Sections	Number of questions	Marks	Duration of Exam
1. English Language	30	30	60 minutes
2. Reasoning	35	35	
3. Quantitative Aptitude	35	35	
	Total = 100 Qs.	Total marks = 100	

1. English Language

Direction (Q. 1 - 10): Read the following passage carefully and answer the questions given below it.

Glaucoma is the second leading cause of preventable blindness in India, where nearly 12 million Indians are estimated to be affected by 2010 and 16 million by 2020. Most people with glaucoma are unaware of the disease. Early detection and control are the keys to preserve vision as visual loss occurring due to this disease cannot be regained.

The disease is characterized by changes in the optic nerve (the nerve that connects the eye to the brain) with associated visual field defects (the area seen by the eye). Left untreated, it leads to progressive loss of vision and may eventually result in blindness. The two types of glaucoma are open angle or closure angle glaucoma.

The disease can also occur in children, though such cases are rare. In these cases, the disease is more severe and often requires surgery.

As the outer portion of the visual field is the first to be affected, and most types of glaucoma are asymptomatic, the disease is often diagnosed only after significant vision has been lost. Therefore, early diagnosis is essential so as to ensure that treatment to halt/slow its progression can be instituted.

1. What is glaucoma?

1) An eye defect

2) A psychological disorder

3) A neurological defect

4) A throat problem

5) None of these

2. Glaucoma is the second leading cause of

1) myopia

2) childhood blindness

3) preventable blindness

4) blindness by birth

5) None of these

3. How many Indians are estimated to be affected by glaucoma by the year 2020?

1) 10 million 2) 20 million 3) 6 million 4) 16 million 5) None of these

4. Which of the following statements is/are correct in the context of the passage?

A) Prevention of glaucoma is possible only if detected early.

B) Loss of eye sight due to glaucoma can be regained if detected at a primary stage.

1) Only A) 2) Only B 3) Both A) and B) 4) Either A) or B) 5) None of these

5. Optic nerve is

1) the nerve that connects the eye to the brain

2) the nerve that connects one eye to the other

3) the fluid that nourishes eyes

4) the nerve which protects eyes from pollution

5) None of these

6. How many types of glaucoma have been found?

1) Four 2) Three 3) Two 4) Five 5) One

7. What are the different types of glaucoma?

1) Triangle and quadrangle glaucoma

2) Open angle and closed angle glaucoma

3) Open angle and closure angle glaucoma

4) Increasing and constant glaucoma

5) None of these

8. A child affected by glaucoma

1) requires optic nerve transplant

2) requires surgery in most of the cases

3) can be protected from increasing loss of sight by proper medication only

4) Both 1) and 3)

5) None of these

9. Glaucoma affects the first.

1) optic nerve

2) surgery nerve

3) outer portion of the visual field

4) outer layer of the retina

5) None of these

10. Glaucoma is generally

1) asymptomatic

2) symptomatic

3) not detected

4) diagnosed at an advanced stage

5) None of these

Direction (Q. 11 - 15): In each of the following sentences, there are blanks. Below each sentence there are words denoted by the numbers 1), 2), 3), 4), and 5). Find out which word can be filled up in the blanks in the sentence in the same sequence to make it meaningfully complete.

11. To_____ others does harm to many.

1) good 2) egg on 3) inculcate 4) evince 5) contain

12. Social_____ give rise to many problems.

1) Unawareness 2) inhibitions 3) malpractices 4) exoneration 5) approbations

13. A(n)_____ is fond of newly formed words.

1) dialectic 2) linguist 3) journalist 4) etymologist 5) numismatist

14. There was a thunderous applause as the music reached its _____.

1) peak 2) crescendo 3) octave 4) popularity 5) climax

15. _____ with farsightedness, he built a new India.

1) Endowed 2) Conferred 3) Possessed 4) Along 5) Awakened

Direction (Q. 16 - 25): In the following passage, there are blanks, each of which has been numbered. These numbers are printed below the passage and against each, five words are suggested, one of which fits the blank appropriately. Find out the appropriate word in each case.

