) 0.4
(3) –0.2 (4) 0.2
(5) 0.6
(IBPS Bank PO MT CWE Prelim Exam, 04.12.2021)

SBI PO EXAMS

1. The sum of two odd numbers is 38 and their product is 325. What will be three times of the larger number ?
(1) 75 (2) 39
(3) 69 (4) 99
(5) None of these

2. The sum of three consecutive numbers is 3252. What is the 31% of the largest number of them ?
(1) 326.35 (2) 333.65
(3) 335.35 (4) 336.35
(5) None of these

3. Ravi bought equal number of ₹ 45, ₹ 75 and ₹ 95 valued tickets for a classical music show. He spent a sum of ₹ 3870 for all the tickets. How many of each kind of tickets did he buy?
(1) 18 (2) 19
(3) 17 (4) 20
(5) None of these
(SBI Specialist (IT) Officer Exam. 19.04.2014)

4. Father's age is 30 years more than the son's age. Ten years hence, the father's age will become three times the son's age that time. What is son's present age (in years) ?
(1) 8
(2) 7
(3) 5
(4) Cannot be determined
(5) None of these
(SBI Associate Banks PO Exam. 07.08.2011)

5. There are six consecutive positive even numbers. The sum of average of first three consecutive numbers and that of the next three consecutive numbers is 62. What is the sum of the first three consecutive numbers ?
(1) 84 (2) 94
(3) 86 (4) 92
(5) 90
(SBI PO Preliminary Exam, 14.06.2019)

RBI GRADE–B/ NABARD GRADE–A OFFICER EXAMS

1. The denominators of two fractions are 5 and 7 respectively. The sum of these fractions is $\frac{41}{35}$. On interchanging the numerators, their sum becomes $\frac{43}{35}$. The fractions are
(1) $\frac{2}{5}$ and $\frac{4}{7}$ (2) $\frac{3}{5}$ and $\frac{4}{7}$
(3) $\frac{4}{5}$ and $\frac{2}{7}$ (4) $\frac{3}{5}$ and $\frac{5}{7}$
(5) None of these
(RBI Officer Grade 'B' Online Exam. 25.08.2013

2. A number is such that when it is multiplied by 7, it gives another number which is as much above 260 as the original number itself is below 260. What is 32% of the original number?
(1) 21.2 (2) 18.8
(3) 20.5 (4) 20.8
(5) 21.2
(RBI Grade 'B' Officer Exam 09.11.2019)

3. There are three consecutive odd perfect square numbers, whose sum is 7811. What is the biggest number ?
(1) 4081 (2) 3703
(3) 2809 (4) 3909
(5) 4267
(RBI Grade 'B' Officer Exam 06.03.2021)

INSURANCE EXAMS

1. The remainder when 7^{1987} is divided by 5 is
(1) 1 (2) 2
(3) 3 (4) 4
(New India Insurance AAO Exam. 22.05.2011)

2. Which is the largest ?
(1) 10^{10} (2) $(2^{10})^5$
(3) $(5^{10})^2$ (4) $(4^5)^4$
(New India Insurance AAO Exam. 22.05.2011)

3. If $(2^{36} - 1) = 68$ a 19476735, where a is any digit, then the value of a is
(1) 1 (2) 3
(3) 5 (4) 7
(New India Insurance AAO Exam. 22.05.2011)

4. Let x be an odd natural number. If x is divided by 6, it leaves a remainder y. If y^2 is divided by 4, it leaves remainder of z. Which of the following must be true for z ?
(1) $z = 3$ (2) $z = 5$
(3) $z = 1$ (4) z is even
(New India Insurance AAO Exam. 22.05.2011)

5. Given the numbers : 2^{5555}, 3^{3333}, 6^{2222}. These can be written in ascending order as
(1) 2^{5555}, 3^{3333}, 6^{2222}
(2) 3^{3333}, 2^{5555}, 6^{2222}
(3) 2^{5555}, 6^{2222}, 3^{3333}
(4) 6^{2222}, 2^{5555}, 3^{3333}
(New India Insurance AAO Exam. 22.05.2011)

6. The prime number 1999 can be written as $a^2 - b^2$, where a and b are natural numbers. Then the value of $a^2 + b^2$ is
(1) 1998000 (2) 1998001
(3) 1999000 (4) 1999001
(New India Insurance AAO Exam. 22.05.2011)

7. If a number of two digits is k times the sum of its digits, then the number formed by interchanging the digits is the sum of the digits multiplied by:
(1) $9 + k$ (2) $10 + k$
(3) $11 - k$ (4) $k - 1$
(General Insurance Corporation AAO Exam. 11.12.2011)

8. The first 44 positive integers are written in an order to form a larger number
N = 1 2 3 4 5 6 7 8 9 10 11 12 ..... 42 43 44
when N is divided by 45, then the remainder is
(1) 5 (2) 7
(3) 9 (4) 11
(Oriental Insurance Company AAO Exam. 08.04.2012)

9. When a natural number N is divided by 5, the remainder is 2, when divided by 7, the remainder is 3, when divided by 9, the remainder is 4. If N is the smallest number, then the sum of the digits of N is

(1) 7 (2) 8

(3) 11 (4) 13

(Oriental Insurance Company AAO Exam. 08.04.2012)

10. In the sum below, F = 0, and the other letters represent the digits 1, 2, 3, 4, 5, or 6, with each digit used exactly once and the two digit number AB is a prime number.

$$\begin{array}{r} AB \\ +\ CD \\ \hline EFG \end{array}$$

Then the value of A + 2B is

(1) 10 (2) 8

(3) 7 (4) 9

(Oriental Insurance Company AAO Exam. 08.04.2012)

11. Let d be a two digit number. If half of d exceeds one third of d by the sum of the digits in, d, then the sum of the digits in d is

(1) 6 (2) 8

(3) 9 (4) 15

(United India Insurance AAO Exam. 03.06.2012)

12. How many 9's are there in the 99999899999^2 ?

(1) 7 (2) 9

(3) 11 (4) 13

(United India Insurance AAO Exam. 03.06.2012)

13. Which one of the following is the largest ?

(1) $2^{\frac{1}{2}}$ (2) $5^{\frac{1}{3}}$

(3) $8^{\frac{1}{4}}$ (4) $11^{\frac{1}{5}}$

(United India Insurance AAO Exam. 03.06.2012)

14. By how much is $\frac{1}{4}$ th of 428 smaller than $\frac{5}{6}$ th of 216 ?

(1) 61 (2) 67

(3) 73 (4) 79

(5) None of these

(Oriental Bank of Commerce PO Exam, 21.12.2008 & United India Insurance AO Exam. 26.05.2013)

15. What is the smallest number by which 4320 be divided to make it a perfect cube ?

(1) 15 (2) 20

(3) 24 (4) 25

(NICL (GIC) AO (Finance) Exam. 08.09.2013 (Paper-I)

16. When 'n' is divided by 5 the remainder is 2. What is the remainder when n^2 is divided by 5?

(1) 2 (2) 3

(3) 1 (4) 4

(NICL (GIC) AO Exam. 08.09.2013 (Paper-I)

17. The least number which should be added to 2497 so that the sum is exactly divisible by 5, 6, 4 and 3 is:

(1) 3 (2) 13

(3) 23 (4) 33

(NICL (GIC) AO Exam. 08.09.2013 (Paper-I)

18. The sum of one-half, one-third and one-fourth of a number exceeds the number by 12. The number is:

(1) 144 (2) 154

(3) 90 (4) 174

(NICL (GIC) AO (Finance) Exam. 15.12.2013)

19. If the sum of two numbers is 42 and their product is 437, then the absolute difference between the numbers is:

(1) 3 (2) 4

(3) 5 (4) 7

(NICL (GIC) AO (Finance) Exam. 15.12.2013)

20. One-third of a number is 96. What will 67% of that number be ?

(1) 192.96 (2) 181.44

(3) 169.92 (4) 204.48

(5) None of these

(United India Insurance AO Exam. 26.05.2013

21. The age of Mr. Bhagat in 2002 was 1/90 of his birth year. What is his age in 2006 ?

(1) 30 yrs (2) 28 yrs

(3) 26 yrs (4) 22 yrs

(General Insurance Corporation AAO Exam. 11.12.2011)

22. When a number is divided by 2, 3, 4, 5 or 6, remainder in each case is 1. But the number is exactly divisible by 7. If the number lies between 250 and 350, the sum of digits of the number will be

(1) 4 (2) 5

(3) 7 (4) 10

(New India Insurance AAO Exam. 22.05.2011)

23. HCF of two numbers each of 4 digits is 103 and their LCM is 19261. Sum of the numbers is

(1) 2884 (2) 2488

(3) 4288 (4) 4882

(New India Insurance AAO Exam. 22.05.2011)

24. HCF of three numbers 3240, 3600 and p is 36. If their LCM is $2^4 \times 3^5 \times 5^2 \times 7^2$, then the number p is

(1) $2^2 \times 5^3 \times 7^2$

(2) $3^5 \times 5^2 \times 7^2$

(3) $2^2 \times 3^5 \times 7^2$

(4) $2^3 \times 3^5 \times 7^3$

(Oriental Insurance Company AAO Exam. 08.04.2012)

25. LCM of two numbers is 28 times their HCF. The sum of HCF and LCM is 1740. If one of these numbers is 240, the sum of digits of the other number is

(1) 4 (2) 5

(3) 6 (4) 7

(United India Insurance AAO Exam. 03.06.2012)

26. L.C.M of two numbers is 120 and their H.C.F. is 10. Which of the following can be the sum of those two numbers ?

(1) 140 (2) 80

(3) 60 (4) 70

(NICL (GIC) AO (Finance) Exam. 08.09.2013 (Paper-I)

27. Find the maximum number of girls, among whom 2923 bags and 3239 eyeliners can be distributed in such a way that each girl gets the same number of bags and eyeliners.

(1) 80 (2) 79

(3) 78 (4) 81

(NICL (GIC) AO (Finance) Exam. 08.09.2013 (Paper-I)

28. The sum of two numbers is 45 and their product is 500. Their HCF is
(1) 5 (2) 9
(3) 10 (4) 15
(NICL (GIC) AO Exam. 08.09.2013 (Paper-I)

29. The average of five consecutive even numbers is 48. The average of five consecutive odd numbers is 49. What is the product of smallest even number and largest odd number?
(1) 1958 (2) 2008
(2) 2915 (4) 2332
(5) 1845
(LIC AAO Main Exam, 28.06.2019)

SHORT ANSWERS

NATIONALISED BANKS & IBPS PO/MT/SO EXAMS

1. (4)	**2.** (1)	**3.** (5)	**4.** (2)
5. (3)	**6.** (2)	**7.** (5)	**8.** (1)
9. (1)	**10.** (5)	**11.** (5)	**12.** (4)
13. (5)	**14.** (3)	**15.** (5)	**16.** (1)
17. (2)	**18.** (1)	**19.** (5)	**20.** (4)
21. (2)	**22.** (2)	**23.** (3)	**24.** (3)
25. (1)	**26.** (3)	**27.** (1)	**28.** (1)
29. (3)	**30.** (4)	**31.** (2)	**32.** (3)
33. (1)	**34.** (1)	**35.** (2)	**36.** (1)
37. (3)	**38.** (3)	**39.** (5)	**40.** (3)
41. (1)	**42.** (3)	**43.** (3)	

SBI PO EXAMS

1. (1)	**2.** (4)	**3.** (1)	**4.** (3)
5. (1)			

RBI GRADE–B/ NABARD GRADE–A OFFICER EXAMS

1. (2)	**2.** (4)	**3.** (3)	

INSURANCE EXAMS

1. (3)	**2.** (2)	**3.** (1)	**4.** (3)
5. (2)	**6.** (2)	**7.** (3)	**8.** (3)
9. (4)	**10.** (1)	**11.** (3)	**12.** (2)
13. (2)	**14.** (3)	**15.** (2)	**16.** (4)
17. (3)	**18.** (1)	**19.** (2)	**20.** (1)
21. (3)	**22.** (1)	**23.** (1)	**24.** (3)
25. (3)	**26.** (4)	**27.** (2)	**28.** (1)
29. (4)			

EXPLANATIONS

NATIONALISED BANKS & IBPS PO/MT/SO EXAMS

1. (4) We know $32 \times 32 = 1024$
$\therefore$ Required number
$= 1024 - 1020 = 4$

2. (1) Let the original fraction be $\frac{x}{y}$.

$$\therefore \frac{x \times 250}{y \times 400} = \frac{5}{18}$$

$$\Rightarrow \frac{x}{y} = \frac{5}{18} \times \frac{400}{250} = \frac{4}{9}$$

3. (5) $x + y = 11^2 + 9^3$,
Where x = larger number
$\Rightarrow x + y = 121 + 729$
$\Rightarrow x + y = 850$ ...(i)
$x = 25^2 - 5^2 = (25 + 5)(25 - 5)$
$= 30 \times 20 = 600$
$\therefore y = 850 - 600 = 250$
$\therefore$ Required sum

$$= \frac{250 \times 24 \times 2}{100} + \frac{600}{2}$$

$= 120 + 300 = 420$

4. (2) Let the consecutive odd numbers be :
x, $x + 2$, $x + 4$ and $x + 6$
$\therefore$ Largest even number
$= x + 11$
and Other even numbers
$= x + 7$ and $x + 9$
$\therefore x + x + 2 + x + 4 + x + 6 - (x + 7 + x + 9 + x + 11) = 20$
$\Rightarrow x - 15 = 20$
$\Rightarrow x = 15 + 20 = 35$
$\therefore$ Required sum $= x + x + 7$
$= 2x + 7 = 2 \times 35 + 7 = 77$

5. (3) Let the first number be x and the second number be y.
$\therefore y^2 = 8^2 - 15 = 64 - 15 = 49$
$\Rightarrow y = 7$
Also, $x^2 + 7^3 = 568$
$\Rightarrow x^2 + 343 = 568$
$\Rightarrow x^2 = 568 - 343 = 225$
$\Rightarrow x = \sqrt{225} = 15$
$\therefore$ Required value

$$= 15 \times \frac{3}{5} = 9$$

6. (2) Tricky approach

Let the numbers be x, $x + 2$, $x + 4$, $x + 6$, $x + 8$, $x + 10$
According to question,
$x + 8 + x + 10 + x + x + 2 + x + 4 + x + 6 = 402$
$6x + 30 = 402$
$6x = 372$
$x = 62$ Or

$$\text{Third even number} = \frac{402}{6} - 1$$

$= 67 - 1 = 66$
$\Rightarrow$ Smallest even number = 62
$\because$ Smallest number of Set - B
$= 2 \times 62 - 15 = 109$
$\therefore$ Required sum
$= 109 + 110 + 111 + 112 = 442$

7. (5) Fifth number of set-A

$$= \frac{621}{9} = 69$$

Smallest number of Set-A = 61
$\therefore$ Smallest number of Set-B
$= 61 + 15 = 76$
$\therefore$ Required sum = 76 + 78 + 80 + 82 + 84 + 86 = 486

8. (1) Second number $= \frac{4032}{252} = 16$
$\therefore$ Required answer
$= 5 \times 16 = 80$

9. (1) Sum of the present age of old family = 94 + 20 = 114 years
Father + Mother + Son + Daughter-in-law = 92 years
Required difference between daughter & daughter in law
= 114 – 92 = 22 years

10. (5)
(1) 138.6– 38.4 + 479.3 = 579.5
(2) 36.5 – 844.6 + 1289 = 480.9
(3) 931 – 564 + 156 = 523
(4) 564 – 213 + 120 = 471
(5) 130 – 461 + 888 = 557

11. (5) $\frac{56\times15}{16} = 52.5$

$\frac{25\times72}{6\times6} = 50$, $\frac{6\times441}{7\times7} = 54$

$\frac{28\times78}{56} = 39$, $\frac{32\times48}{26} = 59$

12. (4)

(1) $\left(1250\times\frac{5}{9}\right)^{\frac{1}{2}} = \left(\frac{6250}{9}\right)^{\frac{1}{2}} \approx 26$

(2) $\left(4112\times\frac{7}{13}\right)^{\frac{1}{3}} \approx 28$

(3) $\left(3221\times\frac{5}{19}\right)^{\frac{1}{2}} \approx 29$

(4) $\left(412\times\frac{15}{11}\right)^{\frac{1}{2}} \approx 24$

(5) $\left(3444\times\frac{17}{13}\right)^{\frac{1}{3}} \approx 36$

13. (5) ∵ C.P. of 8 × 12 eggs = ₹ 256

∴ C.P. of one egg = $\frac{256}{8\times12}$

∴ C.P. of 9 eggs = $\frac{256\times9}{8\times12}$

14. (3) Let the number of sweets be x. According to question,

$\frac{x}{495} - \frac{x}{891} = 4$

$\Rightarrow \frac{891x - 495x}{891\times495} = 4$

$\Rightarrow 396x = 4 \times 891 \times 495$

$\Rightarrow x = \frac{4\times891\times495}{396} = 4455$

15. (5) 324 pencils = 27 dozens of pencils
∵ 6 years ≡ 27 dozens

∴ 14 years ≡ $\frac{27}{6}\times14 = 63$ dozens

16. (1) 67 × 67 = 4489
68 × 68 = 4624
∴ Required number
= 4624 – 4523 = 101

17. (2) Smallest number divisible by 7 = 140
Largest number = 462
By $a_n = a + (n-1)\,d$
462 = 140 + (n – 1) × 7
$\Rightarrow$ (n – 1) × 7 = 462 – 140 = 322
$\Rightarrow n - 1 = 322 \div 7 = 46$
$\Rightarrow n = 46 + 1 = 47$

18. (1) Let the numbers be x and $x + 6$.
$\therefore x + 2(x + 6) = 2x + 16$
$\Rightarrow x + 2x + 12 = 2x + 16$
$\Rightarrow x = 16 - 12 = 4$

19. (5) Tricky approach

Second number = $\frac{2262}{3} = 754$

∴ Largest number = 755
∴ 41% of 755

$= \frac{755\times41}{100} = 309.55$

20. (4) Required answer

$= \frac{4}{9}\times(36)^2 - 2340\times\frac{25}{100}$

= 576 – 585 = –9

21. (2) 7568 = 86 × 88
Either use hit & trial method or by 7568 = $x(x + 2)$
∴ Sum = 86 + 88 = 174
∴ 150% of 174

$= \frac{174\times150}{100} = 261$

22. (2) Let the number be x.

$\therefore \frac{4x}{5} - \frac{x}{5} = 2499$

$\Rightarrow \frac{3x}{5} = 2499$

$\Rightarrow x = \frac{2499\times5}{3} = 4165$

$\therefore 4165\times\frac{2}{7} = 1190$

23. (3) Pratibha's present age = x years
∴ Amit's present age = $3x$ years
∴ Father's present age

$= \frac{3x\times13}{9} = \frac{13x}{3}$ years

$\therefore x + 3x + \frac{13x}{3} = 150$

$\Rightarrow 3x + 9x + 13x = 150 \times 3$
$\Rightarrow 25x = 150 \times 3$

$\Rightarrow x = \frac{150\times3}{25} = 18$

∴ Required difference

$= \frac{13x}{3} - x = \frac{10x}{3}$

$= \frac{10}{3}\times18 = 60$ years

24. (3)

$1\frac{2}{7} = \frac{9}{7}$ → Present age of Farah
→ Age of the time of marriage of Farah

Difference = 9 – 7 = 2
∵ 2 unit = 8 years
∴ 1 unit = 4 years
∴ Present age of Farah
= 9 unit = 9 × 4 = 36 years
Now, present age of her daughter

$= \frac{1}{6} \times 36 = 6$ years

∴ Daughter's age 3 years ago
= 6 – 3 = 3 years.
$\Rightarrow$ Option (3) is right.

25. (1) Let the three consecutive odd numbers be $2x + 1$, $2x + 3$ and $2x + 5$.
∴ Three consecutive even numbers will be :
$2x + 14$, $2x + 16$ and $2x + 18$.
According to the question,

$\left(\frac{2x+14+2x+16+2x+18}{3}\right)^2$

$- \left(\frac{2x+1+2x+3+2x+5}{3}\right)^2$

= 507

$\Rightarrow (2x + 16)^2 - (2x + 3)^2 = 507$
$\Rightarrow (2x + 16 + 2x + 3)(2x + 16 - 2x - 3) = 507$
$\Rightarrow (4x + 19) \times 13 = 507$

$\Rightarrow 4x + 19 = \frac{507}{13} = 39$

$\Rightarrow 4x = 39 - 19 = 20$

$\Rightarrow x = \frac{20}{4} = 5$

∴ Smallest odd number
$= 2x + 1 = 2 \times 5 + 1 = 11$

26. (3) Required time = LCM of 18, 22 and 30 seconds

$= 990 \text{ seconds} = \frac{990}{60} \text{ minutes}$

= 16 minutes 30 seconds

27. (1) Let the two-digit number be $10x + y$,

According to the question,

$10x + y - 9 = 10y + x$

$\Rightarrow 10x + y - 10y - x = 9$

$\Rightarrow 9x - 9y = 9$

$\Rightarrow x - y = 1$ .... (i)

and , $\frac{x+y}{2} = 7.5$

$\Rightarrow x + y = 15$ ... (ii)

On adding equations (i) and (ii),

$2x = 16$

$\Rightarrow x = 8$

from equation (i),

$8 - y = 1$

$\Rightarrow y = 8 - 1 = 7$

$\therefore$ Required number

$= 10 \times 8 + 7 = 87$

28. (1) Five consecutive odd numbers

$\Rightarrow x, x + 2, x + 4, x + 6$ and $x + 8$

$\therefore x + x + 2 + x + 4 + x + 6 + x + 8 = 195$

$\Rightarrow 5x + 20 = 195$

$\Rightarrow 5x = 195 - 20 = 175$

$\Rightarrow x = \frac{175}{5} = 35$

$\therefore$ Second lowest number

$= 35 + 2 = 37$

$\therefore$ Second highest even number

$= 37 + 9 = 46$

$\therefore$ Second lowest even number

$= 42$

$\therefore$ 40% of 42 $= \frac{42 \times 40}{100} = 16.8$

29. (3) Let the odd numbers be :

$x, x + 2, x + 4, x + 6$ and $x + 8$

$\therefore x + x + 2 + x + 4 + x + 6 + x + 8 = 225$

$\Rightarrow 5x + 20 = 225$

$\Rightarrow 5x = 225 - 20 = 205$

$\Rightarrow x = \frac{205}{5} = 41$

$\therefore$ Second number = 43

Second lowest even number

$= 43 + 15 = 58$

$\therefore$ Largest even number

$= 58 + 6 = 64$

$\therefore$ 60% of 64 $= \frac{64 \times 60}{100} = 38.4$

30. (4) $\left(x^{2a}\right)^b = (x)^{\frac{4b}{2c}}$

$\Rightarrow 2ab = \frac{2b}{c} \Rightarrow ac = 1$

$a = c = 1$ [$\because$ Both a and c are natural numbers] .....(i)

$\frac{x^{4b}}{x^{3a}} = x^{3(a-b)}.x^b$

$\Rightarrow x^{4b-3a} = x^{3a-2b}$

$\Rightarrow 4b - 3a = 3a - 2b$

$\Rightarrow 6b = 6a$

$\Rightarrow a = b$ ..... (ii)

From (i) and (ii) we have,

$a = b = c$

31. (2) Unit's digit = x

$\therefore$ Hundred's digit = $14 - x$

$\therefore$ Original number

$= (14 - x) \times 100 + 3 \times 10 + x$

$= 1400 - 100x + 30 + x$

$= 1430 - 99x$

New number after interchanging the digits.

$= 100x + 3 \times 10 + 14 - x$

$= 99x + 44$

$\therefore 99x + 44 - 1430 + 99x = 396$

$\Rightarrow 198x - 1386 = 396$

$\Rightarrow 198x = 1386 + 396 = 1782$

$\Rightarrow x = \frac{1782}{198} = 9$

$\therefore$ Hundred's digit

$= 14 - 9 = 5$

$\therefore$ Required number = 539

OR

Ten's digit = 3; Sum of unit's and hundred's digit = 14.

Of the given options

Original number = 539

New number after interchanging the digits = 935

Difference = 935 – 539 = 396

32. (3) Let the number be $10x + y$.

$\therefore xy = 16$ ...(i)

Number obtained after reversing the digits

$= 10y + x$

According to the question,

$10y + x - 10x - y = 54$

$\Rightarrow 9y - 9x = 54$

$\Rightarrow y - x = 6$ ...(ii)

$\therefore (x + y)^2 = (y - x)^2 + 4xy$

$= (6)^2 + 4 \times 16$

$= 36 + 64 = 100$

$\Rightarrow x + y = \sqrt{100} = 10$ ...(iii)

On adding equations (ii) and (iii),

$2y = 16 \Rightarrow y = 8$

$\therefore x = 2$

$\Rightarrow$ Number = 28 = X

$\therefore$ 75% of 28 $= \frac{28 \times 75}{100} = 21$

33. (1) 4 consecutive even numbers

$\Rightarrow x, x + 2, x + 4$, and $x + 6$.

$\therefore x + x + 2 + x + 4 + x + 6 = 31 \times 4$

$\Rightarrow 4x + 12 = 124$

$\Rightarrow 4(x + 3) = 124$

$\Rightarrow x + 3 = \frac{124}{4} = 31$

$\Rightarrow x = 31 - 3 = 28$

$\therefore$ Second largest even number

$= x + 4 = 28 + 4 = 32$

$\therefore$ First number of S_2

$= 32 - 13 = 19$

$\therefore$ Largest number of S_2

$= 19 + 8 = 27$

Largest number of $S_1 = 34$

Required difference

$= 34 - 27 = 7$

34. (1) Let the original number be $10x + y$.

On subtracting 9,

$10x + y - 9 = 10y + x$

$\Rightarrow 10x + y - 10y - x = 9$

$\Rightarrow 9x - 9y = 9$

$\Rightarrow x - y = 1$ .... (i)

Again, $x + y = 2 \times 7.5$

$= 15$ .... (ii)

On adding,

$2x = 16 \Rightarrow x = 8$

From equation (ii),

$8 + y = 15 \Rightarrow y = 15 - 8 = 7$

$\therefore$ Number = $8 \times 10 + 7 = 87$

35. (2) 6 consecutive odd numbers

$\Rightarrow x, x + 2, x + 4, x + 6, x + 8$ and $x + 10$

According to the question,

$\left(\frac{x+6+x+8+x+10}{3}\right)^2$

$= x(x + 2) + 386$

$\Rightarrow \left(\frac{3x+24}{3}\right)^2 = x^2 + 2x + 386$

$\Rightarrow (x + 8)^2 = x^2 + 2x + 386$

$\Rightarrow x^2 + 16x + 64 = x^2 + 2x + 386$

$\Rightarrow 16x - 2x = 386 - 64$

$\Rightarrow 14x = 322$

$\Rightarrow x = \frac{322}{14} = 23$

36. (1) Let the number be x.
According to the question,
$3x - 116 = 116 - x$
$\Rightarrow 4x = 116 + 116 = 232$

$\Rightarrow x = \frac{232}{4} = 58$

$\therefore$ 40% of 58 = $\frac{58 \times 40}{100}$
= 23.2

37. (3) Here, divisor-respective remainder = constant
$10 - 6 = 4$; $15 - 11 = 4$; $18 - 14 = 4$; $30 - 26 = 4$;
Therefore, required answer
= LCM of 10, 15, 18 and 30 – 4
= 90 – 4 = 86

38. (3) Three consecutive even integers = x, $x + 2$ and $x + 4$
Four consecutive odd integers = y, $y + 2$, $y + 4$ and $y + 6$
According to the question,

$\frac{x+x+2+x+4}{3} - \frac{y+y+2+y+4+y+6}{4}$
= 10

$\Rightarrow \frac{3x+6}{3} - \frac{4y+12}{4} = 10$
$\Rightarrow x + 2 - y - 3 = 10$
$\Rightarrow x - y = 11$.....(i)
Again, $x + 2 + y + 4 = 27$
$\Rightarrow x + y = 27 - 6 = 21$.....(ii)
By equation (ii)–(i) we have,
$x + y - x + y = 21 - 11$
$\Rightarrow 2y = 10 \Rightarrow y = 5$

39. (5) $x^2 + (x + 2)^2 + (x + 4)^2 = 116$
$\Rightarrow x^2 + x^2 + 4 + 4x + x^2 + 16 + 8x = 116$
$\Rightarrow 3x^2 + 12x + 20 = 116$
$\Rightarrow 3x^2 + 12x - 96 = 0$
$\Rightarrow x^2 + 4x - 32 = 0$
$\Rightarrow x^2 + 8x - 4x - 32 = 0$
$\Rightarrow x(x + 8) - 4(x + 8) = 0$
$\Rightarrow (x - 4)(x + 8) = 0$
$\Rightarrow x = 4$ as $x \neq -8$
$\therefore$ Biggest number = $(4 + 4)^2$
= 8 × 8 = 64

40. (3) Let the smallest odd number be x.
$\therefore$ Sum of the numbers
= [$x + (x + 6) + (x + 12) + (x + 18) + (x + 24) + (x + 30)$]
= $6x + 90$

$\therefore$ Average = $\frac{6x + 90}{6} = 48 \Rightarrow x + 15 = 48$
$\Rightarrow x = 48 - 15 = 33$
Sixth number = 33 + 30 = 63
So next three consecutive numbers = 69, 75 and 81
Required average

$= \frac{(69 + 75 + 81)}{3} = \frac{225}{3} = 75$

41. (1) The divisibility of 4 depends on only the last two digit number and the first four digits can be any possibilities.
The first four places can be filled in 6 × 6 × 6 × 6 = 1296 ways
For the last two digits Possibility of two number combinations = 12, 16, 24, 32, 36, 52, 56 and 64 i.e. 8
So, total number of ways
= 1296 × 8 = 10368

42. (3) Let, consecutive odd numbers $\Rightarrow x - 2$, x and $x + 2$
Let, connsecutive even numbers
$\Rightarrow y - 2$, y and $y + 2$
According to the question,
$3x + 3y = 231 \Rightarrow 3(x + y) = 231$

$\Rightarrow x + y = \frac{231}{3} = 77$ .....(i)

Again, $(y - 2) - (x - 2) = 11$
$y - x = 11$ .....(ii)
Adding equations (i) and (ii)
$2y = 88 \Rightarrow y = 44$
From equation (i),
$x + 44 = 77$
$\Rightarrow x = 77 - 44$
= 33
Sum of the largest even number and odd number = $x + 2 + y + 2$
= 46 + 35 = 81

43. (3) Let the number be x.
$\therefore 25x^2 + 15x + 2 = 0$
$\Rightarrow 25x^2 + 10x + 5x + 2 = 0$
$\Rightarrow 5x(5x + 2) + 1(5x + 2) = 0$
$\Rightarrow (5x + 2)(5x + 1) = 0$

$\Rightarrow x = -\frac{2}{5}$ or $-\frac{1}{5}$

= – 0.4 or –0.2
$\therefore$ Bigger number = –0.2

SBI PO EXAMS

1. (1) It is better to solve this question orally.
Unit's digit in product 325 = 5
$\therefore$ Possible pairs
$\Rightarrow$ 5 and 33, 15 and 23, 25 and 13
Now, 5 × 33 = 165
15 × 23 = 345
25 × 13 = 325
$\therefore$ Required pair = 25 and 13
$\therefore$ Required answer
= 3 × 25 = 75

2. (4) Three consecutive numbers = x, $x + 1$ and $x + 2$
$\therefore x + x + 1 + x + 2 = 3252$
$\Rightarrow 3x + 3 = 3252$
$\Rightarrow 3x = 3252 - 3 = 3249$

$\Rightarrow x = \frac{3249}{3} = 1083$

$\therefore$ Largest number = 1085

$\therefore$ 31% of 1085 = $\frac{1085 \times 31}{100}$
= 336.35

3. (1) Let x tickets of each value be bought.
$\therefore 45x + 75x + 95x = 3870$
$\Rightarrow 215x = 3870$

$\Rightarrow x = \frac{3870}{215} = 18$

4. (3) Let the son's present age be x years.
$\therefore$ Father's present age
= $(x + 30)$ years
After 10 years,
$x + 40 = 3(x + 10)$
$\Rightarrow x + 40 = 3x + 30$
$\Rightarrow 2x = 10 \Rightarrow x = 5$ years

5. (1) 6 consecutive even numbers
$\Rightarrow x$, $x + 2$, $x + 4$, $x + 6$, $x + 8$ and $x + 10$

$\therefore \frac{x+x+2+x+4}{3} + \frac{x+6+x+8+x+10}{3} = 62$

$\Rightarrow 6x + 30 = 62 \times 3 = 186$
$\Rightarrow 6x = 186 - 30 = 156$

$\Rightarrow x = \frac{156}{6} = 26$

$\therefore$ Required sum
= $x + x + 2 + x + 4$
= $3x + 6 = 3 \times 26 + 6$
= 78 + 6 = 84

RBI GRADE–B/ NABARD GRADE–A OFFICER EXAMS

1. (2) From given alternatives,

$$\frac{3}{5}+\frac{4}{7}=\frac{21+20}{35}=\frac{41}{35} \text{ and}$$

$$\frac{4}{5}+\frac{3}{7}=\frac{28+15}{35}=\frac{43}{35}$$

2. (4) Let the required number be x.
According to the question,
$7x - 260 = 260 - x$
$\Rightarrow 7x + x = 260 + 260$
$\Rightarrow 8x = 520$

$$\Rightarrow x = \frac{520}{8} = 65$$

$$\therefore \text{ 32\% of 65 } = \frac{65\times 32}{100}$$

$= 20.8$

3. (3) Let smallest number be x^2.
$\therefore x^2 + (x + 2)^2 + (x + 4)^2$
$= 7811$
$\Rightarrow x^2 + x^2 + 4 + 4x + x^2 + 16 + 8x = 7811$
$\Rightarrow 3x^2 + 12x + 20 = 7811$
$\Rightarrow 3x^2 + 12x - 7791 = 0$
$\Rightarrow x^2 + 4x - 2597 = 0$
$\Rightarrow x^2 + 53x - 49x - 2597 = 0$
$\Rightarrow x(x + 53) - 49(x + 53) = 0$
$\Rightarrow (x + 53)(x - 49) = 0$
$\Rightarrow x = -53$ or $+49$
Positive integer should be taken
$\therefore x = 49$
Smallest number $= 49 \times 49$
$= 2401$
Biggest number $= (49 + 4)^2$
$= (53)^2 = 2809$

INSURANCE EXAMS

1. (3) $7^1 = 7$, $7^2 = 49$; $7^3 = 343$;
$7^4 = 2401$; $7^5 = 16807$
Hence, unit's digit repeats after index 4.
Remainder when 1987 is divided by 4 = 3
Unit's digit = 3
Hence, remainder on division by 5 = 3

2. (2) $(2^{10})^5 = (2^5)^{10} = (32)^{10}$
$(5^{10})^2 = (5^2)^{10} = (25)^{10}$
$(4^5)^4 = (4^2)^{10} = (16)^{10}$
and 10^{10}

3. (1) $2^2 - 1 = 4 - 1 = 3$
$2^4 - 1 = 16 - 1 = 15$
$2^6 - 1 = 64 - 1 = 63$
$2^8 - 1 = 256 - 1 = 255$
Hence, if n = even number, then $(2^n - 1)$, is divisible by 3.
We know a number is divisible by 3, if the sum of its digits is divisible by 3.
$\therefore \quad a = 1$

4. (3) $x = 6Q + y$
$y^2 = 4Q_1 + z$
The value of z may be 1, 2 or 3.
The value of y may be 1, 3, or 5 as if 2 or 4 be the value, y^2 will be exactly divisible by 4.
$\therefore \quad z = 1$

5. (2) $2^{5555} = (2^5)^{1111} = (32)^{1111}$
$3^{3333} = (3^3)^{1111} = (27)^{1111}$
$6^{2222} = (6^2)^{1111} = (36)^{1111}$
$3^{3333} < 2^{5555} < 6^{2222}$

6. (2) $a^2 - b^2 = 1999$
$\Rightarrow (a + b)(a - b) = 1999$
$\Rightarrow (1000 + 999)(1000 - 999)$
$= 1999$
$\therefore \quad a^2 + b^2 = (1000)^2 + (999)^2$
$= 1000000 + 998001 = 1998001$

7. (3) $10x + y = k(x + y)$
$\therefore 10y + x = 11y + 11x - 10x - y$
$= 11(x + y) - k(x + y)$
$= (11 - k)(x + y)$

8. (3) Of the given alternatives,
Remainder = 9 because, when it is subtracted from the number, the unit's digit will be 5 and number is divisible by 45.

9. (4) Tricky approach

5	N
7	A $\rightarrow$ 2
9	B $\rightarrow$ 3
	1 $\rightarrow$ 4

$\therefore B = 9 \times 1 + 4 = 13$
$A = 7 \times 13 + 3 = 94$
$N = 5 \times 94 + 2 = 472$
$\therefore$ Sum of the digits $= 4 + 7 + 2$
$= 13$

10. (1) AB = 43 (By Hit & Trial)
CD = 62
AB + CD = 105
$\therefore A + 2B = 4 + 2 \times 3 = 10$

11. (3) $d = 10y + x$

$$\therefore \frac{10y+x}{2}-\frac{10y+x}{3}=x+y$$

$$\Rightarrow \frac{30y+3x-20y-2x}{6}=x+y$$

$\Rightarrow 10y + x = 6(x + y)$
If $x + y = 9$, (from alternative)
Number $= 6 \times 9 = 54$

$$\therefore \frac{54}{2}-\frac{54}{3}$$

$= 27 - 18 = 9$ ($= 5 + 4$)

12. (2) The number of 9's will be less by 1.
Number of 9's in 99999899999^2
$= 10 - 1 = 9$

13. (2) $\sqrt[4]{8} > \sqrt{2}$

$$\sqrt[3]{5} = \sqrt[12]{5^4} = \sqrt[12]{625}$$

$$\sqrt[4]{8} = \sqrt[12]{8^3} = \sqrt[12]{512}$$

$$\sqrt[3]{5} > \sqrt[4]{8}$$

Now, $\sqrt[3]{5} = \sqrt[15]{5^5} = \sqrt[15]{3125}$

$$\sqrt[5]{11} = \sqrt[15]{11^3} = \sqrt[15]{1331}$$

$\therefore \sqrt[3]{5} > \sqrt[5]{11}$

14. (3) Required difference

$$= \left(216 \times \frac{5}{6} - 428 \times \frac{1}{4}\right)$$

$= 180 - 107 = 73$

15. (2)

2	4320
2	2160
2	1080
2	540
2	270
5	135
3	27
3	9
	3

$\therefore 4320 = 2 \times 2 \times 2 \times 2 \times 2 \times 5 \times 3 \times 3 \times 3 = 2^3 \times 3^3 \times 2^2 \times 5$
$\therefore$ Required number
$= 2^2 \times 5 = 20$

16. (4) $n = 5 \times q + 2$
where q = quotient
On squaring both sides,
$n^2 = (5q + 2)^2 = 25q^2 + 20q + 4$
$= 5(5q^2 + 4q) + 4$
$\therefore$ Remainder = 4

17. (3) LCM of 5, 6, 4 and 3 = 60

$$\begin{array}{r} 60)2497(41 \\ \underline{240} \\ 97 \\ \underline{60} \\ 37 \end{array}$$

$\therefore$ Required number
$= (60 - 37) = 23$

18. (1) Number = x.

$$\therefore \frac{x}{2} + \frac{x}{3} + \frac{x}{4} = x + 12$$

$$\Rightarrow \frac{6x + 4x + 3x}{12} = x + 12$$

$$\Rightarrow \frac{13x}{12} = x + 12$$

$$\Rightarrow x + \frac{x}{12} = x + 12 \Rightarrow \frac{x}{12} = 12$$

$\Rightarrow x = 12 \times 12 = 144$

19. (2) If the numbers be x and y, then $x + y = 42$
$xy = 437$
$(x - y)^2 = (x + y)^2 - 4xy$
$= (42)^2 - 4 \times 437$
$= 1764 - 1748 = 16$
$\Rightarrow x - y = \sqrt{16} = 4$

20. (1) Let the number be x.
According to the question,

$$\frac{x}{3} = 96$$

$\Rightarrow x = 96 \times 3 = 288$
$\therefore$ 67% of 288

$$= \frac{288 \times 67}{100} = 192.96$$

21. (3) Let the birth year be x.

$$\therefore \frac{1}{90}x = 2002 - x$$

$\Rightarrow x = 2002 \times 90 - 90x$
$\Rightarrow 91x = 2002 \times 90 \Rightarrow x = 1980$
$\therefore$ Bhagat's age in 2006
$= 2006 - 1980 = 26$ years

22. (1) LCM of 2, 3, 4, 5 and 6 = 60
$\therefore$ Number = 60k + 1
It is exactly divisible by 7.
For k = 5, 60k + 1 is exactly divisible by 7.
Hence, sum of digit
$= 3 + 0 + 1 = 4$

23. (1) Let the numbers be $103x$ and $103y$ where x and y are prime to each other.
$\therefore$ LCM = $103xy$
$\Rightarrow 103xy = 19261$

$$\Rightarrow xy = \frac{19261}{103} = 187$$

$\Rightarrow x = 11$ or $17 \quad y = 17$ or 11
$\therefore$ Numbers = $103 \times 11 = 1133$
and $103 \times 17 = 1751$
and Sum = 1751 + 1133 = 2884

24. (3) $3240 = 2 \times 2 \times 2 \times 3 \times 3 \times 3 \times 5 = 2^3 \times 3^3 \times 5$
$3600 = 2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 5 \times 5 = 2^4 \times 3^2 \times 5^2$
LCM = $2^4 \times 3^5 \times 5^2 \times 7^2$
$\therefore$ p = $2^2 \times 3^5 \times 7^2$ because HCF = 36

25. (3) LCM = 28 × HCF
i.e. L = 28 H
$\therefore$ L + H = 1740
$\Rightarrow$ 28H + H = 1740
$\Rightarrow$ 29H = 1740

$$\Rightarrow H = \frac{1740}{29} = 60$$

$\therefore$ L = 28 × 60 = 1680
Now, 240 × second number
= 1680 × 60
$\Rightarrow$ Second number

$$= \frac{1680 \times 60}{240} = 420$$

[$\because$ Product of two no. = LCM × HCF]
$\therefore$ Sum of digits = 4 + 2 + 0 = 6

26. (4) Numbers = $10x$ and $10y$. Where x and y are prime to each other.
$\therefore$ LCM = $10xy$
$\Rightarrow 10xy = 120$
$\Rightarrow xy = 12$
Possible pair = (3, 4)
$\therefore$ Sum of numbers
$= 10 \times 3 + 10 \times 4 = 70$
[As x and y are prime to each other]

27. (2) Required answer
= HCF of 2923 and 3239 = 79

$$\begin{array}{r} 2923\ )\ 3239\ (1 \\ \underline{2923} \\ 316\ )\ 2923\ (9 \\ \underline{2844} \\ 79\ )\ 316\ (4 \\ \underline{316} \\ \times \end{array}$$

28. (1) Let the numbers be x and y.
Then
$x + y = 45$ ... (i)
$xy = 500$ ...(ii)
$\therefore (x - y)^2 = (x + y)^2 - 4xy$
$= (45)^2 - 4 \times 500$
$= 2025 - 2000 = 25$
$\therefore x - y = 5$ ...(iii)
From equations (i) and (iii),
$x = 25$, $y = 20$
$\therefore$ HCF = 5

29. (4) Even numbers series :
$(x + (x + 2) + (x + 4)) + (x + 6) + (x + 8) = 48 \times 5$
$\Rightarrow 5x + 20 = 240$
$\Rightarrow 5x = 240 - 20 = 220$

$$\Rightarrow x = \frac{220}{5} = 44$$

The smallest even number
= 44
Odd numbers series :
$(y + (y + 2) + (y + 4) + (y + 6) + (y + 8)) = 49 \times 5$
$\Rightarrow 5y + 20 = 245$
$\Rightarrow 5y = 245 - 20 = 225$

$$\Rightarrow y = \frac{225}{5} = 45$$

$\therefore$ Largest odd number
$= y + 8 = 53$
Required product
$= 44 \times 53 = 2332$

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MODEL EXERCISES

1. There are two Examination rooms *A* and *B*. If 10 candidates are sent from *A* to *B*, the number of students in each room is the same. If 20 candidates are sent from *B* to *A*, the number of students in *A* is double the number of students in *B*. Find the number of students in each room.
(1) 100 in *A* and 80 in *B*
(2) 80 in *A* and 100 in *B*
(3) 120 in *A* and 100 in *B*
(4) 100 in *A* and 120 in *B*
(5) None of these

2. The students present in an auditorium are asked to stand in rows. If there were 4 students extra in a row there would be 4 less rows. However, if 2 students were less in a row, there would be 4 more rows. The number of students present in the auditorium is
(1) 80 (2) 96
(3) 100 (4) 128
(5) None of these

3. After being set up, a company manufactured 6000 scooters in the third year and 7000 scooters in the seventh year. Assuming that the production increases uniformly by a fixed number every year, what is the production in the tenth year?
(1) 7850 (2) 7650
(3) 7750 (4) 7950
(5) None of these

4. Which of the following is true?
A. $(99/101) < (97/99) < (95/97)$
B. $(95/97) < (97/99) < (99/101)$
C. $(95/97)^2 > (97/99)^2 > (99/101)^2$
D. $(99/101)^2 > (97/99)^2 > (95/97)^2$
(1) Only A (2) Only B
(3) B and C (4) B and D
(5) None of these

5. Find the whole number which when increased by 20 is equal to one-sixth times the new number
(1) 7 (2) 5
(3) 3 (4) 4
(5) None of these

6. A number when divided by 765 leaves a remainder 42. What will be the remainder if the number is divided by 17?
(1) 8 (2) 5
(3) 7 (4) 6
(5) None of these

7. The natural numbers are divided into groups as (1), (2, 3), (4, 5, 6), (7, 8, 9, 10) and so on. The sum of the numbers in the 50th group is
(1) 1225 (2) 24505
(3) 62525 (4) 52650
(5) None of these

8. In a class, 50 students play Cricket, 20 students play Football and 10 students play both Cricket and Football. How many play at least one of these two games?
(1) 10 (2) 80
(3) 50 (4) 60
(5) None of these

9. A clock strikes 4 taking 9s. In order to strike 12 at the same rate, the time taken is
(1) 36 s (2) 27 s
(3) 30 s (4) 33 s
(5) None of these

10. At the first stop on his route, a driver unloaded 2/5 of the packages in his van. After unloaded another three packages at his next stop, 1/2 of the original number of packages remained. How many packages were in the van before the first delivery?
(1) 25 (2) 10
(3) 30 (4) 36
(5) None of these

11. An Army Commander wishing to draw up his 5180 men in the form of a solid square found that he had 4 men less. If he could get four more men and form the solid square, the number of men in the front row is
(1) 72 (2) 68
(3) 78 (4) 82
(5) None of these

12. A tin of oil was 4/5 full. When six bottles of oil were taken out and four bottles of oil were poured into it, it was 3/4 full. How many bottles of oil can it contain?
(1) 20 (2) 10
(3) 30 (4) 40
(5) None of these

13. To win an election, a candidate needs 3/4 of the votes cast. If after 2/3 of the votes have been counted, a candidate has 5/6 of what he needs, then what part of the remaining votes does he still need?
(1) 1/8 (2) 7/12
(3) 1/4 (4) 3/8
(5) None of these

14. Out of 80 students in a class, 25 are studying Commerce, 15 Mathematics and 13 Physics. 3 are studying Commerce and Mathematics, 4 are studying Mathematics and Physics and 2 are studying Commerce and Physics. 1 student is studying all the three subjects together. How many students are not studying any of the three subjects?
(1) 35 (2) 40
(3) 20 (4) 15
(5) None of these

15. The highest score in an innings was 2/9 of the total score and the next highest was 2/9 of the remainder. These scores differ by 8 runs. What was the total score in the innings?
(1) 152 (2) 162
(3) 142 (4) 132
(5) None of these

16. A girl counted in the following way on the fingers of her left hand; she started by calling the thumb 1, the index finger 2, the middle finger 3, the ring finger 4, the little finger 5 and then reversed direction calling the ring finger 6, the middle finger 7 and so on. She counted upto 1994. She ended counting on which finger?
(1) The middle finger
(2) The index finger
(3) The thumb
(4) The ring finger
(5) None of these

17. If 6 years are subtracted from the present age of Randheer and the remainder is divided by 18, then the present age of his grandson Anup is obtained. If Anup is 2 year younger to Mahesh whose age is 5 years, what is the age of Randheer?
(1) 84 years (2) 48 years
(3) 60 years (4) 96 years
(5) None of these

18. One of a group of swans, 7/2 times the square root of the num-

ber are playing on the shore of the pond. The two remaining are inside the pond. What is the total number of swans?
(1) 10 (2) 14
(3) 12 (4) 16
(5) None of these

19. The fuel indicator in a car shows one-fifth of the fuel tank as full. When 22 more litres of fuel are poured into the tank, the indicator rests at the three-fourth of the full mark. Find the capacity of the fuel tank.
(1) 25 L (2) 35 L
(3) 30 L (4) 40 L
(5) None of these

20. How many numbers are there between 500 and 600 in which 9 occurs only once?
(1) 19 (2) 18
(3) 20 (4) 16
(5) None of these

21. If such numbers which are divisible by 5 and also those which have 5 as one of the digits are eliminated from the numbers 1 to 60, how many numbers would remain?
(1) 40 (2) 47
(3) 53 (4) 45
(5) None of these

22. The sum of two numbers, one of which is one-third of the other is 36. The smaller number is
(1) 6 (2) 7
(3) 8 (4) 9
(5) None of these

23. Two times a two-digit number is 9 times the number obtained by reversing the digits and sum of the digits is 9. The number is
(1) 72 (2) 54
(3) 63 (4) 81
(5) None of these

24. The digit at unit's place of a two-digit number is increased by 100% and the ten's digit of the same number is increased by 50%. The new number thus formed is 19 more than the original number. What is the original number
(1) 22 (2) 63
(3) 24 (4) All of these
(5) None of these

25. The LCM and HCF of two numbers are 84 and 21 respectively. If the ratio of the two numbers is 1 : 4, then the larger of the two numbers is
(1) 12 (2) 48
(3) 84 (4) 108
(5) None of these