(16) Europe one can hear the sound of breath being exhaled. Politicians, officials, businessmen and consumers (17) are heaving a (18) sigh of relief, with the largest-ever (19) peacetime operation-the transition to the euro in 12 countries-proceeding (20) smoothly. (21) there were some (22) but by and (23) things seem to have gone according to plan. For the first time since the Roman empire, Europeans can now pay for goods anywhere in large (24) of the continent with the same money, which is (25) to have a major impact on commerce.

16. 1) Over 2) By 3) Across 4) Within 5) In

17. 1) alike 2) also 3) similarly 4) happily 5) same

18. 1) soft 2) relieved 3) collective 4) large 5) cold

19. 1) logical 2) logistical 3) logistics 4) logically 5) logician

20. 1) suitably 2) high 3) conceivably 4) through 5) commendably

21. 1) In fact 2) Obviously 3) Inevitably 4) Really 5) Of course

22. 1) stags 2) loopholes 3) drawback 4) errors 5) problems

23. 1) large 2) by 3) largely 4) then 5) wide

24. 1) countries 2) parts 3) swathes 4) wraps 5) extension

25. 1) warranted 2) deserved 3) expected 4) hoped 5) bound

Direction (Q. 26 - 30): Read each sentence to find out whether there is any grammatical error in it. The error, if any, will be in one part of the sentence. The number of that part is the answer. If there is no error, the answer is 5), i.e. 'No error'. (Ignore the errors of punctuation, if any.)

26. 1) This matter /2) must be analyzed /3) from every /4) point of view. /5) No error

27. 1) Before you /2) enter the temple /3) you should /4) take out your shoes. /5) No error

28. 1) Sati was practiced /2) among the Hindus /3) but now women cannot /4) tolerate such nonsense. /5) No error

29. 1) If the work /2) is without your capacity, /3) why not take /4) the help of others? /5) No error

30. 1) How does he earn /2) is more important than /3) how much /4) he earns. /5) No error

Answers:

1. (1)

2. (3)

3. (4)

4. (1)

5. (1)

6. (3)

7. (3)

8. (2)

9. (3)

10. (1)

11. (2)

12. (3)

13. (4)

14. (2)

15. (1)

16. (3)

17. (1)

18. (3)

19. (2)

20. (5)

21. (5)

22. (5)

23. (1)

24. (2)

25. (5)

26. (5)

27. (4); Replace 'out' with 'off.

28. (4); Delete 'a'.

29. (2); Replace 'without' with 'beyond'.

30. (1); 'How he earns'.

2. Reasoning

1. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?

1) CE 2) OR 3) SQ 4) NL 5) IG

2. How many such pairs of letters are there in the word EMPLOYMENT each of which has as many letters between them in the word as in the English alphabet?

1) None 2) One 3) Two 4) Three 5) More than three

3. How many meaningful English words can be made with the letters ODNE using each letter only once in each word?

1) None 2) One 3) Two 4) Three 5) More than three

4. What should come next in the following number series?

9 8 7 6 5 4 3 2 1 8 7 6 5 4 3 2 1 7 6 5

1) 6 2) 4 3) 2 4) 3 5) None of these

5. If 'ROAD' is written a s ' ADOR' and 'READ' is written as 'ADER', how will 'PILE' be written?

1) LOIP 2) LPEI 3) LEIP 4) ELIP 5) None of these

6. Among P, Q, R, S and T, each having a different weight, S is heavier than only T. R is lighter than P and heavier than Q. Who among them is the heaviest?

1) T 2) S 3) Data inadequate 4) P 5) None of these

7. Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?

1) 78 2) 52 3) 117 4) 39 5) 45

8. R's father is T's son. B is paternal uncle of P and N is brother of Q. How is N related to B?

1) Brother 2) Nephew 3) Cousin 4) Data inadequate 5) None of these

Direction (Q. 9 - 13): To answer these questions, study the following arrangement:

FZ5 = T * p E G N £ 9 $ J Q 8 L K 5 @ X P 3 1 # D C@

9. How many such numbers are there in the above arrangement, each of which is either immediately followed by a symbol or immediately preceded by a letter, but not both?