26. A certain type of wooden board is sold only in lengths of multiples of 25 cm from 2 to 10 m. A carpenter needs a large quantity of this type of board in 1.65 m lengths. For the minimum waste, the lengths to be purchased should be
(1) 3.30 m (2) 6.60 m
(3) 8.25 m (4) 9.95 m
(5) None of these

27. The LCM of two numbers is 280 and their ratio is 7:8. The two numbers are
(1) 70, 80 (2) 42, 48
(3) 35, 40 (4) 28, 32
(5) None of these

28. The LCM of two numbers is 4800 and their HCF is 160. If one of the numbers is 480, then the other number is
(1) 16 (2) 16000
(3) 160 (4) 1600
(5) None of these

29. Three different containers contain different quantities of a mixture of milk and water, whose measurements are 403 kg, 434 kg and 465 kg. What biggest measure be there to measure all the different quantities exactly?
(1) 7 kg (2) 1 kg
(3) 31 kg (4) 41 kg
(5) None of these

30. There are three positive integers. The ratio of the first and the second number is 3 : 4 and second and the third number is 5 : 6. If the product of the second and the third number is 4320, then what is the sum of three numbers?
(1) 120 (2) 177
(3) 145 (4) 180
(5) 135

31. Five rectangular boxes of equal size have the capacity of containing 75 square boxes in them. Three square boxes have the capacity of containing 45 switches. Each switch has two screws fixed with it. How many screws are there in square boxes kept in 12 rectangular boxes ?
(1) 4000 (2) 3800
(3) 3500 (4) 5400
(5) 4700

32. There are six consecutive odd numbers divisible by 3 in ascending order. The average of all the numbers is 138. What is the average of last three bigger numbers?
(1) 153 (2) 162
(3) 147 (4) 129
(5) 135

33. There are three perfect squares of three consecutive even numbers in ascending order, whose sum is 2360. What is the difference between the smallest and biggest square numbers in the series?
(1) 258 (2) 296
(3) 212 (4) 224
(5) 280

34. There are six consecutive odd numbers divisible by 3 in ascending order. The average of all the numbers is 48. What is the average of next 3 consecutive odd numbers divisible by 3?
(1) 57 (2) 63
(3) 75 (4) 81
(5) 93

SHORT ANSWERS

1. (1)	**2.** (2)	**3.** (3)	**4.** (4)
5. (4)	**6.** (1)	**7.** (3)	**8.** (4)
9. (2)	**10.** (3)	**11.** (1)	**12.** (4)
13. (2)	**14.** (1)	**15.** (2)	**16.** (4)
17. (3)	**18.** (4)	**19.** (4)	**20.** (2)
21. (1)	**22.** (4)	**23.** (4)	**24.** (5)
25. (3)	**26.** (3)	**27.** (3)	**28.** (4)
29. (3)	**30.** (2)	**31.** (4)	**32.** (3)
33. (4)	**34.** (3)		

EXPLANATIONS

1. (1) Here, A–10 = B + 10
$\Rightarrow$ A–B = 20 ...(i)
and A + 20 = 2(B–20)
$\Rightarrow$ A–2B = – 60 ...(ii)
From Eqs. (i) and (ii), A = 100, B=80

2. (2) Let there are r rows and x students in each row.
$\therefore \quad (x + 4) \times (r - 4) = x \times r$
$\Rightarrow x \times r - 4x + 4r - 16 = x \times r$
$\Rightarrow -4x + 4r = 16$ ...(i)
and $(x - 2) \times (r + 4) = x \times r$
$\Rightarrow x \times r + 4x - 2r - 8 = x \times r$
$\Rightarrow 4x - 2r = 8$ ...(ii)
Adding Eqs. (i) and (ii),

$2r = 24$

$\Rightarrow r = 12$

$\therefore$ from Eq. (ii), $4x - 24 = 8$

$\Rightarrow 4x = 32$

$\Rightarrow x = 8$

$\therefore$ Total number of students present in the auditorium

$= 8 \times 12 = 96$

3. (3) Production in third year = 6000

Production in seventh year=7000

$\therefore$ Production in four years =1000

$\Rightarrow$ Production increases every year = 250 scooters

$\therefore$ Production in tenth year

$= (7000 + 250 \times 3) = 7750$

4. (4) $\frac{99}{101}=0.9802, \left(\frac{99}{101}\right)^2=0.9607$

$\frac{97}{99}=0.9797, \left(\frac{97}{99}\right)^2=0.9600$

$\frac{95}{97}=0.9793, \left(\frac{95}{97}\right)^2=0.9590$

Hence, only B and D are correct.

5. (4) Let the whole number be x.

$\therefore \quad x = \frac{1}{6}(x+20)$

$\Rightarrow 6x = x + 20$

$\Rightarrow 5x = 20 \Rightarrow x = 4$

6. (1) Let the number be $(765x + 42)$. When this number is divided by 17, then quotient will be $(45x + 2)$ and remainder will be 8.

7. (3) Let $S = 1+2+4+7+\ldots+T_n$

or $S = 1+2+4+\ldots+T_{n-1}+T_n$

Subtracting, we get

$0 = 1+[1+2+3+\ldots(n-1)]-T_n$

$\Rightarrow T_n = 1+2+3+\ldots\ldots+(n-1)+1$

$= \frac{n(n-1)}{2}+1$

$\therefore$ First number of 50th term

$= \frac{50\times 49}{2}+1 = 1226$

$\therefore$ Sum of numbers of 50th term $= 1226 + 1227 + \ldots\ldots$upto 50th term $= \frac{50}{2}[2\times 1226+(50-1)\times 1]$

$= 25\times 2501 = 62525$

8. (4) Number of students who play cricket = 50

Number of students who play Football = 20

Number of students who play both games = 10

Number of students who play only Cricket = 50 – 10 = 40

Number of students who play only Football = 20 – 10 = 10

$\therefore$ Number of students who play at least one game = 40 + 10 + 10 = 60

9. (2) A clock strikes 4 taking 9 s.

$\therefore$ Time taken to strike 12

$= \frac{9\times 12}{4} = 27s$

10. (3) Let the total number of packages be x.

$\therefore \frac{2}{5}x+3=\frac{x}{2} \Rightarrow \frac{x}{2}-\frac{2x}{5}=3$

$\Rightarrow \frac{5x-4x}{10}=3$

$\Rightarrow \frac{x}{10}=3 \Rightarrow x = 30$

11. (1) Total number of men

$= 5180 + 4 = 5184$

$\therefore$ Number of men in first row

$= \sqrt{5184} = 72$

12. (4) Let the tin oil contain x number of bottles.

$\frac{4}{5}x - 6 + 4 = \frac{3}{4}x$

$\Rightarrow \frac{4x}{5}-\frac{3x}{4}=2$

$\Rightarrow \frac{16x-15x}{20}=2$

$\Rightarrow \frac{1}{20}x = 2$

$\therefore \quad x = 40$ bottles

13. (2) Let total number of votes cast be x.

Total number of counted votes

$= \frac{2}{3}x$

Votes that candidate got

$= \frac{5}{6}\times\frac{2}{3}x = \frac{5}{9}x$

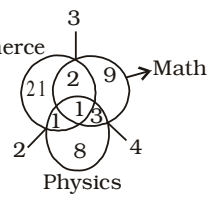
Votes still need to win

$= \frac{3}{4}x - \frac{5}{9}x = \frac{7}{36}x$

Remaining uncounted votes $= \frac{1}{3}x$

Required part $= \frac{7}{36}\times\frac{3}{1} = \frac{7}{12}$

14. (1)



Total students studying at least one subject

$= 21 + 1 + 2 + 1 + 9 + 3 + 8 = 45$

Students who are not studying any of the three subjects

$= 80 - 45 = 35$

15. (2) Let the total score in the innings be x.

Then, higher score $= \frac{2}{9}x$

Next highest score $= \frac{2}{9}\left(x-\frac{2}{9}x\right)$

$\therefore \frac{2}{9}x-\frac{2}{9}\left(x-\frac{2}{9}x\right)=8$

$\Rightarrow x - x + \frac{2}{9}x = \frac{8\times 9}{2}$

$\Rightarrow x = \frac{8\times 9\times 9}{2\times 2} = 162$

16. (4)

Thumb	Index	Middle	Ring	Little
1	2	3	4	5
9 ←	8	7	6	
	10	11	12	13
17←	16	15	14	
	18	19	20	21
25←	24	23	22	
	26	27	28	29
33←	32	31	30	

From the above counting pattern, we find that every multiple of 8 comes on index finger and moves towards thumb therefore, the last multiple of 8 which appears on index finger will be

$\frac{1994}{8} \Rightarrow 1992$.

Hence, 1994 will be on ring finger.

17. (3) According to question,

$\frac{R-6}{18} = A$

Given, Mahesh = 5 years

$\therefore$ Anup = 3 years

$\therefore$ R=18×3+6 = 60 years

18. (4) Let the total number of swans be x.

The number of swans playing on shore $= \frac{7}{2}\sqrt{x}$

Number of remaining swans = 2

$\therefore \quad x = \frac{7}{2}\sqrt{x}+2$

$\Rightarrow (x-2) = \frac{7}{2}\sqrt{x}$

Now, among the options only $x = 16$ satisfies.

19. (4) Let the capacity of the fuel tank be x L.

Given, $\frac{x}{5} + 22 = \frac{3}{4}x$

$\therefore \left(\frac{3}{4} - \frac{1}{5}\right)x = 22$

$\Rightarrow \frac{11}{20}x = 22$

$\Rightarrow x = 40$L

20. (2) Required numbers are 509, 519, 529, 539, 549, 559, 569, 579, 589, 590, 591, 592,....., 598
So, there are 18 such numbers in which 9 occurs only once.

21. (1) Eliminated numbers are 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 51, ..., 60
So, total eliminated numbers are 20.
$\therefore$ 40 numbers would remain.

22. (4) Let the numbers be $3x$ and x.
$\therefore 3x + x = 36$
$\Rightarrow 4x = 36$
$\Rightarrow x = 9$
Hence, the smaller number = 9

23. (4) Let the two-digit number $= 10x + y$
$\therefore 2(10x + y) = 9(10y + x)$
$\Rightarrow 88y - 11x = 0$ ...(i)
Also, $x + y = 9$ ...(ii)
Solving Eqs. (i) and (ii), we get
$x = 8$ and $y = 1$
So, the number is 81.

24. (5) This question can be solved making use of the options.

	Original Number	New Number	Difference
Option (1)	22	34	12
Option (2)	63	96	33
Option (3)	44	68	24

Therefore, none of the options (5) is correct.

25. (3) Let the numbers be x and 4x
According to question,
$84 \times 21 = x \times 4x$
$4x^2 = 1764$

$x^2 = \frac{1764}{4}$

$x = \sqrt{441} = 21$

Hence, the number be 21 and 84
Larger number = 84

26. (3) 1.65 m = 165 cm
$\therefore$ Required length
= LCM of 25 and 165
= 825 cm = 8.25 m

27. (3) Let the number be $7x$ and $8x$.
$\therefore$ HCF = x
LCM × HCF = Product of numbers
$\therefore 280 \times x = 56x^2$
$\Rightarrow x = 5$
$\therefore$ Numbers are 35, 40.

28. (4) LCM × HCF = Product of two numbers

$\therefore$ Other number = $\frac{4800 \times 160}{480}$

= 1600

29. (3) Required measure = HCF of measurements of 403, 434 and 465 = 31 kg.

30. (2) Let the 2nd number be $5x$ and the third number be $6x$.
Product of 2nd and 3rd number = 4320
$\Rightarrow 5x \times 6x = 4320$

$\Rightarrow x^2 = \frac{4320}{5 \times 6} = 144$

$\Rightarrow x = 12$
So, 2nd number = 60 and 3rd number = 72

Ist number = $\left(\frac{60}{4}\right) \times 3 = 45$

Therefore, sum of three numbers = 60 + 72 + 45 = 177

31. (4) Number of square boxes in 12 rectangular boxes

$= \left(\frac{75}{5}\right) \times 12 = 180$

Number of switches in 180 boxes = $\left(\frac{45}{3}\right) \times 180 = 2700$ switches
Number of screws
= 2700 × 2 = 5400

32. (3) Let the smallest number be x.
Average

$= \frac{\left[x + (x+6) + (x+12) + (x+18) + (x+24) + (x+30\right]}{6}$

= 138

$\Rightarrow \frac{[6x + 90]}{6} = 138$

$\Rightarrow 6x + 90 = 138 \times 6 = 828$
$\Rightarrow 6x = 828 - 90 = 738$
$\Rightarrow x = \frac{738}{6} = 123$

Average of last three bigger numbers

$= \frac{[(x+18) + (x+24) + (x+30)]}{3}$

$= \frac{(141 + 147 + 153)}{3} = \frac{441}{3}$

= 147

33. (4) $x^2 + (x+2)^2 + (x+4)^2$
$= 2360$
$\Rightarrow x^2 + x^2 + 4 + 4x + x^2 + 16 + 8x = 2360$
$\Rightarrow 3x^2 + 12x + 20 = 2360$
$\Rightarrow 3x^2 + 12x - 2340 = 0$
$\Rightarrow x^2 + 4x - 780 = 0$
$\Rightarrow x^2 + 30x - 26x - 780 = 0$
$\Rightarrow x(x + 30) - 26(x + 30) = 0$
$\Rightarrow (x + 30)(x - 26) = 0$
$\Rightarrow x = -30$ or 26
Positive integer should be taken = 26
Smallest number = 26 × 26
= 676
Biggest number = $(26 + 4)^2$
= 900
Required difference
= 900 − 676 = 224

34. (3) The numbers are :
x, $x + 6$, $x + 12$, $x + 18$, $x + 24$ and $(x + 30)$.
$\therefore$ Average

$= \frac{[x + (x+6) + (x+12) + (x+18) + (x+24) + (x+30)]}{6}$

= 48

$\Rightarrow \frac{[6x + 90]}{6} = 48$

$\Rightarrow x + 15 = 48$
$\Rightarrow x = 48 - 15 = 33$
Sixth number = 33 + 30 = 63
So next three consecutive numbers = 69, 75 and 81
Required average

$= \frac{(69 + 75 + 81)}{3} = \frac{225}{3} = 75$

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2 SIMPLIFICATION

QUESTIONS FROM 1999 TO 2010 ARE AVAILABLE ONLINE

NATIONALISED BANKS & IBPS PO/MT/SO EXAMS

1. 32% of 150 × 53% of ? = 7632
(1) 480 (2) 324
(3) 300 (4) 298
(5) None of these
(IBPS RRBs Officer Assistant CWE Exam, 09.09.2012)

2. $\frac{1}{5}$ of $\frac{2}{7}$ of $\frac{8}{3}$ of 4095 = ?
(1) 642 (2) 598
(3) 648 (4) 475
(5) None of these
(IBPS RRBs Officer Assistant CWE Exam, 09.09.2012)

Directions (3-7) : What should come in place of the question mark (?) in the following questions ?
(Indian Bank PO Exam. 02.01.2011)

3. 1111.1 + 111.11 + 11.111 = ?
(1) 1232.231 (2) 1233.123
(3) 1332.331 (4) 1323.132
(5) None of these

4. 12.4 × ? × 16.5 = 2905.32
(1) 13.4 (2) 15.2
(3) 16.2 (4) 14.2
(5) None of these

5. $(?)^3 = 4913$
(1) 27 (2) 19
(3) 17 (4) 29
(5) None of these

6. 8080 ÷ 80 ÷ 8 = ?
(1) 800 (2) 12.625
(3) 10.545 (4) 808
(5) None of these

7. 25% of 84 × 24% of 85 = ?
(1) 424.2 (2) 488.4
(3) 482.8 (4) 428.4
(5) None of these

Directions (8–12) : What will come in place of the question mark (?) in the following questions ?
(Corporation Bank PO Exam. 16.01.2011)

8. 348 ÷ 29 × 15 + 156 = $(?)^3$ + 120
(1) 12 (2) 6
(3) 36 (4) 9
(5) None of these

9. $(4 \times 4)^3 \div (512 \div 8)^4 \times (32 \times 8)^4 = (2 \times 2)^{? + 4}$
(1) 8 (2) 12
(3) 6 (4) 14
(5) None of these

10. $\left(2\sqrt{392} - 21\right) + \left(\sqrt{8} - 7\right)^2 = (?)^2$
(1) 4 (2) –4
(3) 12 (4) 2
(5) 6

11. $1\frac{1}{4} + 1\frac{1}{6} - 1\frac{1}{8} = ? + 1\frac{1}{12}$
(1) $\frac{5}{24}$ (2) $\frac{7}{24}$
(3) $\frac{5}{12}$ (4) $\frac{7}{12}$
(5) None of these

12. 76% of 1285 = 35% of 1256 + ?
(1) 543 (2) 537
(3) 547 (4) 533
(5) None of these

13. Fifty three per cent of a number is 358 less than the square of 26. What is the value of three-fourth of 23 per cent of that number ?
(1) 101 (2) 109.5
(3) 113 (4) 103.5
(5) None of these
(Corporation Bank PO Exam. 16.01.2011)

Directions (14–23) : What should come in place of the question mark (?) in the following questions ?
(Punjab & Sind Bank PO Exam. 23.01.2011)

14. $\frac{9 \div 2 \times 27 \div 9}{18 \div 7.5 \times 5 \div 4} = ?$
(1) 4.5 (2) 5.7
(3) 2.5 (4) 6.8
(5) None of these

15. ?% of 280 + 18% of 550 = 143.8
(1) 11 (2) 18
(3) 21 (4) 16
(5) None of these

16. 8.88 × 88.8 × 88 = ?
(1) 68301.142 (2) 79391.642
(3) 65365.824 (4) 76218.414
(5) None of these

17. $\sqrt{\sqrt{2500} + \sqrt{961}} = (?)^2$
(1) 81 (2) 3
(3) 6561 (4) 9
(5) None of these

18. $1\frac{4}{7} + 1\frac{3}{5} + 1\frac{1}{3} = ?$
(1) $5\frac{47}{105}$ (2) $4\frac{58}{105}$
(3) $4\frac{53}{105}$ (4) $5\frac{43}{105}$
(5) None of these

19. 15 : 66 : : 185 : ?
(1) 824 (2) 644
(3) 604 (4) 814
(5) None of these

20. $64^{12} \div 4^{15} = 64^?$
(1) 9 (2) 3
(3) 12 (4) 7
(5) None of these

21. 14% of 80 + ?% of 90 = 31.9
(1) 16 (2) 23
(3) 18 (4) 26
(5) None of these

22. $\sqrt{97344} = ?$
(1) 302 (2) 322
(3) 292 (4) 342
(5) None of these

23. $3\frac{6}{7} - 6\frac{1}{4} + 5\frac{1}{3} = ?$
(1) $1\frac{65}{84}$ (2) $8\frac{1}{84}$

(3) $2\frac{79}{84}$ (4) $5\frac{47}{84}$

(5) None of these

Directions (24–28) : What will come in place of the question mark (?) in the following questions?

(UCO Bank PO Exam. 30.01.2011)

24. (5 × 7)% of (34 × 55) + 456.60 = 699.1 + ?

(1) 412 (2) 422

(3) 418 (4) 428

(5) None of these

25. $14 \times 627 \div \sqrt{1089} = (?)^3 + 141$

(1) $5\sqrt{5}$ (2) $(125)^3$

(3) 25 (4) 5

(5) None of these

26. $2\frac{1.5}{5} + 2\frac{1}{6} - 1\frac{3.5}{15}$

$= \frac{(?)^{1/3}}{4} + 1\frac{7}{30}$

(1) 2 (2) 8

(3) 512 (4) 324

(5) None of these

27. $(80 \times 0.40)^3 \div (40 \times 1.6)^3 \times (128)^3 = 2^{? + 7}$

(1) 25 (2) 11

(3) 12 (4) 18

(5) None of these

28. $\left(\sqrt{7} + 11\right)^2 = (?)^{1/3} + 2\sqrt{847} + 122$

(1) 36 + 44 $\sqrt{7}$

(2) 6 (3) 216

(4) 36 (5) None of these

Directions (29–31) : What will come in place of the question mark (?) in the following questions ?

(Bank Of Baroda PO Exam. 03.03.2011)

29. $\frac{1}{6}$ of 92% of $1\frac{1}{23}$ of (650) = 85 + ?

(1) 18 (2) 21

(3) 19 (4) 28

(5) None of these

30. $92 \times 576 \div \left(2\sqrt{1296}\right) = (?)^3 + \sqrt{49}$

(1) 3 (2) $(9)^2$

(3) 9 (4) 27

(5) None of these

31. $3\frac{1}{4} + 2\frac{1}{2} - 1\frac{5}{6} = \frac{(?)^2}{10} + 1\frac{5}{12}$

(1) 25 (2) $\sqrt{5}$

(3) 625 (4) 15

(5) 5

32. $\left(\sqrt{8} \times \sqrt{8}\right)^{\frac{1}{2}} + (9)^{\frac{1}{2}} = (?)^3 + \sqrt{8} - 340$

(1) 7 (2) 19

(3) 18 (4) 9

(5) None of these

33. $(15 \times 0.40)^4 \div (1080 \div 30)^4 \times (27 \times 8)^4 = (3 \times 2)^{? + 5}$

(1) 8 (2) 3

(3) 12 (4) 16

(5) None of these

Directions (34–38) : What will come in place of the question mark (?) in the following questions ?

(Allahabad Bank PO Exam. 17.04.2011)

34. $\frac{3}{19}$ of 30% of 3420 = $(?)^2 \times 2$

(1) $(81)^2$ (2) 7

(3) 9 (4) 81

(5) 49

35. $1898 \div 73 \times 72 = (?)^2 \times 13$

(1) – 256 (2) 256

(3) 12 (4) 144

(5) –16

36. $\sqrt{7^2 \times 24 \times 2 - (11)^3 + 3} = ?$

(1) 42 (2) 1024

(3) 1764 (4) $(1024)^2$

(5) 32

37. $(0.81)^2 \div (0.729)^3 \times (0.9)^2 = (0.9)^{?-3}$

(1) 6 (2) 2

(3) 4 (4) 0

(5) None of these

38. 65% of $\sqrt{3136}$ × 5 = ? + 154

(1) 56 (2) 28

(3) 35 (4) 32

(5) None of these

39. What is the value of twenty four percent of four-ninth of five times square of twenty seven ?

(1) 388.8 (2) 376.8

(3) 378.6 (4) 346.6

(5) None of these

(Allahabad Bank PO Exam. 17.04.2011)

40. Call rate of a Sim company-A is 1 paisa for every 3 seconds. Another sim company-B charges 45 paise per minute. A man talked 591 seconds from Sim Company-A and 780 seconds from Sim company-B. What would be the total amount he spent ?

(1) ₹ 7.80 (2) ₹ 7.40

(3) ₹ 7.46 (4) ₹ 7.82

(5) ₹ 8.46

(Allahabad Bank PO Exam. 17.04.2011)

Directions (41-45) : What will come in place of the question mark (?) in the following questions ?

(Indian Overseas Bank PO Exam. 22.05.2011)

41. $(21)^2 - 3717 \div 59 = ? \times 8$

(1) 43.75 (2) 42.25

(3) 45.75 (4) 47.25

(5) None of these

42. $2\frac{1}{8} - 1\frac{1}{16} = ? + 1\frac{1}{32} - 1\frac{9}{64}$

(1) $2\frac{9}{32}$ (2) $1\frac{9}{64}$

(3) $2\frac{5}{32}$ (4) $1\frac{11}{64}$

(5) None of these

43. $(0.64)^4 \div (0.512)^3 \times (0.8)^4 = (0.8)^{?+3}$

(1) 5 (2) 12

(3) 0 (4) 6

(5) None of these

44. 34.5% of 1800 + 12.4% of 1500 = $(?)^3$ + 78

(1) 27 (2) 9

(3) 81 (4) 162

(5) None of these

45. $\sqrt{15^2 \times 12 \div (9) - 125 + 21} = ?$

(1) 18 (2) 24

(3) 196 (4) 56

(5) 14

46. Raju runs 1250 metre on Monday and Friday. Other days he runs 1500 metre except for Sunday (He does not run on Sunday). How many kilometre will he run in 3 weeks (first day starting from Monday)?

(1) 12.5 km (2) 20.5 km

(3) 8.5 km (4) 25.5 km

(5) None of these

(Indian Overseas Bank PO Exam. 22.05.2011)

Directions (47–52) : What will come in place of the question mark (?) in the following questions?

(IBPS Bank PO/MT CWE 18.09.2011)

47. 3463 × 295 – 18611 = ? + 5883

(1) 997091 (2) 887071

(3) 989090 (4) 899060

(5) None of these

48. $(8)^3 \div (16)^2 \times 32 = (2)^{?-4} \div (4)^2$

(1) 12 (2) 18

(3) 14 (4) 10

(5) None of these

49. $\frac{28}{65} \times \frac{195}{308} \div \frac{39}{44} + \frac{5}{26} = ?$

(1) $\frac{1}{5}$ (2) 0.85

(3) $3\frac{1}{2}$ (4) $\frac{1}{2}$

(5) None of these

50. $[(3\sqrt{8} + \sqrt{8}) \times (8\sqrt{8} + 7\sqrt{8})] - 98 = ?$

(1) $3\sqrt{8}$ (2) $7\sqrt{8}$

(3) 382 (4) 475

(5) None of these

51. $\sqrt{11449} \times \sqrt{6241} - (54)^2 = \sqrt{?} + (74)^2$

(1) 3846 (2) 3721

(3) 3581 (4) 3938

(5) None of these

52. 1001 + 96 ÷ 16 = ?