1) Two 2) Four 3) Three 4) Five 5) None of these

10. '5ZT' is to ' E G * ' in the same way as 'QJL' is to

1) @XK 2) @X# 3) X@8 4) @XP 5) None of these

11. Which of the following is the ninth to the right of the twentieth element from the right?

1) L 2) @ 3) K 4) 8 5) None of these

12. If all the digits and symbols are dropped from the above arrangement, which of the following will be the eighth from the right?

1) Q 2) N 3) G 4) K 5) None of these

13. Four of the following five are alike in a certain way based on their positions in the above arrangement and hence form a group. Which of the following does not belong to the group?

1) 3EN 2) JQL 3) XP1 4) NGp 5) FZ=

Direction (Q. 14 - 19): Study the following information and answer the questions given below:

A, B, C, D, E, F, L and M are sitting around a circle facing the centre. C is third to the left of A and second to the right of E. B is second to the right of C. D is second to the right of F, who is second to the right of A. L is not an immediate neighbor of C.

14. Who is second to the right of L?

1) A 2) C 3) E 4) F 5) None of these

15. Who is third to the right of M?

1) C 2) M 3) D 4) B 5) None of these

16. Who is on the immediate left of E?

1) D 2) C 3) L 4) F 5) None of these

17. In which of the following is the first person sitting in between the second and the third person?

1) BMA 2) CMB 3) EDC 4) EFL 5) None of these

18. Who is on the immediate right of C?

1) M 2) D 3) L 4) E 5) None of these

19. Which of the following pairs of persons has the first person sitting on the right of the second person?

1) LF 2) DC 3) MB 4) ED 5) AB

20. If 'tree' means 'mountain', 'mountain' means 'water', 'water' means 'truck' and 'truck' means 'bus' then which of the following is related to 'fish'?

1) Water 2) Mountain 3) Bus 4) Truck 5) None of these

21. If PRABHA is coded as 27595 and THILAK is coded as 368451 how can BHARATHI be coded?

1) 37536689 2) 57686535 3) 96575368 4) 96855368 5) None of these

22. If Q denotes x, R donates -, T donates and W, denotes + then find the value of the given expression.

4 0 R 2 4 T 4 Q 6 W8

1) 32 2) 12 3) 36 4) -12 5) None of these

23. Pointing to a lady in the photograph, Ashwani said, "Her son's father is the only son-in-law of my mother." How t is Ashwani related to the lady?

1) Sister 2) Mother 3) Cousin 4) Aunt 5) Cannot be determined

Direction (Q. 24 - 28): In each of the questions below three statements are given followed by two conclusions numbered I and II. You have to take the given statements to be true even if they seem to be at variance with commonly known facts. Read all the conclusions and then decide which of the given conclusions logically follows from the given statements, disregarding commonly known facts. Give answer

1) if only conclusion I follows.

2) if only conclusion II follows.

3) if either conclusion I or conclusion II follows.

4) if neither conclusion I nor conclusion II follows.

5) if both conclusions I and II follow.

24. Statements: Some buses are trucks.

All trucks are houses.

All houses are forests.

Conclusions: I. All buses are forests.

II. All buses are houses.

25. Statements: All books are pens.

Some pens are TVs.

All TVs are houses.

Conclusions: I. Some houses are pens.

II. Some TVs are books.

26. Statements: Some buildings are white.

All whites are oranges.

Some oranges are boxes.

Conclusions: I. Some boxes are buildings.

II. Some oranges are buildings.

27. Statements: All jugs are plates.

All plates are cups.

All cups are bottles.

Conclusions: I. Some bottles are jugs.

II. All plates are bottles.

28. Statements: Some flowers are rooms.

Some rooms are windows.

Some cards are windows.

Conclusions: I. Some windows are rooms.

II. Some windows are not rooms.

Direction (Q. 29 - 33): In each of the following questions the symbols $, #, @, % and * are used with the following meanings.

'A$B' means 'B is not less than A'.

'A#B' means 'A is neither greater than nor equal to B ' .

'A@B' means 'A is neither smaller than nor equal to B'.

'A%B' means 'B is not greater than A'.

'A*B' means 'A is neither smaller than nor greater than B'.

In each of the following questions, assuming the given statements to be true, find out which of the two conclusions I and II given below them is/are definitely true.