(1) 1108 (2) 996

(3) 1070 (4) 1007

(5) None of these

53. $2\frac{13}{17} + \frac{4}{17} = ?$

(1) 5 (2) 2.9

(3) 7 (4) 4

(5) None of these

(IBPS RRBs Officer Assistant CWE Exam, 09.09.2012)

54. Raman's present age is three times his daughter's present age and nine-thirteenth of his mother's present age. The sum of the present age of all of them is 125 years. What is the difference between the Raman's daughter's present age and Raman's mother's present age ?

(1) 45 years (2) 40 years

(3) 50 years

(4) Cannot be determined

(5) None of these

(Allahabad Bank PO Exam. 17.04.2011)

55. 4431 + 431 – 31 = ?

(1) 4530 (2) 3969

(3) 4831 (4) 4031

(5) None of these

(IBPS RRBs Officer Assistant CWE Exam, 09.09.2012)

56. (504.14 ÷ 14) ÷ 13 = ?

(1) 2.77 (2) 2.56

(3) 3.14 (4) 2.17

(5) None of these

(Corporation Bank Specialist Officer (Marketing) Exam. 22.12.2014)

57. 43% of 586 = 341.2 – ?

(1) 76.28 (2) 49.53

(3) 82.99 (4) 48.96

(5) None of these

(IBPS RRBs Officer Assistant CWE Exam, 09.09.2012)

58. $83^{27.3} \div 83^{1.4} \times 83^{46.8} = 83^{31.9+?}$

(1) 64.1 (2) 41.9

(3) 40.8 (4) 39.1

(5) None of these

(IBPS RRBs Officer Assistant CWE Exam, 09.09.2012)

59. The cost of five chairs and three tables is ₹ 3,110. Cost of one chair is ₹ 210 less than cost of one table. What is the cost of two tables and two chairs?

(1) ₹ 1,660 (2) ₹ 1,860

(3) ₹ 2,600

(4) Cannot be determined

(5) None of these

(Bank Of Baroda PO Exam. 13.03.2011)

60. Raveena could get equal number of ₹ 55, ₹ 85 and ₹105 tickets for a movie, She spent ₹2,940 for all the tickets, How many of each did she buy?

(1) 12 (2) 18

(3) 16

(4) Cannot be detemined

(5) None of these

(IBPS Bank PO/MT CWE Exam. 18.09.2011)

61. Harshita bought 20 pens, 8 packets of wax colours, 6 calculators and 7 pencil boxes, The price of one pen is ₹ 7, one packet of wax colour is ₹ 22, one calculator is ₹175 and one pencil box is ₹ 14 more than the combined price of one pen and one packet of wax colours. How much amount did Harshita pay to the shopkeeper ?

(1) ₹1,381 (2) ₹ 1,815

(3) ₹1,667 (4) ₹1,572

(5) None of these

(IBPS Bank PO/MT CWE Exam. 18.09.2011)

Directions (62–66) : What will come in place of the question mark (?) in the following questions?

(IBPS Bank PO/MT CWE 17.06.2012)

62. 4003 × 77 – 21015 = ? × 116

(1) 2477 (2) 2478

(3) 2467 (4) 2476

(5) None of these

63. $\left[\left(5\sqrt{7} + \sqrt{7}\right) \times \left(4\sqrt{7} + 8\sqrt{7}\right)\right] - (19)^2 = ?$

(1) 143 (2) $72\sqrt{7}$

(3) 134 (4) $70\sqrt{7}$

(5) None of these

64. (4444 ÷ 40) + (645 ÷ 25) + (3991 ÷ 26) = ?

(1) 280.4 (2) 290.4

(3) 295.4 (4) 285.4

(5) None of these

65. $\sqrt{33124} \times \sqrt{2601} - (83)^2 = (?)^2 + (37)^2$

(1) 37 (2) 33

(3) 34 (4) 28

(5) None of these

66. $5\frac{17}{37} \times 4\frac{51}{52} \times 11\frac{1}{7} + 2\frac{3}{4} = ?$

(1) 303.75 (2) 305.75

(3) $303\frac{2}{4}$ (4) $305\frac{1}{4}$

(5) None of these

Directions (67-71) : What should come in place of the question mark (?) in the following questions?

(IDBI Bank Officer Exam. 16.09.2012)

67. 85% of $\frac{4}{7}$ of 6755 = ? + 1687

(1) 1586 (2) 1592

(3) 1594 (4) 1582

(5) None of these

68. $(5568 \div 87)^{1/3} + (72 \times 2)^{1/2} = (?)^{1/2}$

(1) 256 (2) 4

(3) $\sqrt{2}$ (4) 16

(5) None of these

69. $\sqrt{13^2+28\div4-(3)^3+107}$ = (?)^2

(1) 2 (2) 16
(3) 256 (4) 4
(5) $(256)^2$

70. $(0.49)^4 \times (0.343)^4 \div (0.2401)^4 = (70 \div 100)^{?+3}$

(1) 3 (2) 1
(3) 4 (4) 7
(5) None of these

71. 45% of $\sqrt{2025}$ ÷ 0.01 = (?)^2 ÷ 25

(1) 3 (2) $(81)^2$
(3) 225 (4) 9
(5) 12

Directions (72–76) : What value should come in place of the questions mark (?) in the following questions ?

(IBPS Specialist Officer CWE 17.03.2013)

72. 18.5 × 21.4 × ? = 6255.22

(1) 15.8 (2) 14.6
(3) 17.4 (4) 17.2
(5) 16.4

73. 1.5 × 78 ÷ 0.5 = ?

(1) 238 (2) 234
(3) 243 (4) 216
(5) 261

74. 302.46 + 395.72 – 123.47 = ?

(1) 576.77 (2) 547.17
(3) 547.77 (4) 574.71
(5) 577.71

75. $\sqrt[3]{4096} \div \sqrt[3]{64} = \sqrt[3]{?}$

(1) 16 (2) 8
(3) 64 (4) $\sqrt{4}$
(5) 4

76. ? % of 800 = 293 – 22% of 750

(1) 14 (2) 18
(3) 12 (4) 16
(5) 20

Directions (77-81) : What should come in place of the question mark (?) in the following questions ?

(IBPS RRBs Office Assistant CWE Exam. 09.09.2012)

77. 417.25 – 41.72 – 4.53 = ?

(1) 380.06 (2) 371
(3) 348 (4) 315
(5) None of these

78. 896 – (?)^3 = 4608 ÷ 12

(1) 2 (2) 2^3
(3) 8^2 (4) 4^2
(5) 2^5

79. 273 ÷ 3 – 9.1 = ?

(1) 81.9 (2) 62.3
(3) 84.9 (4) 91.8
(5) None of these

80. $\sqrt{3969}$ ÷ 1.4 = ? × 2.5

(1) 18 (2) 112.5
(3) 16 (4) 24
(5) None of these

81. 15.8 × 3 + 8.1 – 21.5 = ? + 14.6

(1) 14.9 (2) 20.1
(3) 18.4 (4) 19.4
(5) None of these

Directions (82–86) : What should come in the place of question mark (?) in the given questions?

(IBPS Bank PO/MT CWE-VI (Pre.), 16.10.2016 (Second Sitting))

82. 40% of 265 + 35% of 180 = 50% of ?+ ?% of 80

(1) 80 (2) 95.5
(3) 130 (4) 125.5
(5) 115

83. $\sqrt{0.25\times0.16}$ of 157 = ?

(1) 20.43 (2) 30.76
(3) 30.91 (4) 30.20
(5) 31.4

84. $\sqrt{?}$ + 416 = (60% of 920) – 110

(1) 576 (2) 676
(3) 784 (4) 1024
(5) 900

85. (682% of 782) ÷ 856=?

(1) 4.50 (2) 10.65
(3) 2.55 (4) 8.75
(5) 6.23

86. 15.5% of 850 + 24.8% of 650 = ?

(1) 293 (2) 330
(3) 270 (4) 375
(5) 220

Directions (87–91) : What value will come in place of the question mark (?) in the following questions?

(IBPS RRBs Officers CWE (Prelim Exam) 09.09.2017 IInd Sitting)

87. (625.75 + 450.5 + ?) × $\frac{3}{5}$ = 750

(1) 163.25 (2) 173.75
(3) 167.25 (4) 176.25
(5) 156.75

88. $8^2 \times 7^2 \div \sqrt{196}$ – 143 = $3^?$

(1) 5 (2) 6
(3) 3 (4) 4
(5) 2

89. $\left(\frac{4}{7}+1\frac{3}{7}+\frac{3}{4}\right)$ of ? = 693

(1) 308 (2) 364
(3) 252 (4) 196
(5) 224

90. $\sqrt{108\times6+98-121}$ = ?^{2}

(1) 5 (2) 7
(3) 4 (4) 3
(5) 8

91. (0.4 × 450) ÷ 4 = 5 × $3^?$

(1) 3 (2) 1
(3) 2 (4) –3
(5) –2

Directions (92–96) : What will come in place of the question mark (?) in the following questions ?

(IBPS Specialist Officer CWE (Prelim Exam) 31.01.2019)

92. [(15.5 × 28) ÷ 16 – 1230 ÷ 240] = ? × 5

(1) 4.4 (2) 4
(3) 5 (4) 4.2
(5) 2.4

93. $\frac{5^2\times14+1450}{5}$ = 1998 ÷ ?

(1) 5.55 (2) 55.5
(3) 50.5 (4) 5.05
(5) 50.05

94. $\sqrt{(625)}$ × 12 – 864 ÷ 24 = ? + 71

(1) 193 (2) 183
(3) 181 (4) 190
(5) 187

95. 104 – 21 × 448 ÷ 16 + 1013 = ?^{2}

(1) 17 (2) 21
(3) 33 (4) 23
(5) 19

96. 1246 + $\sqrt[4]{(256)}$ = $\left(?^2+19\frac{1}{3}\right)$ × 15

(1) 16 (2) 24
(3) 32 (4) 8
(5) 64

RBI GRADE–B/ NABARD GRADE–A OFFICER EXAMS

Directions (1–5) : What should come in place of the question mark (?) in the following questions?

(RBI Grade-B Officer Exam.06.02.2011)

1. $|? - 45| = 40$

(1) 85 or – 85
(2) 85 or 5 (3) 5 or – 5
(4) 40 or 5
(5) None of these

2. $\left[\left((3)^2\right)^6\right]^4 = 9^?$

(1) 28 (2) 16
(3) 12 (4) 24
(5) None of these

3. $\sqrt{289} = ?$

(1) $\left(\sqrt{17}\right)^2$ (2) (–8 –9)

(3) –17 (4) $\pm\left(\frac{153}{9}\right)$

(5) None of these

4. ?% of $(4)^? = 51.2$

(1) 15 (2) 8
(3) 5 (4) 10
(5) None of these

5. $\sqrt[4]{1296} = ?$

(1) 8 (2) 36
(3) 12 (4) 6
(5) None of these

Directions (6-10) : What will come in place of the question mark (?) in the following questions ?

(RBI Grade 'B' Officer's Exam. 18.12.2011

6. $[(3024 \div 189)^{1/2} + (684 \div 19)^2] = (?)^2 + 459$

(1) –27 (2) –29
(3) 31 (4) 841
(5) 1089

7. 4.4 times of $\frac{5}{16}$ of 30% of 216 = ?

(1) 81.9 (2) 83.7
(3) 87.3 (4) 89.1
(5) None of these

8. $(0.0729 \div 0.1)^3 \div (0.081 \times 10)^5 \times (0.3 \times 3)^5 = (0.9)^{? + 3}$

(1) 1 (2) 2
(3) 4 (4) 7
(5) None of these

9. $\left(\sqrt{?\%} \text{ of } \sqrt{1764} \times 5\right) = 149.8 - 112$

(1) $\sqrt{18}$ (2) 18
(3) 324 (4) 24
(5) None of these

10. $(27)^2 \times 6 \div 9 + (7)^3 + 71 = (?)^3 - 431$

(1) 11 (2) $(13)^3$
(3) 13 (4) $(11)^2$

(5) None of these

Directions (11-15) : What value will come in place of the question mark (?) in the following questions.

(RBI Officer Grade 'B' Online Exam. 25.08.2013

11. 7072 ÷ (16% of 884) = 30 × $1\frac{1}{12}$ of (? ÷ 39)

(1) 60 (2) 62
(3) 65 (4) 55
(5) 67

12. $(562.5 \times 6)^6 \div (135 \div 9)^{10} \div (37.5 \times 6)^7 = (3.75 \times 4)^{? - 6}$

(1) 0 (2) 2
(3) 3 (4) 4
(5) 5

13. 1478.4 ÷ 56 + 66.8 × 57 = (? × 3) + (34 × 34.5)

(1) 785 (2) 887
(3) 889 (4) 989
(5) 885

14. $\left(13 + 2\sqrt{5}\right)^2 = ?\sqrt{5} + 189$

(1) 26 (2) 25
(3) 52 (4) 130
(5) None of these

15. 0.2 × 1.1 + 0.6 × 0.009 = ? – 313.06

(1) 353.2184 (2) 353.2854
(3) 331.54 (4) 313.2854
(5) 331.2854

16. What will come in place of the question mark (?) in the given question ?

l3.141 + 31.417 – 27.118 = ?

(1) 16.441 (2) 17.543
(3) 17.490 (4) 17.440
(5) 17.590

(NABARD Officer Grade 'A' Online Exam. 03.08.2014)

INSURANCE EXAMS

Directions (1–5) : What will come in place of the question mark (?) in the following questions ?

(United India Insurance AO Exam. 27.03.2011)

1. 764 – 5145 ÷ 147 = ? × 36

(1) 21 (2) 20.25
(3) 21.25 (4) 20
(5) None of these

2. $3\frac{1}{3} - 1\frac{1}{9} = ? - 1\frac{3}{7} - 1\frac{1}{2}$

(1) $3\frac{5}{63}$ (2) $3\frac{1}{126}$

(3) $2\frac{19}{126}$ (4) $4\frac{11}{63}$

(5) None of these

3. $(0.064) \div (0.16)^3 \times (0.0256) = (0.4)^{? + 1}$

(1) 0 (2) 1
(3) –1 (4) –2
(5) None of these

4. 54.5% of 600 + 30.5% of 1800 = $(?)^2$ + 147

(1) 36 (2) 18
(3) –81 (4) 81
(5) –27

5. $\sqrt{7^2 \times 6 + \left(15^2\right) + 10} = ?$

(1) 23 (2) $(519)^{1/2}$
(3) 519 (4) 529
(5) None of these

6. The value of

$$\frac{(1.111)^3 + (2.212)^3 - (3.323)^3}{(1.111)(2.212)(-3.323)}$$ lies between

(1) –0.5 and 0 (2) 0 and 0.5
(3) 0.5 and 1 (4) 2.5 and 3.5

(New India Insurance AAO Exam. 22.05.2011)

7. The expression $64^{0.9} \times 32^{-0.08}$ is equal to

(1) 8 (2) 24
(3) 32 (4) 64

(New India Insurance AAO Exam. 22.05.2011)

8. Each boy contributed rupees equal to the number of girls and each girl contributed rupees

equal to the number of boys in a class of 60 students. If the total amount thus collected is Rs. 1600, how many boys are there in the class?

(1) 30 (2) 25
(3) 50
(4) Data Inadequate

(General Insurance Corporation AAO Exam. 11.12.2011)

9. The value of

$\sqrt[6]{24-16\sqrt{2}} \times \sqrt[3]{4+2\sqrt{2}}$ is

(1) $\sqrt[3]{2}$ (2) $\sqrt[6]{2}$
(3) $\sqrt{2}$ (4) 2

(Oriental Insurance Company AAO Exam. 08.04.2012)

10. $\frac{1}{2}+\frac{1}{5}+\frac{1}{8}+\frac{1}{11}+\frac{1}{20}+\frac{1}{41}+\frac{1}{110}+\frac{1}{1640}$ is equal to

(1) 0.97 (2) 0.99
(3) 1 (4) 1.23

(Oriental Insurance Company AAO Exam. 08.04.2012)

11. Which of the following is the largest ?

(1) 10000^{100} (2) 2^{10000}
(3) 1000^{1000} (4) 3^{2000}

(Oriental Insurance Company AAO Exam. 08.04.2012)

12. A sum of three non-zero numbers is eight times the first number, three times the second number and p times the third number. The value of p is

(1) $\frac{11}{24}$ (2) $\frac{24}{13}$
(3) $\frac{24}{11}$ (4) $\frac{13}{24}$

(Oriental Insurance Company AAO Exam. 08.04.2012)

13. Unit's digit of $\left(7^{(7^7)}+777^{777}\right)$ is

(1) 0 (2) 4
(3) 1 (4) 7

(Oriental Insurance Company AAO Exam. 08.04.2012)

14. Which one of the following does not divide $(2^{1650}-1)$?

(1) 3 (2) 7
(3) 127 (4) 2047

(Oriental Insurance Company AAO Exam. 08.04.2012)

15. $\sqrt{43-12\sqrt{17}} - \frac{2}{\sqrt{16+6\sqrt{7}}} = ?$

(1) $2\sqrt{7}-1$ (2) $-2\sqrt{7}+3$
(3) -3 (4) 3

(United India Insurance AAO Exam. 03.06.2012)

16. When 10^{20} is divided by 1001, the remainder is

(1) 1 (2) 10
(3) 100 (4) 999

(United India Insurance AAO Exam. 03.06.2012)

17. The largest of 2 that divides $(2^{2008}+10^{2008})$ is

(1) 2^{2008} (2) 2^{2009}
(3) 2^{2010} (4) 2^{2011}

(United India Insurance AAO Exam. 03.06.2012)

Directions (18–22) : What should come in place of the question mark (?) in the following questions ?

(LIC Assistant Administrative Officer (AAO) Exam. 12.05.2013)

18. $\frac{\sqrt[3]{729}}{\sqrt[3]{1728}} \times \frac{8}{15} \times \frac{3}{8} = ?$

(1) 0.15 (2) 0.18
(3) 1.02 (4) 0.24
(5) None of these

19. $\left(\frac{729}{1000}\right)^{\frac{2}{3}} + \left\{\frac{(12996)^{\frac{1}{2}}}{\sqrt{625}}\right\}$

$= ? \times 10^{-2}$

(1) 573 (2) 537
(3) 753 (4) 735
(5) None of these

20. $\frac{5}{17}$ of 51% of 864

$= \sqrt{?} + \sqrt{73.96}$

(1) 16421 (2) 16411
(3) 14641 (4) 16441
(5) None of these

21. 64% of 272 + ? % of 1129 = $(-24)^2$ + 83.55

(1) 51 (2) 53
(3) 41 (4) 43
(5) None of these

22. $(21.6)^2 \div (-7.2)^2 \times ? = 15483.36 - 15276.09$

(1) 23.03 (2) 23.3
(3) 32.03 (4) 32.3
(5) None of these

Directions (23–27) : What should come in place of the question mark (?) in the following questions ?

(United India Insurance AO Exam. 26.05.2013

23. $(47 \times 588) \div (28 \times 120) = ?$

(1) 6.284 (2) 7.625
(3) 8.225 (4) 8.285
(5) None of these

24. 45% of 224 × ?% of 120 = 8104.32

(1) 67 (2) 62
(3) 59 (4) 71
(5) None of these

25. $\sqrt{7921} \times 51 + 374 = (?)^3$

(1) 16 (2) 19
(3) 15 (4) 21
(5) None of these

26. $6573 \div 21 \times (0.2)^2 = ?$

(1) 7825 (2) 62.6
(3) 1565 (4) 12.52
(5) None of these

27. 74156 – ? – 321 – 20 + 520 = 69894

(1) 3451 (2) 4441
(3) 5401 (4) 4531
(5) None of these

28. Select the missing number at question mark (?) from the given responses.

4899 × 999 = ?

(1) 4894101 (2) 4894100
(3) 4899983 (4) 4657890

(NICL (GIC) AO (Finance) Exam. 08.09.2013 (Paper-I)

29. Select the missing number at question mark (?) from the given responses.

$(123)^{2.5} \div (123)^{?} = 123$

(1) 0.5 (2) 1
(3) 2 (4) 1.5

(NICL (GIC) AO (Finance) Exam. 08.09.2013 (Paper-I)

30. Which one of the following will completely divide $5^{71} + 5^{72} + 5^{73}$?

(1) 150 (2) 160
(3) 155 (4) 30

(NICL (GIC) AO (Finance) Exam. 08.09.2013 (Paper-I)

31. The sum of two numbers is 24 and their product is 143. The sum of their squares is
(1) 296 (2) 295
(3) 290 (4) 228
(NICL (GIC) AO Exam. 08.09.2013 (Paper-I)

32. By what least number 2744 be multiplied to obtain a number which is a perfect square ?
(1) 5 (2) 7
(3) 8 (4) 14
(NICL (GIC) AO Exam. 08.09.2013 (Paper-I)

33. The value of $(0.7 \times 0.7 \times 0.7 - 0.6 \times 0.6 \times 0.6) \div (0.7 \times 0.7 + 0.6 \times 0.6 + 0.7 \times 0.6)$ is:
(1) 0.1 (2) 1
(3) 1.3 (4) 1.1
(NICL (GIC) AO Exam. 08.09.2013 (Paper-I)

34. $1201 \times 1201 = ?$
(1) 1442401 (2) 1600000
(3) 1234567 (4) 1587690
(NICL (GIC) AO Exam. 08.09.2013 (Paper-I)

35. If $\sqrt{1296} = 36$, then the value of $\sqrt{12.96} + \sqrt{0.1296} + \sqrt{0.001296} + \sqrt{0.00001296}$ is :
(1) 0.39996 (2) 3.9996
(3) 39.996
(4) None of these
(NICL (GIC) Administrative Officer Exam. 15.12.2013)

36. The sum of the squares of two positive integers is 100 and the difference of their squares is 28. The sum of the numbers is
(1) 12 (2)13
(3)14 (4)15
(NICL (GIC) Administrative Officer Exam. 15.12.2013)

37. $\frac{1}{2}+\frac{1}{6}+\frac{1}{12}+\frac{1}{20}+\frac{1}{30}+\ldots. + \frac{1}{n(n+1)} = ?$
(1) $\frac{1}{n}$ (2) $\frac{1}{n+1}$
(3) $\frac{2(n-1)}{n}$ (4) $\frac{n}{(n+1)}$
(NICL (GIC) Administrative Officer Exam. 15.12.2013)

Directions (38–40) : What will come in place of question mark (?) in the given questions ?
(GIC Officer Online Exam 15.05.2017)

38. $\frac{561}{11} \times \frac{9}{?} = 3^3$
(1) 17 (2) 15
(3) 19 (4) 18
(5) 16

39. $1062 + 885 - ? + 495 = 900$
(1) 1625 (2) 1482
(3) 1589 (4) 1542
(5) 1524

40. $8\frac{2}{5} \div 3\frac{1}{2} = ?$
(1) $1\frac{2}{5}$ (2) $2\frac{4}{5}$
(3) $1\frac{4}{5}$ (4) $2\frac{2}{5}$
(5) $3\frac{1}{4}$

SHORT ANSWERS

NATIONALISED BANKS & IBPS PO/MT/SO EXAMS

1. (3)	**2.** (5)	**3.** (5)	**4.** (4)
5. (3)	**6.** (2)	**7.** (4)	**8.** (2)
9. (3)	**10.** (5)	**11.** (1)	**12.** (2)
13. (4)	**14.** (1)	**15.** (4)	**16.** (5)
17. (2)	**18.** (3)	**19.** (4)	**20.** (4)
21. (2)	**22.** (5)	**23.** (3)	**24.** (1)
25. (4)	**26.** (3)	**27.** (2)	**28.** (3)
29. (3)	**30.** (3)	**31.** (5)	**32.** (1)
33. (2)	**34.** (3)	**35.** (3)	**36.** (5)
37. (4)	**38.** (2)	**39.** (1)	**40.** (4)
41. (4)	**42.** (4)	**43.** (3)	**44.** (2)
45. (5)	**46.** (4)	**47.** (1)	**48.** (3)
49. (4)	**50.** (3)	**51.** (2)	**52.** (4)
53. (5)	**54.** (3)	**55.** (3)	**56.** (1)
57. (5)	**58.** (3)	**59.** (1)	**60.** (1)
61. (3)	**62.** (4)	**63.** (1)	**64.** (2)
65. (5)	**66.** (2)	**67.** (3)	**68.** (1)
69. (4)	**70.** (2)	**71.** (3)	**72.** (1)
73. (2)	**74.** (4)	**75.** (3)	**76.** (4)
77. (2)	**78.** (2)	**79.** (1)	**80.** (1)
81. (4)	**82.** (3)	**83.** (5)	**84.** (2)
85. (5)	**86.** (1)	**87.** (2)	**88.** (4)
89. (3)	**90.** (1)	**91.** (3)	**92.** (1)
93. (1)	**94.** (1)	**95.** (4)	**96.** (4)

RBI GRADE–B/ NABARD GRADE–A OFFICER EXAMS

1. (2)	**2.** (4)	**3.** (4)	**4.** (3)
5. (4)	**6.** (2)	**7.** (4)	**8.** (1)
9. (5)	**10.** (1)	**11.** (1)	**12.** (1)
13. (2)	**14.** (3)	**15.** (4)	**16.** (4)

INSURANCE EXAMS

1. (2)	**2.** (5)	**3.** (1)	**4.** (5)
5. (1)	**6.** (4)	**7.** (3)	**8.** (4)
9. (4)	**10.** (3)	**11.** (2)	**12.** (2)
13. (1)	**14.** (4)	**15.** (4)	**16.** (3)
17. (2)	**18.** (1)	**19.** (2)	**20.** (3)
21. (4)	**22.** (1)	**23.** (3)	**24.** (1)
25. (5)	**26.** (4)	**27.** (2)	**28.** (1)
29. (4)	**30.** (3)	**31.** (3)	**32.** (4)
33. (1)	**34.** (1)	**35.** (2)	**36.** (3)
37. (4)	**38.** (1)	**39.** (4)	**40.** (4)

EXPLANATIONS

NATIONALISED BANKS & IBPS PO/MT/SO EXAMS

1. (3) $\frac{150 \times 32}{100} \times \frac{? \times 53}{100} = 7632$

$\Rightarrow \frac{48 \times 53 \times ?}{100} = 7632$

$\Rightarrow ? = \frac{7632 \times 100}{48 \times 53} = 300$

$= 2222 - 222 = 2000$

2. (5) $? = 4095 \times \frac{8}{3} \times \frac{2}{7} \times \frac{1}{5} = 624$

3. (5) $? = 1111.1 + 111.11 + 11.111$
$= 1233.321$

4. (4) $12.4 \times ? \times 16.5$
$= 2905.32$

$\Rightarrow ? = \frac{2905.32}{12.4 \times 16.5} = 14.2$

5. (3)
$? = \sqrt[3]{4913} = \sqrt[3]{17 \times 17 \times 17} = 17$

6. (2) $? = \frac{8080}{80 \times 8} = 12.625$

7. (4) $? = \frac{84 \times 25}{100} \times \frac{85 \times 24}{100}$
$= 21 \times 20.40 = 428.4$

8. (2) $\frac{348}{29}\times 15+156=?^3+120$

$\Rightarrow 180+156-120=?^3$

$\Rightarrow 216=?^3 \Rightarrow ?=\sqrt[3]{216}=6$

9. (3) $\left(4^2\right)^3\div\left(\frac{512}{8}\right)^4$

$\times (4\times 4\times 2\times 2\times 4)^4=(4)^{?+4}$

$\Rightarrow 4^6\div(4^3)^4\times(4^4)^4=4^{?+4}$

$[a^m\times a^n=a^{m+n};\ a^m\div a^n=a^{m-n}]$

$\Rightarrow 4^6\div 4^{12}\times 4^{16}=4^{?+4}$

$\Rightarrow 4^{6-12+16}=4^{?+4}$

$\Rightarrow 4^{10}=4^{?+4}\Rightarrow ?+4=10$

$\Rightarrow ?=10-4=6$

10. (5) $(?)^2=(2\sqrt{392}-21)+\left(\sqrt{8}-7\right)^2$

$=\left(2\sqrt{7\times 7\times 2\times 2\times 2}-21\right)$

$+\left(8+49-2\times 7\sqrt{8}\right)$

$=28\sqrt{2}-21+57-28\sqrt{2}=36$

$\therefore ?=\sqrt{36}=6$

11. (1)

$1+\frac{1}{4}+1+\frac{1}{6}-1-\frac{1}{8}=?+1+\frac{1}{12}$

$\Rightarrow ?=1+\frac{1}{4}+1+\frac{1}{6}-1-\frac{1}{8}-1-\frac{1}{12}$

$=\frac{1}{4}+\frac{1}{6}-\frac{1}{8}-\frac{1}{12}$

$=\frac{6+4-3-2}{24}=\frac{5}{24}$

12. (2) $\frac{1285\times 76}{100}=\frac{1256\times 35}{100}+?$

$\Rightarrow 976.6=439.6+?$

$\therefore ?=976.6-439.6=537$

13. (4) Let the number be x.

$\therefore 26^2-\frac{x\times 53}{100}=358$

$\Rightarrow 676-\frac{x\times 53}{100}=358$

$\Rightarrow \frac{x\times 53}{100}=676-358=318$

$\Rightarrow x=\frac{318\times 100}{53}=600$

$\therefore 600\times\frac{23}{100}\times\frac{3}{4}=103.5$

14. (1) $?=\frac{\frac{9}{2}\times\frac{27}{9}}{\frac{18}{7.5}\times\frac{5}{4}}=\frac{13.5}{3}=4.5$

15. (4) $\frac{280\times ?}{100}+\frac{550\times 18}{100}=143.8$

$\Rightarrow 280\times ?+9900=143.8\times 100$

$=14380$

$\Rightarrow 280\times ?=14380-9900$

$=4480$

$\therefore ?=\frac{4480}{280}=16$

16. (5) $?=8.88\times 88.8\times 88$

$=69391.872$

17. (2) $?^2=\sqrt{50+31}=\sqrt{81}=9$

$\therefore ?=\sqrt{9}=3$

18. (3) $?=1+\frac{4}{7}+1+\frac{3}{5}+1+\frac{1}{3}$

$=(1+1+1)+\left(\frac{4}{7}+\frac{3}{5}+\frac{1}{3}\right)$

$=3+\frac{60+63+35}{105}=3+\frac{158}{105}$

$=3+1\frac{53}{105}=4\frac{53}{105}$

19. (4) $\frac{15}{66}=\frac{185}{?}$

$\Rightarrow 15\times ?=185\times 66$

$\therefore ?=\frac{185\times 66}{15}=814$

20. (4) $64^{12}\div(4)^{15}=64^?$

$\Rightarrow 64^{12}\div(4^3)^5=64^?$

$\left[\because (a^m)^n=a^{mn}\right]$

$\Rightarrow 64^{12}\div 64^5=64^?$

$\Rightarrow 64^{12-5}=64^?$

$\Rightarrow 64^7=64^?\Rightarrow ?=7$

$\left[\because a^m=a^n\Rightarrow m=n\right]$

21. (2) $\frac{80\times 14}{100}+\frac{90\times ?}{100}=31.9$

$\Rightarrow 1120+90\times ?=31.9\times 100$

$=3190$

$\Rightarrow 90\times ?=3190-1120=2070$

$\therefore ?=\frac{2070}{90}=23$

22. (5) $?=\sqrt{97344}=312$

23. (3) $?=3+\frac{6}{7}-6-\frac{1}{4}+5+\frac{1}{3}$

$=(3-6+5)+\left(\frac{6}{7}-\frac{1}{4}+\frac{1}{3}\right)$

$=2+\left(\frac{72-21+28}{84}\right)$

$=2+\frac{79}{84}=2\frac{79}{84}$

24. (1) $\frac{34\times 55\times 5\times 7}{100}+456.60$

$=699.1+?$

$\Rightarrow 654.50+456.60=699.1+?$

$\Rightarrow 1111.1=699.1+?$

$\Rightarrow ?=1111.1-699.1=412$

25. (4) $14\times 627\div 33$

$=?^3+141$

$\Rightarrow \frac{14\times 627}{33}-141=?^3$

$\Rightarrow 266-141=?^3\Rightarrow 125=?^3$

$\therefore ?=\sqrt[3]{125}=\sqrt[3]{5\times 5\times 5}=5$

26. (3) $2+\frac{1.5}{5}+2+\frac{1}{6}-1-\frac{3.5}{15}$

$=\frac{(?)^{\frac{1}{3}}}{4}+1+\frac{7}{30}$

$\Rightarrow 2+\frac{15}{50}+2+\frac{1}{6}-1-\frac{35}{150}-1-\frac{7}{30}$

$=\frac{(?)^{\frac{1}{3}}}{4}$

$\Rightarrow (2+2-1-1)$

$+\frac{3}{10}+\frac{1}{6}-\frac{7}{30}-\frac{7}{30}=\frac{(?)^{\frac{1}{3}}}{4}$

$\Rightarrow 2+\left(\frac{9+5-7-7}{30}\right)=\frac{(?)^{\frac{1}{3}}}{4}$

$\Rightarrow 2+0=\frac{(?)^{\frac{1}{3}}}{4}$

$\Rightarrow ?^{\frac{1}{3}}=2\times 4=8$

$\therefore ?=8^3=8\times 8\times 8=512$

27. (2) $(32)^3\div(64)^3\times(128)^3$

$=(2)^{?+7}$

$\Rightarrow (2^5)^3\div(2^6)^3\times(2^7)^3=2^{?+7}$

$\Rightarrow 2^{15}\div 2^{18}\times 2^{21}=2^{?+7}$

$\Rightarrow 2^{15-18+21}=2^{?+7}$

$\Rightarrow 2^{18}=2^{?+7}$

$\Rightarrow 18 = ? + 7$

$\Rightarrow ? = 18 - 7 = 11$

Where, $\begin{bmatrix} (a^m)^n = a^{mn}; \\ a^m \times a^n = a^{m+n}; \\ a^m \div a^n = a^{m-n} \end{bmatrix}$

28. (3)

$\left(\sqrt{7}+11\right)^2 = (?)^{\frac{1}{3}} + 2\sqrt{847} + 122$

$\Rightarrow \left(\sqrt{7}\right)^2 + (11)^2 + 2\sqrt{7} \times 11$

$= (?)^{\frac{1}{3}} + 2\sqrt{847} + 122$

$\Rightarrow 7 + 121 + 2\sqrt{7 \times 11 \times 11}$

$= (?)^{\frac{1}{3}} + 2\sqrt{847} + 122$

$\Rightarrow (?)^{\frac{1}{3}} = 128 - 122 = 6$

$\therefore ? = 6 \times 6 \times 6 = 216$

29. (3) $650 \times \frac{24}{23} \times \frac{92}{100} \times \frac{1}{6} = 85 + ?$

$\Rightarrow 104 = 85 + ?$

$\Rightarrow ? = 104 - 85 = 19$

30. (3) $92 \times 576 \div (2 \times 36) = ?^3 + 7$

$\Rightarrow \frac{92 \times 576}{2 \times 36} = ?^3 + 7$

$\Rightarrow 736 = ?^3 + 7$

$\Rightarrow ?^3 = 736 - 7 = 729 = 9^3$

$\Rightarrow ? = \left(9^3\right)^{1/3} = 9$

31. (5) $3 + \frac{1}{4} + 2 + \frac{1}{2} - 1 - \frac{5}{6}$

$= \frac{?^2}{10} + 1 + \frac{5}{12}$

$\Rightarrow 3 + 2 - 1 - 1$

$+ \left(\frac{1}{4} + \frac{1}{2} - \frac{5}{6} - \frac{5}{12}\right) = \frac{?^2}{10}$

$\Rightarrow 3 + \left(\frac{3+6-10-5}{12}\right) = \frac{?^2}{10}$

$\Rightarrow 3 - \frac{1}{2} = \frac{?^2}{10} \Rightarrow \frac{5}{2} = \frac{?^2}{10}$

$\Rightarrow ?^2 = \frac{5 \times 10}{2} = 25$

$\therefore ? = \sqrt{25} = 5$

32. (1) $\left(\sqrt{8} \times \sqrt{8}\right)^{\frac{1}{2}} + 9^{\frac{1}{2}}$

$= (?)^3 + \sqrt{8} - 340$

$\Rightarrow 8^{\frac{1}{2}} + 3 = ?^3 + 8^{\frac{1}{2}} - 340$

$\Rightarrow ?^3 = 340 + 3 = 343$

$\therefore ? = \sqrt[3]{343} = 7$

33. (2)

$(15 \times 0.40)^4 \div \left(\frac{1080}{30}\right)^4 \times (27 \times 8)^4 = (3 \times 2)^{?+5}$

$\Rightarrow 6^4 \div (36)^4 \times (216)^4 = (3 \times 2)^{?+5}$

$\Rightarrow 6^4 \div 6^8 \times 6^{12} = (6)^{?+5}$

$\begin{bmatrix} (a^m)^n = a^{mn}; a^m \times a^n \\ = a^{m+n}; \ a^m \div a^n = a^{m-n} \end{bmatrix}$

$\Rightarrow 6^{4-8+12} = 6^{?+5}$

$\Rightarrow 6^8 = 6^{?+5} \Rightarrow ? + 5 = 8$

$\Rightarrow ? = 8 - 5 = 3$

34. (3) $3420 \times \frac{30}{100} \times \frac{3}{19} = (?)^2 \times 2$

$\Rightarrow 162 = (?)^2 \times 2$

$\Rightarrow (?)^2 = \frac{162}{2} = 81$

$\therefore ? = \sqrt{81} = 9$

35. (3) $\frac{1898}{73} \times 72 = (?)^2 \times 13$

$\Rightarrow 26 \times 72 = ?^2 \times 13$

$\Rightarrow ?^2 = \frac{26 \times 72}{13} = 144$

$\therefore ? = \sqrt{144} = 12$

36. (5) $? = \sqrt{7^2 \times 24 \times 2 - (11)^3 + 3}$

$= \sqrt{2352 - 1331 + 3} = \sqrt{1024} = 32$

37. (4)

$\left((0.9)^2\right)^2 \div \left((0.9)^3\right)^3 \times (0.9)^2 = (0.9)^{?-3}$

$\Rightarrow (0.9)^4 \div (0.9)^9 \times (0.9)^2 = (0.9)^{?-3}$

$\Rightarrow (0.9)^{4-9+2} = (0.9)^{?-3}$

$\Rightarrow (0.9)^{-3} = (0.9)^{?-3}$

$\begin{bmatrix} (a^m)^n = a^{mn}; \\ a^m \times a^n = a^{m+n}; \\ a^m \div a^n = a^{m-n} \end{bmatrix}$

$\Rightarrow ? - 3 = -3 \Rightarrow ? = 3 - 3 = 0$

38. (2) $\sqrt{3136} \times \frac{65}{100} \times 5 = ? + 154$

$\Rightarrow 56 \times \frac{65}{100} \times 5 = ? + 154$

$\Rightarrow 182 = ? + 154$

$\Rightarrow ? = 182 - 154 = 28$

39. (1) Required value

$= (27)^2 \times 5 \times \frac{4}{9} \times \frac{24}{100} = 388.8$

40. (4) Total spent amount

$= \left(\frac{591}{3} + \frac{45}{60} \times 780\right)$ paise

$= (197 + 585)$ paise

$= 782$ Paise

$= ₹\ 7.82$

41. (4) $(21)^2 - 3717 \div 59 = ? \times 8$

$\Rightarrow 441 - \frac{3717}{59} = ? \times 8$

$\Rightarrow 441 - 63 = ? \times 8$

$\Rightarrow 378 = ? \times 8$

$\Rightarrow ? = \frac{378}{8} = 47.25$

42. (4) $? = 2 - 1 - 1 + 1 +$

$\left(\frac{1}{8} - \frac{1}{16} - \frac{1}{32} + \frac{9}{64}\right)$

$= 1 + \frac{8 - 4 - 2 + 9}{64}$

$= 1 + \frac{11}{64} = 1\frac{11}{64}$

43. (3) $\left((0.8)^2\right)^4 \div \left(0.8^3\right)^3 \times (0.8)^4$

$= (0.8)^{?+3}$

$\Rightarrow (0.8)^8 \div (0.8)^9 \times (0.8)^4 = (0.8)^{?+3}$

$\Rightarrow (0.8)^{8-9+4} = (0.8)^{?+3}$

$\Rightarrow (0.8)^3 = (0.8)^{?+3}$

$\Rightarrow ? + 3 = 3 \Rightarrow ? = 0$

44. (2) $\frac{1800 \times 34.5}{100} + \frac{1500 \times 12.4}{100}$

$= ?^3 + 78$

$\Rightarrow 621 + 186 = ?^3 + 78$

$\Rightarrow ?^3 = 807 - 78 = 729 = 9^3$

$\Rightarrow ? = 9$

45. (5) $? = \sqrt{\frac{225\times12}{9} - 125 + 21}$

$= \sqrt{300 - 125 + 21} = \sqrt{196} = 14$

46. (4) Total distance covered
$= 3\ (2 \times 1250 + 4 \times 1500)$ metre
$= 3\ (2500 + 6000)$ metre
$= 25500$ metre $= 25.5$ km

47. (1) $3463 \times 295 - 18611 = ? + 5883$
$\Rightarrow 1021585 - 18611 = ? + 5883$
$\Rightarrow 1002974 = ? + 5883$
$\Rightarrow ? = 1002974 - 5883$
$= 997091$

48. (3) $\left(2^3\right)^3 \div \left(2^4\right)^2 \times 2^5 = \frac{2^{?-4}}{\left(2^2\right)^2}$

$\Rightarrow 2^9 \div 2^8 \times 2^5 \times 2^4 = 2^{?-4}$
$[a^m \times a^n = a^{m+n}]$

$\Rightarrow \frac{2^9 \times 2^5 \times 2^4}{2^8} = 2^{?-4}$

$\Rightarrow 2^{9+5+4-8} = 2^{?-4}$
$[a^m \div a^n = a^{m-n}]$
$\Rightarrow 2^{10} = 2^{?-4}$
$\Rightarrow ? - 4 = 10 \Rightarrow ? = 10 + 4 = 14$

49. (4) $? = \frac{28}{65} \times \frac{195}{308} \times \frac{44}{39} + \frac{5}{26}$

$= \frac{4}{13} + \frac{5}{26} = \frac{8+5}{26} = \frac{13}{26} = \frac{1}{2}$

50. (3)

$? = \left[\left(3\sqrt{8}\right) + \sqrt{8}\right] \times \left(8\sqrt{8} + 7\sqrt{8}\right) - 98$

$= 4\sqrt{8} \times 15\sqrt{8} - 98 = 60 \times 8 - 98$
$= 480 - 98 = 382$

51. (2) $\sqrt{11449} \times \sqrt{6241} - (54)^2$

$= \sqrt{?} + (74)^2$

$\Rightarrow 107 \times 79 - 2916 = \sqrt{?} + 5476$

$\Rightarrow 8453 - 2916 - 5476 = \sqrt{?}$

$\Rightarrow \sqrt{?} = 61 \Rightarrow ? = 61 \times 61$
$= 3721$

52. (4) $? = 1001 + \frac{96}{16} = 1001 + 6$

$= 1007$

53. (5) $? = 2 + \frac{13}{17} + \frac{4}{17} = 2 + \frac{17}{17}$

$= 2 + 1 = 3$

54. (3) Let Raman's present age $= x$ years
$\therefore$ His daughter's present age
$= \frac{x}{3}$ years

His mother's present age $= \frac{13x}{9}$ years

$\therefore x + \frac{x}{3} + \frac{13x}{9} = 125$

$\Rightarrow \frac{9x + 3x + 13x}{9} = 125$

$\Rightarrow 25x = 125 \times 9$

$\Rightarrow x = \frac{125 \times 9}{25} = 45$

$\therefore$ Required difference

$= \frac{13x}{9} - \frac{x}{3} = \frac{13x - 3x}{9} = \frac{10x}{9}$

$= \frac{10}{9} \times 45 = 50$ years

55. (3) $? = 4431 + 431 - 31 = 4831$

56. (1) $? = \frac{504.14}{14 \times 13} = 2.77$

57. (5) $\frac{586 \times 43}{100} = 341.2 - ?$

$\Rightarrow 251.98 = 341.2 - ?$
$\Rightarrow ? = 341.2 - 251.98 = 89.22$

58. (3) $(83)^{27.3} \div (83)^{1.4} \times (83)^{46.8}$
$= (83)^{31.9 + ?}$
$\Rightarrow (83)^{27.3 - 1.4 + 46.8} = (83)^{31.9 + ?}$
$\Rightarrow (83)^{72.7} = (83)^{31.9 + ?}$
$\Rightarrow ? + 31.9 = 72.7$
$\Rightarrow ? = 72.7 - 31.9 = 40.8$

59. (1) If the C.P. of 1 chair be ₹ x, then C.P. of 1 table
$=$ ₹ $(x + 210)$
$\therefore 5x + 3\ (x + 210) = 3110$
$\Rightarrow 5x + 3x + 630 = 3110$
$\Rightarrow 8x = 3110 - 630 = 2480$

$\Rightarrow x = \frac{2480}{8} = 310$

$\therefore$ CP of two tables and two chairs
$= 2\ (x + x + 210) = 4x + 420$
$= 4 \times 310 + 420 =$ ₹ 1660

60. (1) Let the number of tickets of each value be x.
$\therefore 55x + 85x + 105x = 2940$
$\Rightarrow 245x = 2940$

$\Rightarrow x = \frac{2940}{245} = 12$

61. (3) C.P. of one pencil box
$= 7 + 22 + 14 =$ ₹ 43
$\therefore$ Total amount paid by Harshita
$=$ ₹ $(20 \times 7 + 8 \times 22 + 6 \times 175 + 7 \times 43)$
$=$ ₹ $(140 + 176 + 1050 + 301)$
$=$ ₹ 1667

62. (4) $4003\ (70 + 7) - 21015$
$= ? \times 116$
$\Rightarrow 280210 + 28021 - 21015$
$= ? \times 116$
$\Rightarrow 287216 = ? \times 116$
$\Rightarrow ? = 287216 \div 116 = 2476$

63. (1) $? = 6\sqrt{7} \times 12\sqrt{7} - (19)^2$

$= 504 - 361 = 143$

64. (2) $? = \frac{4444}{40} + \frac{645}{25} + \frac{3991}{26}$
$= 111.1 + 25.8 + 153.5$
$= 290.4$

65. (5) $\sqrt{33124} \times \sqrt{2601} - (83)^2$
$= ?^2 + (37)^2$
$\Rightarrow 182 \times 51 - 6889 = ?^2 + 1369$
$\Rightarrow 2393 = ?^2 + 1369$
$\Rightarrow ?^2 = 2393 - 1369 = 1024$
$\Rightarrow ? = \sqrt{1024} = 32$

66. (2) $? = \frac{202}{37} \times \frac{259}{52} \times \frac{78}{7} + 2.75$
$= 303 + 2.75 = 305.75$

67. (3) $6755 \times \frac{4}{7} \times \frac{85}{100} = ? + 1687$
$\Rightarrow 3281 = ? + 1687$
$\Rightarrow ? = 3281 - 1687 = 1594$

68. (1) $\left(\frac{5568}{87}\right)^{\frac{1}{3}} + (72 \times 2)^{\frac{1}{2}} = (?)^{\frac{1}{2}}$

$\Rightarrow (64)^{\frac{1}{3}} + (144)^{\frac{1}{2}} = (?)^{\frac{1}{2}}$

$\Rightarrow (4^3)^{\frac{1}{3}} + (12^2)^{\frac{1}{2}} = (?)^{\frac{1}{2}}$

$\Rightarrow 4 + 12 = (?)^{\frac{1}{2}} \Rightarrow (?)^{\frac{1}{2}} = 16$
$\Rightarrow ? = 16^2 = 16 \times 16 = 256$

69. (4)

$?^2 = \sqrt{13^2 + 28 \times \frac{1}{4} - (3)^3 + 107}$

$= \sqrt{169 + 7 - 27 + 107}$

$= \sqrt{256} = 16$

$\Rightarrow ? = \sqrt{16} = 4$

70. (2)

$\left((0.7)^2\right)^4 \times \left((0.7)^3\right)^4 \div \left((0.7)^4\right)^4$

$= \left(\frac{70}{100}\right)^{?+3}$

$\Rightarrow 0.7^8 \times 0.7^{12} \div (0.7)^{16} = (0.7)^{?+3}$

$\Rightarrow (0.7)^{8+12-16} = (0.7)^{?+3} = (0.7)^4$

$\begin{bmatrix} (a^m)^n = a^{mn}; \\ a^m \times a^n = a^{m+n}; \\ a^m \div a^n = a^{m-n} \end{bmatrix}$