29. Statements: Q@S, M%S, M$P, Z *M

Conclusions: I. Q$P II. Q@P III. S$Z

1) Only II and III 2) Only II 3) Only III 4) All I, II and III 5) None of these

30. Statements: B#D, D%F, F*H, H#J

Conclusions: I. B#F II. B*F III. D%J

1) Only I and III 2) Only I 3) Only III 4) All I, II and III 5) None of these

31. Statements: F@H, H#D, D*R, R%G

Conclusions: I. G@F II. G*H III. G@H

1) Only I and II 2) Only II and III 3) Either II or III 4) Only III 5) None of these

32. Statements: Z@Y, Y#K, K%M, M@T

Conclusions: I. Z@M II. Y@T III. Z#K

1) Only I 2) Either I or III 3) Only II and III 4) All I, II and III 5) None of these

33. Statements: T*U, U@Z, Z$R, R#S

Conclusions: I. T@R II. R * Z III. S @Z

1) Only I 2) Only I and III 3) Only III 4) Only II and III 5) None of these

Direction (Q. 34 - 35): In each question below is given a group of letters followed by four combinations of digits/ symbols numbered 1), 2), 3), and 4). You have to find out which of the combinations correctly

represents the group of letters based on the coding system and mark the number of that combination as your answer. If none of the combinations correctly represents the group of letters, mark 5), ie 'None of these', as your answer.

Letter: D R M G Z K U W S F I P A Q

Digit/symbol: 4 7 # 1 9 3 5 % @ $ 2 6 8 ©

Conditions:

(i) If the first and last letters are consonants, both are| to be coded as the code for the first letter.

(ii) If the first and last letters are vowels, both are to be" coded as

(iii) If the first letter is the consonant and last is a vowel then codes for the first and last are to bet interchanged.

34. QDWAIM

1) ©4%82# 2) #4%82© 3) ©8%24# 4) #4%82# 5) None of these

35. UPMQWA

1) *6#©%* 2) *6#©%5 3) 5#6%©* 4) 56#%©8 5) None of these

Answers:

1. (2); In the English alphabetical series all option, have letters two places apart except OR.

2. (3);

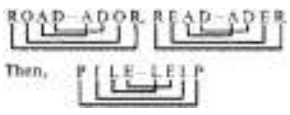
E M P L O Y M E N T

These pairs are OT are MO.

3. (3); Node, Done

4. (2); 987654321/87654321/7654

5. (3);



6. (4);

According to weight,

P > R > Q > S > T

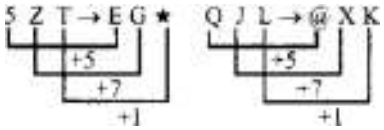
7. (5);

All are divisible by 13, except 45.

8. (4); No two equations are related.

9. (2); The numbers are 9, 8, 3 and 1.

10. (1);



11. (3);

9th to the right of 20th from the

Right = (20 – 9 =)11th from right = K

12. (5); J

13. (4);

In all others, 1st element + 1 = 2nd element and 2nd element + 2 = 3rd element.

14. (3);

15. (5);

16. (4);

17. (1);

18. (1);

19. (5);

20. (2); Fish is related to water and it is 'mountain' that means 'water'.

21. (3);

P	R	A	B	T	H	I	L	K
2	7	5	9	3	6	8	4	1

∴ Bharathi = 96575368

22. (2);

40 – 24 ÷ 4 x 6 + 8

= 40 – 6 x 6 + 8 = 40 – 36 + 8

= 48 – 36 = 12

23. (5);

Lady's son's father = Only son-in-law of Ashwani's mother.

Or Lady's husband = Ashwani's husband or brother-in-law (depending upon whether Ashwani is a male or a female).

24. (4);

Some buses are trucks + All trucks are houses = I + A = I = Some buses are houses. Hence II does not follow. Some buses are houses + All houses are forests = I + A = I = Some buses are forests. Hence I does not follow.

25. (1);

Some pens are TVs + All TVs are houses = I + A = I = Some pens are houses – conversion – Some houses are pens (I). Hence I follows. All books are pens + Some pens are TVs = I + I = No Conclusion. Hence II does not follow.