$\Rightarrow ? + 3 = 4 \qquad \Rightarrow ? = 4 - 3 = 1$

71. (3) $\sqrt{2025} \times \frac{45}{100} \div 0.01 = \frac{?^2}{25}$

$\Rightarrow 45 \times \frac{45}{100} \times 100 = \frac{?^2}{25}$

$\Rightarrow ?^2 = 45 \times 45 \times 25$

$= 5^2 \times 5^2 \times 3^2 \times 3^2$

$\therefore ? = 5 \times 5 \times 3 \times 3 = 225$

72. (1) $? = \frac{6255.22}{18.5 \times 21.4} = 15.8$

73. (2) $? = \frac{1.5 \times 78}{0.5} = 234$

74. (4) $? = 302.46 + 395.72 - 123.47 = 698.18 - 123.47 = 574.71$

75. (3) $\sqrt[3]{?} = \sqrt[3]{4096} \div \sqrt[3]{64}$

$= \sqrt[3]{16 \times 16 \times 16} \div \sqrt[3]{4 \times 4 \times 4}$

$= 16 \div 4 = 4$

$\therefore ? = 4 \times 4 \times 4 = 64$

76. (4) $\frac{800 \times ?}{100} = 293 - \frac{750 \times 22}{100}$

$\Rightarrow 8 \times ? = 293 - 165 = 128$

$\Rightarrow ? = \frac{128}{8} = 16$

77. (2) $? = 417.25 - 41.72 - 4.53$

$= 417.25 - 46.25 = 371$

78. (2) $896 - (?)^3 = 4608 \div 12$

$\Rightarrow 896 - (?)^3 = 384$

$\Rightarrow (?)^3 = 896 - 384 = 512$

$\Rightarrow (?)^3 = (8)^3 \Rightarrow ? = 8 = 2^3$

79. (1) $? = \frac{273}{3} - 9.1 = 91 - 9.1$

$= 81.9$

80. (1) $\sqrt{3969} \div 1.4 = ? \times 2.5$

$\Rightarrow 63 \times \frac{1}{1.4} = ? \times 2.5$

$\Rightarrow ? = \frac{63}{1.4 \times 2.5} = 18$

81. (4) $15.8 \times 3 + 8.1 - 21.5 = ? + 14.6$

$\Rightarrow 47.4 + 8.1 - 21.5 = ? + 14.6$

$\Rightarrow 34 = ? + 14.6$

$\Rightarrow ? = 34 - 14.6 = 19.4$

82. (3) $\frac{40 \times 265}{100} + \frac{35 \times 180}{100}$

$= \frac{50 \times ?}{100} + \frac{? \times 80}{100}$

$\Rightarrow 106 + 63 = \frac{?}{2} + \frac{4?}{5}$

$\Rightarrow 169 = \frac{5? + 8?}{10}$

$\Rightarrow 13 \times ? = 169 \times 10$

$\Rightarrow ? = \frac{169 \times 10}{13} = 130$

83. (5) $? = \sqrt{0.25 \times 0.16} - 157$

$= 0.5 \times 0.4 \times 157 = 31.4$

84. (2) $\sqrt{?} + 416 = \frac{60 \times 920}{100}$

$= -110$

$\Rightarrow \sqrt{?} + 416 = 552 - 110 = 442$

$\Rightarrow \sqrt{?} = 442 - 416 = 26$

$\therefore \sqrt{?} = 26 \times 26 = 676$

85. (5) $? = \frac{682 \times 782}{100} \div 856$

$= \frac{5333.24}{856} = 6.23$

86. (1) $? = \frac{15.5 \times 850}{100} + \frac{24.8 \times 650}{100}$

$= 131.75 + 161.2 \approx 293$

87. (2) $(625.75 + 450.5 + ?)$

$= \frac{750 \times 5}{3}$

$\Rightarrow 1076.25 + ? = 1250$

$\Rightarrow ? = 1250 - 1076.25 = 173.75$

88. (4) $64 \times 49 \div 14 - 143 = 3^?$

$\Rightarrow 224 - 143 = 3^?$

$\Rightarrow 81 = 3^?$

$\Rightarrow 3^? = 3^4 \Rightarrow ? = 4$

89. (3) $\left(\frac{4}{7} + 1\frac{3}{7} + \frac{3}{4}\right) \times ? = 693$

$\Rightarrow \left(2 + \frac{3}{4}\right) \times ? = 693$

$\Rightarrow \frac{11}{4} \times ? = 693$

$\Rightarrow ? = \frac{693 \times 4}{11} = 252$

90. (1) $?^2 = \sqrt{108 \times 6 + 98 - 121}$

$= \sqrt{648 + 98 - 121}$

$= \sqrt{625} = 25$

$\therefore ? = \sqrt{25} = 5$

91. (3) $(0.4 \times 450) \div 4 = 5 \times 3^?$

$\Rightarrow 180 \div 4 = 5 \times 3^?$

$\Rightarrow 45 = 5 \times 3^?$

$\Rightarrow 3^? = \frac{45}{5} = 9$

$\Rightarrow 3^? = 3^2 \Rightarrow ? = 2$

92. (1) $\frac{15.5 \times 28}{16} - \frac{1230}{240} = ? \times 5$

$\Rightarrow 27.125 - 5.125 = ? \times 5$

$\Rightarrow 22 = ? \times 5$

$\Rightarrow ? = \frac{22}{5} = 4.4$

93. (1) $\frac{25 \times 14 + 1450}{5} = \frac{1998}{?}$

$\Rightarrow \frac{350 + 1450}{5} = \frac{1998}{?}$

$\Rightarrow \frac{1800}{5} = \frac{1998}{?}$

$\Rightarrow 360 \times ? = 1998$

$\Rightarrow ? = \frac{1998}{360} = 5.55$

94. (1) $25 \times 12 - 864 \times \frac{1}{24}$

$= ? + 71$

$\Rightarrow 300 - 36 = ? + 71$

$\Rightarrow 264$

$= ? + 71$

$\Rightarrow ? = 264 - 71 = 193$

95. (4) $?^2 = 104 - \frac{21 \times 448}{16} + 1013$

$= 104 - 588 + 1013 = 529$

$\Rightarrow ? = \sqrt{529} = 23$

96. (4) $1246 + \sqrt[4]{256}$

$= \left(?^2 + \frac{58}{3}\right) \times 15$

$\Rightarrow 1246 + 4 = \left(?^2 + \frac{58}{3}\right) \times 15$

$\Rightarrow \frac{1250}{15} = ?^2 + \frac{58}{3}$

$\Rightarrow \frac{250}{3} = ?^2 + \frac{58}{3}$

$\Rightarrow ?^2 = \frac{250}{3} - \frac{58}{3} = \frac{192}{3}$

$= 64$

$\Rightarrow ? = \sqrt{64} = 8$

RBI GRADE–B/ NABARD GRADE–A OFFICER EXAMS

1. (2) $|? - 45| = 40$

$\Rightarrow ? - 45 = \pm 40$

$\therefore ? = 45 + 40$ or $45 - 40$

$= 85$ or 5

2. (4) $\left[\left((3)^2\right)^6\right]^4 = 9^?$

$\Rightarrow \left(9^6\right)^4 = 9^?$ $[\because (a^m)^n = a^{mn}]$

$\Rightarrow 9^{6\times4} = 9^?$

$\Rightarrow ? = 6 \times 4 = 24$

3. (4) $? = \sqrt{289} = \sqrt{17 \times 17} = \pm 17$

$= \pm\left(\frac{153}{9}\right)$

4. (3) $(4)^? \times \frac{?}{100} = 51.2$

$\Rightarrow (4)^? \times ? = 51.2 \times 100 = 5120$

$\Rightarrow (4)^? \times ? = 4 \times 4 \times 4 \times 4 \times 4 \times 5$

$= (4)^5 \times 5$

$\therefore ? = 5$

5. (4) $? = \sqrt[4]{1296}$

$= \sqrt[4]{6 \times 6 \times 6 \times 6} = 6$

6. (2) $\left(\frac{3024}{189}\right)^{\frac{1}{2}} + \left(\frac{684}{19}\right)^2 = ?^2 + 459$

$\Rightarrow (16)^{\frac{1}{2}} + (36)^2 = ?^2 + 459$

$\Rightarrow 4 + 1296 = ?^2 + 459$

$\Rightarrow ?^2 = 1300 - 459 = 841$

$\Rightarrow ? = \sqrt{841} = \pm 29$

7. (4) $? = 216 \times \frac{30}{100} \times \frac{5}{16} \times 4.4$

$= 89.1$

8. (1) $\left(\frac{0.0729}{0.1}\right)^3 \div (0.081 \times 10)^5 \times (0.3 \times 3)^5 = (0.9)^{?+3}$

$\Rightarrow (0.729)^3 \div (0.81)^5 \times (0.3 \times 3)^5 = (0.9)^{?+3}$

$\Rightarrow (0.9^3)^3 \div (0.9^2)^5 \times (0.9)^5 = (0.9)^{?+3}$

$\Rightarrow (0.9)^{9-10+5} = (0.9)^{?+3}$

$\Rightarrow (0.9)^4 = (0.9)^{?+3}$

$\Rightarrow ? + 3 = 4 \Rightarrow ? = 4 - 3 = 1$

9. (5) $\sqrt{?\%}$ of $\sqrt{1764} \times 5$

$= 149.8 - 112$

$\sqrt{?\%} \times 42 \times 5 = 149.8 - 112$

$\sqrt{?\%} \times 210 = 37.8$

$\sqrt{?\%} = \frac{37.8}{210} = 0.18$

$\Rightarrow ?\% - 0.0324 \Rightarrow ? = 3.24$

10. (1) $\frac{(27)^2 \times 6}{9} + 7^3 + 71$

$= (?)^3 - 431$

$\Rightarrow 486 + 343 + 71 + 431 = (?)^3$

$\Rightarrow (?)^3 = 1331 = 11^3 \Rightarrow ? = 11$

11. (1) $7072 \div \left(\frac{884 \times 16}{100}\right)$

$= 30 \times \frac{13}{12} \times \frac{?}{39}$

$\Rightarrow 7072 \div 141.44 = \frac{5 \times ?}{6}$

$\Rightarrow 50 \times 6 = 5 \times ?$

$\Rightarrow ? = \frac{50 \times 6}{5} = 60$

12. (1) $(3375)^6 \div (15)^{10} \div (225)^7 = (15)^{? - 6}$

$\Rightarrow \left((15)^3\right)^6 \div (15)^{10} \div \left(15^2\right)^7 = (15)^{?-6}$

$\Rightarrow 15^{18-10-14} = (15)^{? - 6}$

$\Rightarrow -6 = ? - 6$

$\Rightarrow ? = 0$

13. (2) $\frac{1478.4}{56} + 66.8 \times 57$

$= ? \times 3 + 34 \times 34.5$

$\Rightarrow 26.4 + 3807.6 = ? \times 3 + 1173$

$\Rightarrow 3834 - 1173 = ? \times 3$

$\Rightarrow ? \times 3 = 2661$

$\Rightarrow ? = 887$

14. (3) $\left(13 + 2\sqrt{5}\right)^2 = ? \times \sqrt{5} + 189$

$\Rightarrow 169 + 20 + 2 \times 13 \times 2\sqrt{5}$

$= ? \times \sqrt{5} + 189$

$\Rightarrow 189 + 52 \times \sqrt{5}$

$= ? \times \sqrt{5} + 189$

$\Rightarrow ? = 52$

15. (4) $0.22 + 0.0054 = ? - 313.06$

$\Rightarrow 0.2254 + 313.06 = ?$

$\Rightarrow ? = 313.2854$

16. (4) $? = 13.141 + 31.417 - 27.118$

$= 44.558 - 27.118 = 17.440$

INSURANCE EXAMS

1. (2) $764 - 5145 \times \frac{1}{147} = ? \times 36$

$\Rightarrow \quad 764 - 35 = ? \times 36$

$\Rightarrow \quad ? \times 36 = 729$

$\Rightarrow \quad ? = \frac{729}{36} = 20.25$

2. (5)

$$3+\frac{1}{3}-1-\frac{1}{9}=?-1-\frac{3}{7}-1-\frac{1}{2}$$

$$\Rightarrow \quad 2+\frac{1}{3}-\frac{1}{9}=?-2-\frac{3}{7}-\frac{1}{2}$$

$$\Rightarrow \quad ?=2+\frac{1}{3}-\frac{1}{9}+2+\frac{3}{7}+\frac{1}{2}$$

$$=4+\left(\frac{1}{3}-\frac{1}{9}+\frac{3}{7}+\frac{1}{2}\right)$$

$$=4+\left(\frac{42-14+54+63}{126}\right)$$

$$=4+\frac{145}{126}=4+1\frac{19}{126}$$

$$=5\frac{19}{126}$$

3. (1) $(0.4)^3 \div ((0.4)^2)^3 \times (0.4)^4 = (0.4)^{?+1}$

$\Rightarrow (0.4)^3 \div (0.4)^6 \times (0.4)^4 = (0.4)^{?+1}$

$\Rightarrow (0.4)^{3-6+4} = (0.4)^{?+1}$

$$\left[\begin{array}{l}\because \ (a^m)^n = a^{mn};\\ a^m \times a^n = a^{m+n};\\ a^m \div a^n = a^{m-n}\end{array}\right]$$

$\Rightarrow \quad (0.4)^1 = (0.4)^{?+1}$

$\Rightarrow \quad ? + 1 = 1$

$\Rightarrow \quad ? = 1 - 1 = 0$

4. (5)

$$\frac{54.5\times 600}{100}+\frac{30.5\times 1800}{100}$$

$$= ?^2 + 147$$

$\Rightarrow \quad 327 + 549 = ?^2 + 147$

$\Rightarrow \quad 876 = ?^2 + 147$

$\Rightarrow \quad ?^2 = 876 - 147 = 729$

$\therefore \quad ? = \sqrt{729} = \pm 27$

5. (1) $? = \sqrt{49\times 6+225+10}$

$$=\sqrt{294+225+10}$$

$$=\sqrt{529}=23$$

6. (4) If $a + b + c = 0$, then $a^3 + b^3 + c^3 = 3abc$

Here,, $1.111 + 2.212 - 3.323 = 0$

Expression

$$=\frac{3\times(1.111)(2.212)(-3.323)}{(1.111)(2.212)(-3.323)}=3$$

7. (3) $(64)^{0.9} \times (32)^{-0.08}$

$= (2^6)^{0.9} \times (2^5)^{-0.08}$

$= 2^{5.4} \times 2^{-0.4} = 2^{5.4 - 0.4}$

$= 2^5 = 32$

8. (4) If the number of boys = x then number of girls

$= 60 - x$

$\therefore (60 - x)\, x + (60 - x)x$

$= 1600$

$\Rightarrow 2(60x - x^2) = 1600$

$\Rightarrow x^2 - 60x + 800 = 0$

$\Rightarrow x^2 - 40x - 20x + 800 = 0$

$\Rightarrow x(x - 40) - 20(x - 40) = 0$

$\Rightarrow (x - 20)(x - 40) = 0$

$\Rightarrow x = 20$ or 40

9. (4) Expression

$$=\sqrt[6]{24-16\sqrt{2}}\times\sqrt[3]{4+2\sqrt{2}}$$

$$=\sqrt[6]{4(6-4\sqrt{2})}\times\sqrt[3]{4+2\sqrt{2}}$$

$$=\sqrt[6]{4(4+2-2\times 2\times\sqrt{2})}\times\sqrt[3]{4+2\sqrt{2}}$$

$$=\sqrt[6]{4(2-\sqrt{2})^2}\times\sqrt[3]{4+2\sqrt{2}}$$

$$=\sqrt[3]{2(2-\sqrt{2})}\times\sqrt[3]{4+2\sqrt{2}}$$

$$=\sqrt[3]{(4-2\sqrt{2})(4+2\sqrt{2})}=\sqrt[3]{16-8}$$

$$=\sqrt[3]{8}=2$$

10. (3) Expression

$$=\frac{1}{2}+\frac{1}{5}+\frac{1}{8}+\frac{1}{11}+\frac{1}{20}+\frac{1}{41}+\frac{1}{110}+\frac{1}{1640}$$

$$=\frac{1}{2}+\frac{1}{5}+\frac{1}{8}+\frac{1}{20}+\frac{1}{11}-\frac{1}{11}+\frac{1}{10}+\frac{1}{41}-\frac{1}{41}+\frac{1}{40}$$

$$=\frac{1}{2}+\frac{1}{5}+\frac{1}{8}+\left(\frac{1}{20}+\frac{1}{10}+\frac{1}{40}\right)$$

$$=\frac{1}{2}+\frac{1}{5}+\frac{1}{8}+\left(\frac{2+4+1}{40}\right)$$

$$=\frac{1}{2}+\frac{1}{5}+\frac{1}{8}+\frac{7}{40}$$

$$=\frac{20+8+5+7}{40}=1$$

11. (2) $(10000)^{100} = (10)^{400}$

$(1000)^{1000} = (10^3)^{1000} = 10^{3000}$

$2^{10000} = (2^{10})^{1000} = (1024)^{1000}$

$(1024)^{1000} > (1000)^{1000}$

12. (2) If the sum of three non-zero integers be S, then

First number $= \frac{S}{8}$

Second number $= \frac{S}{3}$

Third number $= \frac{S}{p}$

$$\therefore \ \frac{1}{8}+\frac{1}{3}+\frac{1}{p}=1$$

$$\Rightarrow \frac{1}{p}=1-\frac{1}{8}-\frac{1}{3}=\frac{24-3-8}{24}$$

$$\Rightarrow \frac{1}{p}=\frac{13}{24}$$

$$\Rightarrow p=\frac{24}{13}$$

13. (1) $7^1 = 7$;

$7^2 = 49$;

$7^3 = 343$;

$7^4 = 2401$;

$7^5 = 16807$;

= Unit's digit in the expansion of 7^7

= Unit's digit in the expansion of $7^3 = 3$

$\therefore$ Unit's digit in the expansion of $7^{7^7} = 3$

Unit's digit in the expansion of $777^{777} = 7^1 = 7$ (Remainder obtained on dividing 777 by 4)

$\therefore$ Required unit's digit

= 7 + 3 = ... 0

14. (4) When n is odd or even, $x^n - a^n$ is exactly divisible by $x - a$.

$(2^{1650} - 1 = 4^{825} - 1$, $4 - 1$ i.e. is divisible by 3)

$2^{1650} - 1 = (2^3)^{550} - 1 = 8^{550} - 1$, which is divisible by 7.

$2^{1650} - 1 = (2^{11})^{150} - 1$,

$=(2048)^{150} - 1$ which is divisible by 2047.

15. (4) Expression

$$= \sqrt{43-12\sqrt{7}} - \frac{2}{\sqrt{16+6\sqrt{7}}}$$

$$= \sqrt{43-2\times6\times\sqrt{7}} - \frac{2}{\sqrt{16+2\times3\times\sqrt{7}}}$$

$$= \sqrt{36+7-2\times6\sqrt{7}} - \frac{2}{\sqrt{9+7+2\times3\times\sqrt{7}}}$$

$$= \sqrt{\left(6-\sqrt{7}\right)^2} - \frac{2}{\sqrt{\left(3+\sqrt{7}\right)^2}}$$

$$= 6-\sqrt{7} - \frac{2}{3+\sqrt{7}}$$

$$= 6-\sqrt{7} - \frac{2\times\left(3-\sqrt{7}\right)}{\left(3+\sqrt{7}\right)\left(3-\sqrt{7}\right)}$$

$$= 6-\sqrt{7} - \frac{2\times\left(3-\sqrt{7}\right)}{9-7}$$

$$= 6-\sqrt{7}-3+\sqrt{7} = 3$$

16. (3) $10^{20} = (10^3)^6 \times 10^2$

$= 1000^6 \times 100$

$\therefore \frac{10^{20}}{1001} = \frac{(1000)^6}{1001} \times 100$

= gives remainder 100.

Note : When n is odd, then we get remainder a by $\frac{a^n}{a+1}$.

When n is even, then we get remainder 1 by $\frac{a^n}{a+1}$.

17. (2) $2^{2008} + 10^{2008}$

$= 2^{2008} + 2^{2008} \times 5^{2008}$

$= 2^{2008}\ (1 + 5^{2008})$

$= 2^{2008} \times (1 + ...5)$

$= 2^{2009} \times$ number.

18. (1)

$$? = \frac{\sqrt[3]{9\times9\times9}}{\sqrt[3]{12\times12\times12}} \times \frac{8}{15} \times \frac{3}{8}$$

$$= \frac{9}{12} \times \frac{8}{15} \times \frac{3}{8}$$

$$= \frac{3}{20} = 0.15$$

19. (2) $\left(\frac{9^3}{10^3}\right)^{\frac{2}{3}} + \frac{\sqrt{12996}}{\sqrt{625}}$

$= ? \times 10^{-2}$

$\Rightarrow \left(\frac{9}{10}\right)^2 + \frac{114}{25} = ? \times 10^{-2}$

$\Rightarrow \frac{81}{100} + \frac{114}{25} = \frac{?}{100}$

$\Rightarrow \frac{81+456}{100} = \frac{?}{100}$

$\Rightarrow \frac{537}{100} = \frac{?}{100}$

$\Rightarrow ? = 537$

20. (3) $\frac{5}{17} \times \frac{51}{100} \times 864$

$= \sqrt{?} + \sqrt{73.96}$

$\Rightarrow \frac{12960}{100} = \sqrt{?} + 8.6$

$\Rightarrow 129.6 - 8.6 = \sqrt{?}$

$\Rightarrow \sqrt{?} = 121$

$\Rightarrow ? = 121 \times 121$

$= 14641$

21. (4) $\frac{64\times272}{100} + \frac{?\times1129}{100}$

$= 576 + 83.55$

$\Rightarrow 174.08 + \frac{?\times1129}{100}$

$= 659.55$

$\Rightarrow ? \times \frac{1129}{100} = 659.55 - 174.08$

$= 485.47$

$? = \frac{485.47\times100}{1129} = 43$

22. (1) $\frac{21.6\times21.6}{7.2\times7.2} \times ? = 207.27$

$\Rightarrow 9 \times ? = 207.27$

$\Rightarrow ? = \frac{207.27}{9} = 23.03$

23. (3) $? = (47 \times 588) \div (28 \times 120)$

$= \frac{47\times588}{28\times120} = 8.225$

24. (1) $\left(224\times\frac{45}{100}\right)\times\left(120\times\frac{?}{100}\right)$

$= 8104.32$

$\Rightarrow 100.80 \times (1.20 \times ?) = 8104.32$

$\Rightarrow ? = \frac{8104.32}{100.80\times1.20} = 67$

25. (5) $(?)^3 = \sqrt{7921}\times51+374$

$= 89 \times 51 + 374$

$= 4539 + 374 = 4913$

$\therefore ? = \sqrt[3]{4913} = \sqrt[3]{17\times17\times17} = 17$

26. (4) $? = 6573 \div 21 \times (0.2)^2$

$= \frac{6573\times0.04}{21} = 12.52$

27. (2) $74156 - ? + 179 = 69894$

$\Rightarrow 74335 - ? = 69894$

$\Rightarrow ? = 74335 - 69894$

$= 4441$

28. (1) $? = 4899 \times 999$

$= (4900 - 1)(1000 - 1)$

$= 4900000 - 1000 - 4900 + 1$

$= 4894101$

29. (4) $(123)^{2.5} \div (123)^{?} = 123$

$\Rightarrow (123)^{2.5-?} = (123)^1$

$\Rightarrow 2.5 - ? = 1$

$\Rightarrow ? = 2.5 - 1 = 1.5$

30. (3) $5^{71} + 5^{72} + 5^{73}$

$= 5^{71}(1 + 5 + 5^2)$

$= 5^{71} \times 31 = 5^{70} \times 5 \times 31$

$= 5^{70} \times 155$

31. (3) Let the numbers be x and y.

$\therefore x + y = 24$

and $xy = 143$

$\therefore x^2 + y^2 = (x + y)^2 - 2xy$

$= (24)^2 - 2 \times 143$

$= 576 - 286 = 290$

32. (4)

2	2744
2	1372
2	686
7	343
7	49
	7

$\therefore$ 2744 = 2 × 2 × 2 × 7 × 7 × 7
= $2^2 \times 7^2 \times 2 \times 7$
$\therefore$ Required number = 2 × 7
= 14

33. (1) If 0.7 = a and 0.6 = b, then

Expression = $\frac{a^3 - b^3}{a^2 + b^2 + ab}$

$= \frac{(a-b)(a^2 + b^2 + ab)}{a^2 + b^2 + ab}$

$= a - b = 0.7 - 0.6 = 0.1$

34. (1) ? = 1201 × 1201 = $(1201)^2$
= $(1200 + 1)^2$
= 1440000 + 1 + 2 × 1200 × 1
= 1442401

35. (2) $\sqrt{1296} = 36$

$\sqrt{12.96} = 3.6$; $\sqrt{0.1296} = 0.36$

$\therefore$ $\sqrt{12.96} + \sqrt{0.1296} +$
$\sqrt{0.001296} + \sqrt{0.00001296}$
= 3.6 + 0.36 + 0.036 + 0.0036
= 3.9996

36. (3) $a^2 + b^2 = 100$ ... (i)
$a^2 - b^2 = 28$
$\Rightarrow a^2 = 28 + b^2$ ...(ii)
$\therefore$ $a^2 + b^2 = 100$
$\Rightarrow 28 + b^2 + b^2 = 100$
$\Rightarrow 2b^2 = 100 - 28 = 72$

$\Rightarrow b^2 = \frac{72}{2} = 36$

$\Rightarrow b = \sqrt{36} = 6$

From equation (ii),
$a^2 = 28 + 36 = 64$

$\Rightarrow a = \sqrt{64} = 8$

$\therefore$ a + b = 8 + 6 = 14

37. (4)

$\frac{1}{2} + \frac{1}{6} + \frac{1}{12} + \frac{1}{20} + \frac{1}{30} + \ldots + \frac{1}{n(n+1)}$

$= \frac{1}{1\times2} + \frac{1}{2\times3} + \frac{1}{3\times4} + \frac{1}{4\times5} + \ldots + \frac{1}{n(n+1)}$

$= 1 - \frac{1}{2} + \frac{1}{2} - \frac{1}{3} + \frac{1}{3} - \frac{1}{4} + \frac{1}{4} - \frac{1}{5} +$
$\ldots + \frac{1}{n} - \frac{1}{n+1} = 1 - \frac{1}{n+1} = \frac{n}{n+1}$

38. (1) $\frac{561}{11} \times \frac{9}{?} = 3^3$

$\Rightarrow 51 \times \frac{9}{?} = 27$

$\Rightarrow 27 \times ? = 51 \times 9$

$\Rightarrow ? = \frac{51 \times 9}{27} = 17$

39. (4) 1062 + 885 − ? + 495 = 900
$\Rightarrow$ 2442 − ? = 900
$\Rightarrow$? = 2442 − 900 = 1542

40. (4) ? = $8\frac{2}{5} \div 3\frac{1}{2}$

$= \frac{42}{5} \div \frac{7}{2} = \frac{42}{5} \times \frac{2}{7} = \frac{12}{5}$

$= 2\frac{2}{5}$

❐❐❐

MODEL EXERCISES

1. If p is a number between 0 and 1, which one of the following is true?

(1) $p > \sqrt{p}$ (2) $\frac{1}{p^2} > \sqrt{p}$

(3) $p < \frac{1}{p}$ (4) $p^3 > p^2$

(5) None of these

2. $1.236 \times 10^{15} - 5.23 \times 10^{14}$ equals
(1) 7.13×10^{14} (2) 7.13
(3) 71.3 (4) −3.994
(5) None of these

3. $\frac{11 \times 11 - 21}{9 \times 6 - (2)^2} = ?$

(1) 0 (2) $\frac{21}{52}$
(3) 2 (4) 20
(5) None of these

4. The value of $\left(\frac{-1}{216}\right)^{-2/3}$ is

(1) $\frac{1}{36}$ (2) $-\frac{1}{36}$
(3) − 36 (4) 36
(5) None of these

5. If $\sqrt{5}$ = 2.236, then the value of $\frac{\sqrt{5}}{2} - \frac{10}{\sqrt{5}} + \sqrt{125}$ is equal to

(1) 7.826 (2) 8.944
(3) 5.59 (4) 10.062
(5) None of these

6. What is the value of

$5\frac{2}{3} \times 3\frac{1}{6} + 2\frac{1}{3}$?

(1) $20\frac{7}{18}$ (2) $20\frac{3}{18}$

(3) $20\frac{5}{18}$ (4) $20\frac{1}{9}$

(5) None of these

7. The unit's digit in the product $7^{35} \times 3^{71} \times 11^{55}$ is
(1) 1 (2) 3
(3) 7 (4) 9
(5) None of these

8. The value of $\sqrt[3]{\sqrt{0.000064}}$ is

(1) 0.02 (2) 0.2
(3) 2.0 (4) None of these

9. The value of $\left(\frac{1}{4}\right)^{-2}$ is

(1) 2 (2) $-\frac{1}{2}$

(3) $-\frac{1}{16}$ (4) 16

(5) None of these

10. If $9^x = \frac{9}{3^x}$, then x is

(1) $\frac{1}{3}$ (2) $\frac{2}{3}$

(3) 3 (4) $\frac{4}{3}$

(5) None of these

11. Fill in the blank to make the statement true

$\left|\frac{3}{5} \times \frac{-5}{10}\right| = \left|\frac{3}{5}\right| \times \ldots$

(1) $\frac{-5}{8}$ (2) $\frac{4}{8}$

(3) $\frac{8}{5}$ (4) $\frac{3}{8}$

(5) None of these

12. The value of

$$\frac{\frac{1}{2}\div\frac{1}{2}\text{ of }\frac{1}{2}}{\frac{1}{2}+\frac{1}{2}\text{ of }\frac{1}{2}}$$ is

(1) $\frac{2}{3}$ (2) 1

(3) $\frac{11}{3}$ (4) 3

(5) None of these

13. $\left(28-10\sqrt{3}\right)^{1/2}-\left(7+4\sqrt{3}\right)^{-1/2}$ is equal to

(1) 4 (2) 5

(3) 3 (4) 4.3

(5) None of these

14. Determine the value of

$$\frac{1}{\sqrt{1}+\sqrt{2}}+\frac{1}{\sqrt{2}+\sqrt{3}}+\frac{1}{\sqrt{3}+\sqrt{4}}+....+\frac{1}{\sqrt{120}+\sqrt{121}}$$

(1) $\sqrt{120}$ (2) 10

(3) $12\sqrt{12}$ (4) 8

(5) None of these

SHORT ANSWERS

1. (3)	**2.** (1)	**3.** (3)	**4.** (4)
5. (1)	**6.** (3)	**7.** (1)	**8.** (2)
9. (4)	**10.** (2)	**11.** (2)	**12.** (5)
13. (3)	**14.** (2)		

EXPLANATIONS

1. (3) Clearly, if 0<p<1 say 0.5, then

$0.5<\frac{1}{0.5}$

Therefore, $p<\frac{1}{p}$

2. (1) $1.236\times10^{15}-5.23\times10^{14}$
$= 10^{14}(12.36-5.23)$
$= 10^{14}\times7.13$
$= 7.13\times10^{14}$

3. (3) $\frac{11\times11-21}{9\times6-(2)^2}=\frac{121-21}{54-4}$

$=\frac{100}{50}=2$

4. (4) $\left(\frac{-1}{216}\right)^{-2/3}\Rightarrow\left(\frac{-1}{6^3}\right)^{-2/3}$

$\Rightarrow\left(\frac{-1}{6}\right)^{\frac{-2}{3}\times3}$

$=\left(-\frac{1}{6}\right)^{-2}=\left(-\frac{1}{6}\right)^{-2}=(-6)^2=36$

5. (1) $\frac{\sqrt{5}}{2}-\frac{10}{\sqrt{5}}+\sqrt{125}$

$=\frac{\sqrt{5}}{2}-\frac{10}{\sqrt{5}}+\frac{5\sqrt{5}}{1}$

$=\frac{5-20+10\times5}{2\sqrt{5}}=\frac{35}{2\times2.236}$

$=\frac{35}{4.472}=7.826$

6. (3) $\frac{17}{3}\times\frac{19}{6}+\frac{7}{3}=\frac{323}{18}+\frac{7}{3}$

$=\frac{323+42}{18}=\frac{365}{18}=20\frac{5}{18}$

7. (1) Unit digit in $(7)^4=1$, therefore unit digit in $(7^4)^8$ i.e., 7^{32} will be 1.

Hence, unit digit in $(7)^{35}=1\times7\times7\times7=3$

Again, unit digit in $(3)^4=1$

Therefore, unit digit in the expansion of $(3^4)^{17}=(3)^{68}=1$

$\therefore$ Unit digit in the expansion of $(3)^{71}=1\times3\times3\times3=7$

and unit digit in the expansion of $(11)^{55}=1$

$\therefore$ Unit digit in the expansion of $7^{35}\times3^{71}\times11^{55}=3\times7\times1=1$

8. (2) $\sqrt[3]{\sqrt{0.000064}}=\sqrt[3]{0.008}$

$=(0.2)^{3\times\frac{1}{3}}=0.2$

9. (4) $\left(\frac{1}{4}\right)^{-2}=(4)^2=16$

10. (2) $9^x\times3^x=9$

$\Rightarrow (3)^{2x}\times(3)^x=9$

$\Rightarrow (3)^{3x}=(3)^2$

$\Rightarrow 3x=2$

$\Rightarrow x=\frac{2}{3}$

11. (2) $\left|\frac{3}{5}\times\frac{-5}{10}\right|=\left|\frac{3}{5}\right|\times\left|\frac{-5}{10}\right|$

$=\left|\frac{3}{5}\right|\times\frac{1}{2}=\left|\frac{3}{5}\right|\times\frac{4}{8}$

12. (5)

$$\frac{\frac{1}{2}\div\frac{1}{2}\text{ of }\frac{1}{2}}{\frac{1}{2}+\frac{1}{2}\text{ of }\frac{1}{2}}=\frac{\frac{1}{2}\div\frac{1}{4}}{\frac{1}{2}+\frac{1}{4}}=\frac{\frac{1}{2}\times4}{\frac{2+1}{4}}$$

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

13. (3) Let $\sqrt{28-10\sqrt{3}}=\sqrt{x}-\sqrt{y}$

Squaring both side we get,

$\Rightarrow 28-10\sqrt{3}=x+y-2\sqrt{xy}$

$\Rightarrow x+y=28,\ xy=75$

$\therefore (x-y)^2=(x+y)^2-4xy$
$=784-300=484$

$\Rightarrow x-y=22$

$\therefore x=25,\ y=3$

$\Rightarrow \sqrt{28-10\sqrt{3}}=\sqrt{25}-\sqrt{3}$

Again, let $\sqrt{7+4\sqrt{3}}=\sqrt{x}+\sqrt{y}$

Squaring both side we get,

$\Rightarrow 7+4\sqrt{3}=x+y+2\sqrt{xy}$

$\Rightarrow x+y=7,\ xy=12$

$\therefore x-y=(7)^2-4\times12=1$

$\Rightarrow x=4,\ y=3$

$\therefore \sqrt{7+4\sqrt{3}}=\sqrt{4}+\sqrt{3}$

Now, $\left(28-10\sqrt{3}\right)^{\frac{1}{2}}-\left(7+4\sqrt{3}\right)^{-\frac{1}{2}}$

$=\sqrt{25}-\sqrt{3}-\frac{1}{\sqrt{4}+\sqrt{3}}$

$=\sqrt{25}-\sqrt{3}-\frac{\sqrt{4}-\sqrt{3}}{1}$ (on Rationalising)

$=\sqrt{25}-\sqrt{4}=5-2=3$

14. (2)

$\frac{1}{\sqrt{1}+\sqrt{2}}+\frac{1}{\sqrt{2}+\sqrt{3}}+\frac{1}{\sqrt{3}+\sqrt{4}}+...+\frac{1}{\sqrt{120}+\sqrt{121}}$

$=$

$\frac{\left(\sqrt{2}-\sqrt{1}\right)}{\left(\left(\sqrt{2}\right)^2-\left(\sqrt{1}\right)^2\right)}+\frac{\left(\sqrt{3}-\sqrt{2}\right)}{\left(\left(\sqrt{3}\right)^2-\left(\sqrt{2}\right)^2\right)}+\frac{\left(\sqrt{4}-\sqrt{3}\right)}{\left(\left(\sqrt{4}\right)^2-\left(\sqrt{3}\right)^2\right)}+.....+\frac{\left(\sqrt{121}-\sqrt{120}\right)}{\left(\left(\sqrt{121}\right)^2-\left(\sqrt{120}\right)^2\right)}$

$=\left(\sqrt{2}-\sqrt{1}\right)+\left(\sqrt{3}-\sqrt{2}\right)+\left(\sqrt{4}-\sqrt{3}\right)+.....+\left(\sqrt{120}-\sqrt{119}\right)+\left(\sqrt{121}-\sqrt{120}\right)$

$=-\sqrt{1}+\sqrt{121}=11-1=10$ ❑❑❑

PERCENTAGE

QUESTIONS FROM 1999 TO 2010 ARE AVAILABLE ONLINE

NATIONALISED BANKS & IBPS PO/MT/SO EXAMS

1. One fourth of two-fifth of 30% of a number x is equal to 15. Find 20% of the same number.
(1) 100 (2) 120
(3) 105 (4) 80
(5) None of these
(IBPS RRBs Officer Scale-I CWE, 06.09.2014)

2. In a class of 35 students and 6 teachers, each student got sweets that are 20% of the total number of students and each teacher got sweets that are 40% of the total number of students. How many sweets were there ?
(1) 245 (2) 161
(3) 406 (4) 84
(5) None of these
(Oriental Bank of Commerce PO Exam. 21.12.2008 & United India Insurance AO Exam, 26.05.2013)

3. Prithvi spent ₹ 89,745 on his college fees, ₹ 51,291 on Personality Development Classes and the remaining 27% of the total amount he had as cash with him. What was the total amount ?
(1) ₹ 1,85,400 (2) ₹ 1,89,600
(3) ₹ 1,91,800 (4) ₹ 1,93,200
(5) None of these
(Oriental Bank of Commerce PO Exam. 21.12.2008 & United India Insurance AO Exam, 26.05.2013)

4. A sum of ₹ 731 is divided among A, B and C, such that 'A' receives 25% more than 'B' and 'B' receives 25% less than 'C'. What is C's share in the amount ?
(1) ₹ 172 (2) ₹ 200
(3) ₹ 262 (4) ₹ 258
(5) None of these
(Punjab & Sind Bank PO Exam. 23.01.2011)

5. In an examination Raman scored 25 marks less than Rohit. Rohit scored 45 more marks than Sonia. Rohan scored 75 marks which is 10 more than Sonia. Ravi's score is 50 less than maximum marks of the test. What **approximate** percentage of marks did Ravi score in the examination if he gets 34 marks more than Raman ?
(1) 90 % (2) 70 %
(3) 80 % (4) 60 %
(5) 85 %
(UCO Bank PO Exam. 30.01.2011)

6. Raman scored 456 marks in an exam and Sita got 54 percent marks in the same exam which is 24 marks less than Raman. If the minimum passing marks in the exam is 34 percent, then how much more marks did Raman score than the minimum passing marks?
(1) 184 (2) 196
(3) 190 (4) 180
(5) None of these
(Bank Of Baroda PO Exam.13.03.2011)

7. In a school there are 250 students out of whom 12 percent are girls. Each girl's monthly fee is ₹450 and each boy's monthly fee is 24 percent more than a girl. What is the total monthly fee of girls and boys together?
(1) ₹1,36,620 (2) ₹1,36,260
(3) ₹1,32,660 (4) ₹1,32,460
(5) None of these
(Indian Overseas Bank PO Exam. 22.05.2011)

8. An HR Company employs 4800 people, out of which 45 percent are males and 60 percent of the males are either 25 years or older. How many males are employed in HR Company who are younger than 25 years ?
(1) 2480 (2) 2320
(3) 1278 (4) 864
(5) None of these
(IBPS Bank PO/MT CWE Exam. 18.09.2011)

9. A salesman offers a commission of x% on the first sale of worth Rs. 3000 and y% on the part of sale exceeding it. He gives Rs. 1100 as commission on a sale of Rs. 7000 and Rs. 1660 as commission on a sale of Rs. 11000. Find the value of x and y respectively.
(1) 18% and 14%
(2) 18% and 12%
(3) 14% and 16%
(4) 16% and 14%
(5) None of these
(SIDBI Bank Officer Exam. 09.09.2014)

10. Six-eleventh of a number is equal to twenty two percent of second number. Second number is equal to the one-fourth of third number. The value of the third number is 2400, What is the 45% of first number?
(1) 107.6 (2) 131.1
(3) 115.4 (4) 143.8
(5) None of these
(IBPS Bank PO/MT CWE Exam. 18.09.2011)

11. In an Entrance Examination Seema scored 56 percent marks, Nitya scored 92 percent marks and Meena scored 634 marks. The maximum marks of the examination are 875. What are the average marks scored by all the three girls together?
(1) 1939 (2) 817
(3) 680 (4) 643
(5) None of these
(IBPS Bank PO/MT CWE Exam. 18.09.2011)

12. Five-ninth of a number is equal to twenty five percent of second number. Second number is equal to one-fourth of third number. The value of third number is 2960. What is 30 percent of first number?
(1) 88.8 (2) 99.9
(3) 66.6
(4) Cannot be determined
(5) None of these
(Indian Overseas Bank PO Exam. 22.05.2011)

13. Dinesh's monthly income is four times Suresh's monthly income. Suresh's monthly income is twenty percent more than Jyoti's monthly income. Jyoti's monthly income is ₹22,000. What is Dinesh's monthly income ?
(1) ₹1,06,500 (2) ₹1,05,600
(3) ₹1,04,500 (4) ₹1,05,400
(5) None of these
(Indian Overseas Bank PO Exam. 22.05.2011)

14. Ruby's monthly income is three times Gayatri's monthly income, Gayatri's monthly income is fifteen percent more than Priya's monthly income, Priya's monthly income is ₹ 32,000. What is Ruby's **Annual** income ?
(1) ₹1,20,300 (2) ₹13,24,800
(3) ₹38,800 (4) ₹54,600
(5) None of these
(IBPS Bank PO/MT CWE Exam. 18.09.2011)

15. Pradeep invested 20% more than Mohit. Mohit invested 10% less than Raghu. If the total sum of their investment is ₹ 17,880, how much amount did Raghu invest ?
(1) ₹ 6,000 (2) ₹ 8,000
(3) ₹ 7,000 (4) ₹ 5,000
(5) None of these
(Corporation Bank PO Exam. 16.01.2011)

16. In an examination, 70% of students passed in English and 65% passed in Maths. If 27% of students failed in both subjects and 248 students passed in both subjects, how many students did appear in the examination ?
(1) 400 (2) 375
(3) 425 (4) 450
(5) None of these
(IDBI Officer Grade Exam. 22.08.2014)

17. Akash scored 73 marks in subject A. He scored 56% marks in subject B and x marks in subject C. Maximum marks in each subject were 150. The overall percentage marks obtained by Akash in all the three subjects together were 54%. How many marks did he score in subject C?
(1) 84 (2) 86
(3) 79 (4) 73
(5) None of these
(IBPS Bank PO/MT CWE 17.06.2012)

18. If the price of rice be increased by 38% then by how much per cent should its consumption be reduced so that expenditure does not increase ?
(1) 27.5 (2) 30
(3) 32 (4) 36
(5) None of these

19. The difference between the population of a city two consecutive years ago from today is 5000. If there is 10% increase in population per year from the previous year, what is the present population of the city ?
(1) 66000 (2) 66550
(3) 56660 (4) 67500
(5) None of these
(Bank of Baroda PO Exam. 14.08.2014)

20. In an examination, 30% of total students failed in Hindi, 45% failed in English and 20% failed in both subjects. Find the percentage of those who passed in both the subjects.
(1) 35.7% (2) 35%
(3) 40% (4) 45%
(5) 44%
(IBPS Bank PO/MT CWE-III 26.10.2013)

21. In order to pass in an examination, a student is required to get 342 marks out of the aggregate marks. Neha got 266 marks and was declared fail by 8 per cent. What is the minimum passing percentage of the examination ?
(1) 28% (2) 36%
(3) 33% (4) 26%
(5) None of these
(IBPS RRBs Office Assistant CWE 09.09.2012)

22. In a company 'XYZ', the respective ratio between the total number of under-graduate employees and the total number of graduate employees is 13 : 23. The Company has only two branches, one in Mumbai and other in Delhi. If the total number of under-graduate employees in Mumbai branch is 351, which is 30% of the total undergraduate employees in the company, what is the total number of graduate employees in the company ?
(1) 2185 (2) 1955
(3) 2070 (4) 2691
(5) None of these
(BOB Junior Management Grade/Scale–I Exam. 18.04.2015)

23. A vessel contains a mixture of milk and water in the respective ratio of 14 : 3. 25.5 litres of the mixture is taken out from the vessel and 2.5 litres of pure water and 5 litres of pure milk is added to the mixture. If the resultant mixture contains 20% water, what was the initial quantity of mixture in the vessel before the replacement ? (in litres)
(1) 51 (2) 102
(3) 68 (4) 85
(5) 34
(IBPS RRBs Officer Scale–I & II CWE 12.09.2015)

24. Monthly salaries of Pia and Som are in the respective ratio of 5 : 4. Pia, from her monthly salary, gives $\frac{3}{5}$ th to her mother. 15% towards her sister's tuition fees, 18% towards a loan and she shops with the remaining amount which was Rs. 2,100. What is the monthly salary of Som ?
(1) Rs.25,000 (2) Rs.30.000
(3) Rs.15,000 (4) Rs.20,000
(5) Rs.24,000
(IBPS RRBs Officer Scale–I & II CWE 12.09.2015)

25. A gave 40% of his monthly salary to Mr. B. Mr. B spent 20% of this amount on taxi fare. He spent the remaining amount in the respective ratio of 3 : 5 on tuition fees and library membership. If he spent Rs. 1720 for membership, what is A's monthly salary ?
(1) Rs. 8500 (2) Rs. 8600
(3) Rs. 7600 (4) Rs. 7500
(5) None of these
(IBPS Bank PO/MT CWE–V (Preliminary) 10.10.2015)

26. 'A' gave 25% of an amount to 'B'. from the money B got, he spent 30% on a dinner. Out of the remaining amount, the respective ratio between the amount B kept as savings and the amount he spent on buying a book is 5 : 2. If B bought the book for Rs. 460, how much money did A have in the beginning ?
(1) Rs. 12600 (2) Rs. 9200
(3) Rs. 12000 (4) Rs. 9000
(5) Rs. 8000
(IBPS Bank PO/MT CWE–V (Preliminary) 10.10.2015)

27. If the present population of a state is 27500 and after 2 years it increases to 40,931, then what is the rate of increase per year ?
(1) 25% (2) 10%
(3) 17% (4) 13%
(5) 22%
(IBPS Bank PO/MT CWE–V Main Exam. 31.10.2015)

28. In a class of 80 students and 5 teachers, each student got sweets that are 15% of the total number of students and each teacher got sweets, that are 25% of the total number of students. How many sweets were there?
(1) 1050 (2) 1060
(3) Other than those given as options
(4) 1040 (5) 1030
(IBPS Bank PO/MT CWE–V Main Exam. 31.10.2015)

29. Bhavana decided to donate 12% of her monthly salary to an orphanage. On the day of donation she changed her mind and donated Rs. 2,400 which was 125% of what she had decided earlier. How much is Bhavana's salary?
(1) Cannot be determined
(2) Other than those given as options
(3) Rs. 14,750
(4) Rs. 18,500
(5) Rs. 16,000
(IBPS Bank PO/MT CWE–V Main Exam. 31.10.2015)

30. Gaurav spent Rs. 38460 on the renovation of his home, Rs. 24468 on buying home theatre and the remaining 28% of the total amount he had as cash with him. What was the total amount?
(1) Cannot be determined
(2) Rs. 76,500
(3) Other than those given as options
(4) Rs. 92,600
(5) Rs. 87,400
(IBPS Bank PO/MT CWE–V Main Exam. 31.10.2015)

31. The respective ratio between the monthly salaries of Rene and Som is 5 : 3. Out of her monthly salary Rene gives $\frac{1}{6}$ th as rent, $\frac{1}{5}$ th to her mother, 30% as her education loan and keeps 25% aside for miscellaneous expenditure. Remaining Rs. 5000 she keeps as savings. What is Som's monthly salary ?
(1) Rs. 21000 (2) Rs. 24000
(3) Rs. 27000 (4) Rs. 36000
(5) Rs. 18000
(IBPS RRBs Officer Scale–I & II CWE 13.09.2015)

32. The respective ratio between total number of students studying in College A and College B is 5 : 8. In College B, out of the total number of students, $\frac{5}{8}$ th are boys, out of which 60% study Commerce and the remaining 800 boys study in other streams. What is the total number of students in College A?
(1) 1500 (2) 2500
(3) 1200 (4) 4000
(5) 2000
(IBPS Bank PO/MT CWE–V (Pre.) 04.10.2015)

33. In the year 2013, the population of a village A was 30% more than the population of village B. The population of village A in 2014 increased by 20% as compared to the previous year. If the population of village A in 2014 was 7176, what was the population of village B in 2013 ?
(1) 4000 (2) 5000
(3) 4800 (4) 4600
(5) 5200
(IBPS Specialist Officer (IT) CWE 14.02.2016)

34. Tom gave 20% of a certain amount of money to Ali. From the money Ali received, he spent 25% on school fees and 35% on buying school uniform. After the mentioned expenses, Ali had Rs. 2800 remaining with him. How much money did Tom have intially ?
(1) Rs. 21,000 (2) Rs. 35,000
(3) Rs. 30,000 (4) Rs. 27,000
(5) Rs. 28,000
(IBPS Specialist Officer (IT) CWE 14.02.2016)

35. Ram and Shyam started a business in partnership by investing certain amount in the respective ratio of 3 : 5 for a fixed and equal period of time. By what per cent is the Ram's share less than that of Shyam's share in the annual profit?
(1) 35% (2) 20%
(3) 40% (4) 42%
(5) 45%
(United Bank of India PGDBF Manipal Exam,07.08.2016)

36. Every year Meenakshi invests 20% of her annual salary in PPF and spends 30% of her annual salary on paying rent. Every month, she spends 20% and 15% of the monthly salary on groceries and travelling respectively. After paying the mentioned monthly expenses (including rent), she puts the remaining amount in the bank as savings. In a year, she is able to put Rs. 1,79,760 in the bank as savings. If she invests in PPF from her annual savings at once, what is the amount that she invests in PPF ?
(1) Rs. 1,03,600
(2) Rs. 1,04,800
(3) Rs. 1,02,720
(4) Rs. 1,05,600
(5) Rs. 1,02,800
(Bank of Baroda Exam, 25.09.2016)

37. Two trains cross each other in 14 seconds when they are moving in opposite directions and when they are moving in the same direction they cross each other in 3 minutes 2 seconds. The speed of the faster train is by what per cent more than the speed of the slower train?
(1) 16.67% (2) 17.33%
(3) 16.33% (4) 17.67%
(5) 18.33%
(IBPS Bank PO/MT CWE-VI (Pre.), 16.10.2016 (Second Sitting))

38. P, Q and R have a certain amount of money with themselves. Q has 50% more than what P has, and R has $\frac{1}{3}$ rd of what Q has. If P, Q and R together have Rs. 246, then how much money does P alone have? (in Rs.)
(1) 75 (2) 60
(3) 120 (4) 82
(5) 90
(IBPS RRBs Officer CWE (Pre.) 14.11.2016 (Shift-II))