26. (2);

Some building are white + All whites are oranges = I + A = I = Some buildings are oranges – conversion – some oranges are buildings (I). Hence II follows. Some buildings are oranges + Some oranges are boxes = I + I = No conclusion. Hence I does not follow.

27. (5);

All plates are cups + All cups are bottles = A + A = A = All plates are bottles. Hence II follows. All jugs are plates + All plates are bottles = A + A = A = All jugs are bottles – conversion – Some bottles are jugs (I). Hence follows.

28. (1);

29. (5);

Q > S; M $\geq$ S; M $\leq$ P; Z = M. Hence only III and either I or II

30. (5); B < D $\geq$ F = H < J

31. (5); F > H < D = R $\geq$ G

32. (5); Z > Y < K $\geq$ M > T

33. (3); T = U > Z ≤ R < S

34. (5); Condition (i) follows and we get ©4%82©

35. (1); Condition (ii) applies.

3. Quantitative Aptitude

Direction (Q. 1 - 25): What value should come in place of question mark (?) in the following equations?

1. $(3)^2 \times (27)^3 \div (81)^2 = (3)^{?}$

1) 3 2) 2 3) 1 4) -1 5) -2

2. 440% of 35 + 130% of 350 =?

1) 581 2) 589 3) 599 4) 601 5) 609

3. 42 x 65 = 87360 ÷ ?

1) 24 2) 32 3) 36 4) 40 5) 44

4. $\frac{841}{?} = \frac{?}{441}$

1) 481 2) 536 3) 609 4) 621 5) 672

5. $\frac{(1.85)3+(2.15)3}{3.4225+4.6225-3.9775}$ = ?

1) 2 2) 4 3) 0.3 4) 16 5) 8

6. $(1013)^2$ = ?

1) 1026169 2) 106926 3) 169219 4) 1089629 5) None of these

7. $\frac{2}{7}$ of $\frac{3}{5}$ of $\frac{7}{8}$ of 1220 = ?

1) 170 2) 183 3) 194 4) 208 5) 212

8. 36482 ÷ ? = 58 x 37

1) 11 2) 13 3) 15 4) 17 5) 19

9. 170% of 470 – 47% of 300 =?

1) 628 2) 638 3) 648 4) 658 5) 668

10. (36.5 x 28) + 7.8% of 1000 =?

1) 1600 2) 1520 3) 1440 4) 1280 5) 1100

11. $(\frac{1}{7776})^{-2/5} + (\frac{1}{729})^{-2/3}$

1) 117 2) 113 3) 111 4) 107 5) 103

12. $\sqrt[3]{21952}$ = ?

1) 24 2) 26 3) 27 4) 28 5) 29

13. (1878 + 1534 + ?) ÷ 37 = 145

1) 1723 2) 1847 3) 1893 4) 1953 5) 2083

14. 3.3% of 7500 + 25% of 89 =?

1) 272.25 2) 270.50 3) 269.75 4) 264 5) 254.50

15. $\frac{147}{?} = \frac{?}{363}$

1) 214 2) 222 3) 228 4) 231 5) 234

16. $\frac{1}{17}$ x 3757 + $\frac{2}{19}$ x 1045 =?

1) 331 2) 337 3) 341 4) 347 5) 357

17. $(86)^{26} \times (86)^{14} \div (86)^{-40} \div (86)^{50} = (86)^{?}$

1) 30 2) 50 3) -30 4) -50 5) None of these

18. $\sqrt{7744} - \sqrt{1764}$ =?

1) 42 2) 44 3) 46 4) 48 5) 50

19. $[\sqrt[3]{\sqrt[2]{14641}}]^{3/2}$ =?

1) 11 2) 112 3) 113/2 4) 112/3 5) None of these

20. 175% of 140 – 165 = 5 x ?

1) 14 2) 16 3) 18 4) 15 5) 20

21. 293.68 + 349.99 + 113.23 =?

1) 751.9 2) 753.9 3) 756.9 4) 757.9 5) 759.9

22. 112 x ? x 9 = 22176

1) 21 2) 22 3) 24 4) 26 5) 28

23. 13.7 x 2.4 x 11.5 = ?