39. P, Q and R have a certain amount of money with themselves. Q has 25% more than what P has, and R has $\frac{1}{5}$th of what Q has. If P, Q

and R together have Rs. 150, then how much money does P alone have? (in Rs.)
(1) 40 (2) 70
(3) 80 (4) 60
(5) 50
(IBPS RRBs Officer CWE (Pre.) 14.11.2016 (Shift-III))

40. In village A and B, out of their respective population (male + female), $\frac{2}{5}$th and $\frac{3}{8}$th are females. The number of males in village B is 25% more than those in village A. The number of females in village A and B together is 2125, what is the total population (male + female) of village A?
(1) 3600 (2) 2500
(3) 3000 (4) 2000
(5) 3500
(IBPS SO (Agriculture) Exam, 29.01.2017)

41. Every month out of his monthly salary, A invested 20% in mutual funds, paid Rs. 2000 for buying groceries and gave Rs. 2500 to his maid. The remaining salary he deposited in his bank account. The amount he deposited in the bank in a year was 520% more than the amount he paid to his maid in the same year. What is his monthly salary?
(1) Rs. 20,000 (2) Rs. 40,000
(3) Rs. 25,000 (4) Rs. 35,000
(5) Rs. 30,000
(IBPS Bank PO/MT CWE-VII (Prelim Exam) 14.10.2017)

42. Ratnesh deposits 12% of his salary in PPF. $\frac{3}{8}$th of the remaining amount is spent on clothes and the difference between PPF and clothes' expenses is Rs. 10500. Remaining amount is spent on house rent and other expenses. If house rent expenses is Rs 1500 less than other expenses, then what is the house rent expenses?
(1) Rs. 14000 (2) Rs. 15000
(3) Rs. 13000 (4) Rs. 16000
(5) None of these
(IBPS RRBs Officer CWE (Main Exam) 05.11.2017)

43. In an election between two candidates, 75% of the voters cast their votes, out of which 2% of the votes were declared invalid. A candidate got 9261 votes which were 75% of the total valid votes. Find the total number of votes?
(1) 16800 (2) 15800
(3) 16700 (4) 15700
(5) 15400
(IDBI Bank PO Exam 29.04.2018)

44. Each month, Sania out of her monthly salary pays 25% towards rent and 40% of the remaining salary to her mother. She spends 40% of the remaining amount and saves the remaining in her bank account. If at the end of five months she has saved in her bank account is Rs. 1,08,000, how much did she pay towards the rent, per month?
(1) Rs. 30,000 (2) Rs. 24,000
(3) Rs. 16,000 (4) Rs. 18,000
(5) Rs. 20,000
(IDBI Bank PO Exam 29.04.2018)

45. The length, breadth and height of a hall are in the ratio 5 : 3 : 4. If the length is doubled, breadth increased by 200% and height decreased by 50%, then what is the per cent change in the total surface area of the four walls of the hall?
(1) 35.25% increase
(2) 24.5% increase
(3) 18.75% increase
(4) 12.25% increase
(5) 6.25% decrease
(IBPS Bank PO/MT CWE (Main Exam) 26.11.2017)

46. Satish saves 20% of his monthly salary. And of the remaining salary, $\frac{1}{4}$th and $\frac{1}{2}$nd part he gives to his mother and sister respectively and the remaining salary he submits as his EMI for the payment of his car. If his annual EMI was Rs. 60,000, find his monthly salary.
(1) Rs. 40,000
(2) Rs. 35,000
(3) Rs. 32,000
(4) Rs. 30,000
(5) Rs. 25,000
(IBPS RRBs Officer CWE (Prelim Exam) 18.08.2018)

47. What is the difference between 20% of P and 20% of (P + 5000)?
(1) 1500 (2) 1200
(3) 1000 (4) 2000
(5) 1600
(IBPS RRBs Officer CWE (Prelim Exam) 18.08.2018)

48. Ram's monthly salary is 25% more than that of Seema. Both of them save 25% of their respective monthly salaries. If the difference between the amounts saved by Ram and that saved by Seema, is Rs. 2500, what is the monthly salary (in Rs.) of Seema?
(1) 50000 (2) 60000
(3) 70000 (4) 40000
(5) 30000
(Indian Bank PO Online Prelim Exam 6.10.2018)

49. The price of rice has increased by 20%. Lalu has decided to spend only 8% more than what he initially did on buying rice. What is the percentage decrease in Lalu's rice consumption?
(1) 10% (2) 13%
(3) 18% (4) 14%
(5) None of these
IBPS Bank PO/MT CWE (Prelim Exam) 12.10.2019

50. In a village, two contestants (A and B) are contesting in an election. 70% of the registered voters cast their votes in the election and A wins the election by 400 votes. If A had received 12.5% less votes, A's votes would have been equal to B's votes. How many registered voters are there in the village?
(1) 4500 (2) 4200
(3) 4000 (4) 4250
(5) Other than those given as options
IBPS Bank PO/MT CWE (Prelim Exam) 12.10.2019

51. In a village, 40% of the registered voters are female. 80% of male registered voters and 60% of female registered voters cast their votes in the election. If only two candidates were contesting the election and respective ratio of number of votes received by them is 5 : 4, what percent of registered voters (male and female) cast their votes for the winning candidate?
(1) 55 (2) 50
(3) 35 (4) 40
(5) 45
IBPS Bank PO/MT CWE (Prelim Exam) 19.10.2019

52. A car worth Rs. 5,00,000 depreciates at 15% in the first year, 13% in the second year and 11% in the third year. A House worth Rs. 7,00,000 appreciates at 10% in the first year, 12% in the second year and 14% in the third year. What is the **approximate** change in the total value of the car and house at the end of 3rd year?

(1) Decrease of Rs.111422
(2) Increase of Rs.112214
(3) Decrease of Rs.142111
(4) Increase of Rs.121114
(5) Decrease of Rs.124111

(IBPS RRBs Officer Scale-I CWE Main Exam, 13.10.2019)

53. There are 50 staff and 12 managers in an office. Each staff gets chocolates that are 25% of the total number of staff and each manager gets 30% of the total number of staff. Total number of chocolates obtained by all the staff is what percent of total number of chocolates obtained by all the managers?

(1) 263% (2) 287%
(3) 347% (4) 323%
(5) 291%

(IBPS RRBs Officer Scale-I CWE Main Exam, 13.10.2019)

54. Out of her monthly salary, Ruhi spends 15% on house rent, and Rs. 4,000 on transportation. From the remaining salary she spends 80% and saves the rest in her bank A/C. The amount she pays as rent is less than that she saves in bank A/C by Rs. 240. What is Jolly's monthly salary if it is 50% more than Ruhi's?

(1) Rs. 78000 (2) Rs. 52000
(3) Rs. 80000 (4) Rs. 75000
(5) Rs. 65000

(Indian Bank Specialist Officer SO Exam, 08.03.2020)

55. In a school, out of 900 students, 85% of the girls and 70% of the boys passed. How many boys appeared in the examination if the pass percentage of the school was 80%?

(1) 300 (2) 450
(3) 430 (4) 200
(5) None of these

(IBPS RRBs Officer CWE Prelim Exam, 13.09.2020)

56. In an examination, 34% of the students failed in Mathematics and 42% failed in English. If 20% of the students failed in both the subjects, then what is the percentage of students who passed in both the subjects?

(1) 40% (2) 42%
(3) 44% (4) 46%
(5) 49%

(IBPS RRBs Officer CWE Prelim Exam, 13.09.2020)

SBI PO EXAMS

1. Mr. Shamin's salary increases every year by 10% in June. If there is no other increase or reduction in the salary and his salary in June 2011 was ₹ 22,385, what was his salary in June 2009 ?

(1) ₹ 18,650 (2) ₹ 18,000
(3) ₹ 19,250 (4) ₹ 18,500
(5) None of these

(SBI Associate Banks PO Exam. 07.08.2011)

2. A number is such that when it is multiplied by 6, it gives another number which is more than 168 as the original number itself is less than 168. What is 15% of the original number?

(1) 8.4 (2) 7.8
(3) 6.6 (4) 8.8
(5) 7.2

(SBI PO Online (Preliminary) Exam, 10.07.2016)

3. Product of one-third of a number and 150% of another number is what percent of the product of original number ?

(1) 80% (2) 50%
(3) 75% (4) 120%
(5) None of these

(SBI Associate Banks PO Exam. 07.08.2011)

4. In a vessel there is 40 litres mixture of milk and water. There is 15% water in the mixture. The milkman sells 10 litres of mixture to a customer and thereafter adds 12.5 litres of water to the remaining mixture. What is the respective ratio of milk and water in the new mixture ?

(1) 2 : 3 (2) 3 : 2
(3) 3 : 4 (4) 4 : 3
(5) None of these

(SBI PO Phase–I (Preliminary) Online Exam. 20.06.2015)

5. In a 140 litres of mixture of milk and water, percentage of water is only 30%. The milkman gave 20 litres of this mixture to a customer. Then he added equal quantities of pure milk and water to the remaining mixture. As a result the respective ratio of milk and water in the mixture became 2 : 1. What was the quantity of milk added ? (in litres)

(1) 12 (2) 16
(3) 18 (4) 8
(5) 10

(SBI PO Phase–I (Preliminary) Online Exam. 21.06.2015)

6. In a 90 litres mixture of milk and water, percentage of water is only 30%. The milkman gave 18 litres of this mixture to a customer and then added 18 litres of water to the remaining mixture. What is the percentage of milk in the final mixture ?

(1) 64 (2) 48
(3) 52 (4) 68
(5) 56

(SBI PO Phase–I (Preliminary) Online Exam. 27.06.2015)

7. Abhay gave 30% of his money to Vijay. Vijay gave $\frac{2}{3}^{rd}$ of what he received to his mother. Vijay's mother gave $\frac{5}{8}^{th}$ of the money she received from Vijay, to the grocer. Vijay's mother is now left with Rs. 600. How much money did Abhay have initially ?

(1) Rs. 6,200 (2) Rs. 8,000
(3) Rs. 6,000 (4) Rs. 8,200
(5) Rs. 10,200

(SBI PO Phase–I (Preliminary) Online Exam. 27.06.2015)

8. Mrs. Sharma invests 15% of her monthly salary, i.e., Rs. 4428 in Mutual Funds. Later she invests 18% of her monthly salary on Pension Policies and she also invests another 9% of her salary on Insurance Policies. What is the total monthly amount invsested by Mrs. Sharma?

(1) Rs. 113356.8
(2) Rs. 12398.4
(3) Rs. 56678.4
(4) Can't be determined
(5) None of these

(SBI PO Online (Pre.) Exam, 02.07.2016 (Ist Shift))

9. Suri gave 25% of her monthly salary to her mother. From the remaining salary, she paid 15% towards rent and 25%, she kept aside for her monthly expenses. The remaining amount she kept in bank account. The sum of the amount she kept in the bank and that she gave to her mother was Rs. 42000. What was her monthly salary?

(1) Rs. 50,000 (2) Rs. 60,000
(3) Rs. 65,000 (4) Rs. 64,000
(5) Rs. 72,000

(SBI PO Phase-I (Pre.) Online Exam, 03.07.2016 (Ist Shift))

10. A number is such that when it is multiplied by '8', it gives another number which is as much more than 153 as the original number itself is less than 153. What is 25% of the original number?

(1) 8 (2) 7.5
(3) 10 (4) 8.5
(5) 6.5

(SBI PO Phase-I (Pre.) Online

Directions (11-12) : Read the following information carefully to answer the questions.

Abhishek bought some chairs and tables from a shopkeeper. The marked prices of a chair and table were in the ratio of 5 : 8. The shopkeeper gave discounts of 20% and 25% on the chair and the table respectively. The ratio of number of chairs and tables bought by Abhishek is 6 : 5.

(SBI PO Phase-II (Main) Exam 05.08.2018)

11. If Abhishek sells each chair and table bought by him at discounts of 25% and 20% respectively after marking up the price of both by 50% and gives one table free for every four chairs bought by a customer and only $\frac{2}{3}$ rd of the total chairs are sold in bunch of four chairs, then what is the net profit/loss made by Abhishek after selling all of the items which he bought from the shopkeeper?

(1) $6\frac{2}{3}\%$ (2) $3\frac{1}{3}\%$
(3) $2\frac{1}{2}\%$ (4) $4\frac{1}{4}\%$
(5) 5%

12. If the marked price of a table set by the shopkeeper was Rs. 300 more than that of a chair and the total expenditure made by Abhishek in purchaing the chairs and table from the shopkeeper was Rs. 108000, then how many chairs were purchased by Abhishek?

(1) 150 (2) 60
(3) 120 (4) 90
(5) 80

13. In 2010, 60% of total number of students in a class (Y) were girls. In 2015 in class (Y), the number of girls grew by 5% and that of boys by 40 respectively, from 2010, as a result of which the respective ratio between the number of girls and boys in the class (Y) became 21 : 20. How many students (boys + girls) were in class (Y) in 2010 ?

(1) 250 (2) 240
(3) 300 (4) 200
(5) 360

SBI PO Preliminary Exam 14.06.2019

RBI GRADE–B/ NABARD GRADE–A OFFICER EXAMS

1. If tax on a commodity is reduced by 10%, total revenue remains unchanged. What is the percentage increase in its consumption?

(1) $11\frac{1}{9}\%$ (2) 20%
(3) 10% (4) $9\frac{1}{11}\%$
(5) None of these

(RBI Officer Grade 'B' Online Exam. 25.08.2013

2. Sujata scored 2240 marks in an examination that is 128 marks more than the minimum passing percentage of 64%. What is the percentage of marks obtained by Meena if she scores 907 marks less than Sujata?

(1) 35% (2) 40%
(3) 45% (4) 36%
(5) 48%

(RBI Officer Grade 'B' Online Exam. 25.08.2013

3. From a vessel containing 'X' litres of milk, 20% of milk was taken out and replaced with equal amount of water. Again, 20% of the mixture of milk and water was taken out and replaced with equal amount of water. This process was continued similarly for the third time and the quantity of milk left in the vessel after the third replacement was 71.68 litres. What was the initial quantity of milk (in litres) in the vessel (value of x) ?

(1) 120 (2) 125
(3) 160 (4) 150
(5) 140

(NABARD Officer Grade 'A' Online Exam. 03.08.2014)

4. In a village, 70% registered voters cast their votes in the election. Only two candidates (A and B) contested the election. A won the election by 400 votes. Had A received 12.5% less votes, the result would have been tie. How many registered voters are there in the village?

(1) 4200 (2) 4500
(3) 4000 (4) 4250
(5) 3500

(RBI Officer Grade 'B' Phase-I Exam. 21.11.2015)

5. In a village 60% votes were cast in an election. A and B were the contestants. A won by 600 votes. If B had got 40% more votes, there would have been a tie between them. Find the number of recognised voters in the village.

(1) 4500 (2) 2800
(3) 3500 (4) 3600
(5) 3900

(RBI Officer Grade 'B' Phase-I Online Exam. 22.11.2015)

6. In year 1998, the number of students in school B was half of that in school A. In year 1999, the number of students was more than that in the previous year by 20% in each of the schools. In the year 2000, the number of students in school B was $\frac{1}{4}$ th of the sum of those in schools A and B together in the year 1999. The number of students in school B in 2000 was what percent less than that in the year 1999 ?

(1) 15 (2) 20
(3) 10 (4) 12.5
(5) 25

(NABARD Assistant Manager Exam, 15.05.2016)

7. Ram spends 30% of his monthly salary on fuel expenses and divides the remaining amount between savings and family expenses in the ratio of 5 : 9 respectively. He spends $\frac{1}{3}$ rd of the family expenses on his child's education and the remaining on groceries. If the difference between the amount saved and that spent on his child's education is Rs. 3600, what is Ram's annual salary ? (in Rs.)
(1) 338000 (2) 432000
(3) 420000 (4) 380000
(5) 352000
(RBI Assistant Manager Online Exam 25.03.2017)

8. Ram sells only two kinds of bags-pure leather and faux leather. 75% and 80% of the total number of bags sold, in February and March respectively, were of pure leather. Average number of pure leather bags sold in both the months is 5850 and the total number of bags sold in March is 50% more than that sold in February. How many faux leather bags did Ram sell in February?
(1) 2000 (2) 1600
(3) 1500 (4) 1800
(5) None of these
(SEBI Assistant Manager Exam. 17.11.2018)

9. Ayush writes an exam in which there were 4 subjects each of 100 marks. He got marks in these four subjects in ratio 3 : 4 : 5 : 8. If together he got 60% marks, the number of subjects in which he got less than 50% marks is.
(1) 1 (2) 0
(3) None of these
(4) 2 (5) 3
(NABARD Grade 'A' Manager Exam 15.06.2019)

10. In an examination, 60% of the candidates passed in English and 70% of the candidates passed in Mathematics, but 20% failed in both of these subjects. If 2500 candidates passed in both the subjects the number of candidates who appeared at the examination was:
(1) 3000 (2) 3500
(3) 4000 (4) 4500
(5) None of these
(NABARD Grade 'A' Manager Exam 15.06.2019)

11. Manoj and Hemant purchased two bikes 18 years ago at different price. If price of their bikes were decreasing at the rate of $5\frac{15}{17}\%$ per year and Manoj sold his bike 2 years before Hemant, then their selling price became same. If difference between their purchasing price was Rs. 1320, then find purchasing price of Manoj's bike. (Note: Both sold their bikes at depreciated prices and Hemant sold his bike after 18 years)
(1) Rs. 11560 (2) Rs. 11060
(3) Rs. 9000 (4) Rs. 9200
(5) Rs.10240
NABARD Grade 'A' Manager Exam 15.06.2019

12. Hemant purchased some books and by selling 40% of total books he will get cost price of 80% books. If he sells 70% of remaining books at half of its initial profit and rest of the books remain unsold, find his overall profit percentage.
(1) 40% (2) 45%
(3) 75% (4) 43%
(5) 63%

13. Amy purchased 3575 balls and 2002 bats and cost price of one bat is equal to cost price of one ball. She sold balls in such a way that she can buy 850 balls by selling 799 balls and can buy 777 bats by selling 987 bats. Find the overall (approximate) loss/profit percent earned by Amy by selling all balls and bats.
(1) 4% (2) 5%
(3) 7% (4) 6%
(5) 9%
NABARD Grade 'A' Manager Exam 15.06.2019

INSURANCE EXAMS

1. Fresh grapes contain 80% water while dry grapes contain 10% water. If the weight of dry grapes is 250 kg, what was its total weight when it was fresh?
(1) 1000 kg (2) 1100 kg
(3) 1125 kg (4) 1225 kg
(NICL (GIC) AO (Finance) Exam. 15.12.2013)

2. A papaya tree was planted 2 years ago. It increases at the rate of 20% every year. If at present, the height of the tree is 540 cm, what was it when the tree was planted?
(1) 324 cm (2) 400 cm
(3) 375 cm (4) 432 cm
(NICL (GIC) Administrative Officer Exam. 15.12.2013)

3. Sunil scored 54 percent marks in a test. Ravi scored 450 marks in same test which is 300 less than Sonu. Sunil's score is 60 more marks than Sonu. If Ram scored 900 marks in the test. What is Ram's percentage ?
(1) 80% (2) 65%
(3) 75% (4) 60%
(5) None of these
(United India Insurance AO Exam. 27.03.2011)

4. In a school there are 800 students out of whom 45 percent are girls. Monthly fee of each boy is ₹ 600 and monthly fee of each girl is 30 percent less than each boy. What is the total monthly fee of girls and boys together ?
(1) ₹4,25,400 (2) ₹4,14,600
(3) ₹4,19,600 (4) ₹4,23,400
(5) None of these
(United India Insurance AO Exam. 27.03.2011)

5. Suppose x and y are inversely proportional and positive. If x increases by 10%, then y decreases by
(1) 10% (2) $\frac{10}{11}\%$
(3) $9\frac{1}{11}\%$ (4) $\frac{1}{11}\%$
(New India Insurance AAO Exam. 22.05.2011)

6. (x % of $y + y$ % of x) is :
(1) x % of y (2) y % of x
(3) 2% of xy (4) xy % of 3
(General Insurance Corporation AAO Exam. 11.12.2011)

7. In a market research project, 20% opted for Nirma detergent whereas 60% opted for Surf Blue detergent. The rest were unsure. If the difference between those who opted for Surf Blue and those who were uncertain is 720, How many respondents were covered in the survey ?

(1) 1800 (2) 1440
(3) 3600
(4) Data Inadequate
(General Insurance Corporation AAO Exam. 11.12.2011)

8. Fresh cherries contain 99% water. Suppose you have 1 kg of fresh cherries. After a few hours in the sun, some water evaporates and the percentage of water in the cherries becomes 98%. The new weight (in g) of cherries is
(1) 750 (2) 700
(3) 600 (4) 500
(Oriental Insurance Company AAO Exam. 08.04.2012)

9. In a mathematics examination, the average score of students who passed is x and those who failed is y. If the average score of all the students who appeared in the examination is z, then the percentage of students who failed was
(1) $\frac{100xy}{z^2}$ (2) $\frac{100(y-z)}{x-y}$
(3) $\frac{100(x-y)}{x-z}$ (4) $\frac{100(x-z)}{x-y}$
(Oriental Insurance Company AAO Exam. 08.04.2012)

10. Fresh grapes contain 80% water by weight, whereas dried grapes contain 15% water by weight. How many kg of dried grapes can be obtained from 3.4 kg of fresh grapes ?
(1) 0.51 kg (2) 0.6 kg
(3) 0.68 kg (4) 0.8 kg
(United India Insurance AAO Exam. 03.06.2012)

11. p and q are inversely proportional to each other and are positive. If p increases by 100%, then q increases by
(1) 50% (2) 100%
(3) 150% (4) 200%
(United India Insurance AAO Exam. 03.06.2012)

12. An interview panel found that a candidate has given a wrong detail about his height. While filling up his form he filled up 20% more than his actual height. His actual height is 5 feet 2 inches. By what approximate percent should he reduce his height to get actual height?
(1) 15% (2) 14%
(3) 18% (4) 17%
(5) None of these
(LIC Assistant Administrative Officer (AAO) Exam. 12.05.2013)

13. If 30% of $(x - y)$ = 20% of $(x + y)$, then what percent of x is y ?
(1) 25% (2) 20%
(3) 30% (4) 24%
(NICL (GIC) AO (Finance) Exam. 08.09.2013 (Paper-I)

14. If 90% of A = 30% of B and B = x% of A, then the value of x is
(1) 800 (2) 300
(3) 700 (4) 400
(NICL (GIC) AO (Finance) Exam. 08.09.2013 (Paper-I)

15. Anurag's annual income is Rs. 6,36,000. He spends 22% of his monthly income on paying bills, 18% on household items, 12% on paying his children's fees and 4% he donates to a charity. If two-fifth of the remaining amount he invests in mutual funds, what is the amount left with him every month ?
(1) Rs. 17,850 (2) Rs. 12,162
(3) Rs. 9,328 (4) Rs. 13,992
(5) Rs. 14,650
(NIACL Administrative Officer (AO) Exam. 10.01.2015)

16. In an election only two candidates contested. 30% of the registered votes did not cast their votes and 180 votes were declared invalid. The winner got 684 votes more than his opponent. The number of valid votes received by the winner is 42% of the number of registered voters. How many registered voters cast their votes?
(1) 2660 (2) 2260
(3) 2160 (4) 2800
(5) 2520
(OICL Specialist Officer (Finance) Exam. 03.05.2015)

17. In a 120 litre mixture of milk and water, water is only 25%. The milkman sold 20 litres of this mixture and then he added 16.2 litres of pure milk and 3.8 litres of pure water in the remaining mixture. What is the percentage of water in the final mixture?
(1) 22 (2) 21
(3) 24 (4) 25
(5) 20
(LIC Assistant Administrative Officer (AAO) Online Exam. 22.03.2015)

18. The monthly salaries of Pia and Som are in the respective ratio of 5 : 4. Pia, from her monthly salary, gives $\frac{3}{5}$ th to her mother, 15% towards her sister's tuition fees, 18% towards a loan and she shops with the remaining amount which was Rs. 2,100. What is the monthly salary of Som ?
(1) Rs. 25,000 (2) Rs. 30,000
(3) Rs. 15,000 (4) Rs. 20,000
(5) Rs. 24,000
(UIICL A.O. Exam 12.06.2016)

19. Mr. Shindey had a sum of money which he decided to be distributed among his wife, his only son and only daughter. He gave 25% of the total money to his wife and the remaining amount he distributed in the respective ratio of 2 : 3 between his son and daughter. If his daughter got Rs. 24,300, how much money did Mr. Shindey have initially?
(1) Rs. 54,000
(2) Rs. 64,000
(3) Rs. 48,000
(4) Rs. 40,000
(5) Rs. 60, 000
(UIICL A.O. Exam 12.06.2016)

20. In an exam, Anu scored 26%. In the same exam Binni scored 60% and received 51 marks more than Anu. What was the total marks in the exam ?
(1) None of those given as options
(2) 180
(3) cannot be determined
(4) 150
(5) 200
(LIC AAO Prelim Exam. 05.05.2019)

21. Ms. Desh kept aside 40% of her annual savings for a trip. Out of the remaining she gave 30% to her son, 20% to her mother and invested 15% in a scheme. At the end she is left with Rs. 42000, besides the amount kept aside for the trip. What was her annual savings ?
(1) Rs. 240000
(2) Rs. 180000
(3) Rs. 120000
(4) Rs. 200000
(5) None of those given as options
(LIC AAO Prelim Exam. 05.05.2019)