1) 352.18 2) 362.42 3) 366.26 4) 372.18 5) 378.12

24. $\sqrt{49\ x\ 361\ x\ 576}$ = ?

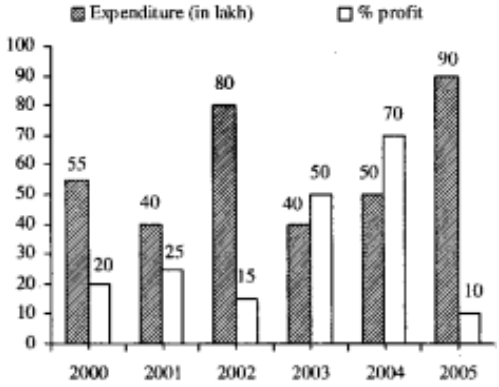
1) 3212 2) 3192 3) 3264 4) 3122 5) 3086

25. 12.123 + 121.312 + 1213.2 + 1.2312 =?

1) 1347.8662 2) 1341.1682 3) 1343.1728 4) 1348.1182 5) 1345.2662

Direction (Q. 26 - 30): In the following bar-graph, the expenditure and the percentage profit of a company are given

During the period 2000 to 2005 answer the following questions based on this graph.



26. What is the income of the company in the year 2004?

1) Rs. 80 lakh 2) Rs. 84 lakh 3) Rs. 85 lakh 4) Rs. 77.5 lakh 5) Rs. 90 lakh

27. What is the net profit in the year 2000 and 2005 together?

1) Rs. 20 lakh 2) Rs. 24 lakh 3) Rs. 32 lakh 4) 36 lakh 5) Rs. 45 lakh

28. What is the ratio of the profit in the year 2001 to that in 2002?

1) 3:4 2) 4:5 3) 5:6 4) 6:7 5) 8:5

29. The profit of the company in the year 2004 is what percentage more than its profit in the year 2003?

1) 25% 2) 75% 3) 50% 4) 80% 5) 60%

30. The profit of the company in the year 2005 is what percentage of its profit in the year 2002?

1) 75% 2) 80% 3) 90% 4) 120% 5) 125%

31. If a cricket bat is bought for Rs. 1480 and sold at Rs. 1665. What is the gain per cent?

1) 22.5% 2) 17.5% 3) 15% 4) 12.5% 5) 11%

32. If Ramesh's salary is 45% more than Shyam's and the sum of there salaries is Rs. 19600. What is the difference between their salaries?

1) Rs. 2400 2) Rs. 2800 3) Rs. 3200 4) Rs. 3600 5) None of these

33. A man can row upstream at speed of 16 km/h and downstream at 6 km/h. What is his speed in still water?

1) 8 km/h 2) 9 km/h 3) 10 km/h 4) 11 km/h 5) 12 km/h

34. A 120-metre-long train is running at a speed of 36 km/h. In how many seconds will it cross a 30-metre-long bridge?

1) 12 sec 2) 15 sec 3) 18 sec 4) 10 sec 5) 9 sec

35. What value should come in place of ? in the given number series?

15, 51, 162, 498, 1509, ?

1) 4545 2) 4832 3) 4916 4) 5020 5) 5104

Answers:

1. (1);

$(3)^2 \times (3^3)^3 \div (3^4)^2$

$= 3^2 \times 3^9 \div 3^8$

$= 3^{(2+9-8)} = 3^3$

2. (5);

$\frac{35x440}{100} + 350 \times \frac{130}{100}$

= 154 + 455 = 609

3. (2);

$? = \frac{87360}{42 \; x \; 65} = 32$

4. (3);

$\frac{841}{?} = \frac{?}{441}$

= $(?)^2$ = 841 x 441

= 29 x 29 x 21 x 21

= $(29 \times 21)^2 = (609)^2$

$\therefore ? = 609$

5. (2);

$\frac{a3+b3}{a2+b2-ab}$ = a + b

$\therefore$ Putting the value, $a + b = 1.85 + 2.15 = 4$

6. (1);

$(1013)^2 = (1000 + 13)^2$

$= (1000)^2 + (13)^2 + 2 \times 1000 \times 13$

= 1000000 + 169 + 26000 = 1026169

7. (2);

? = $\frac{1220\ x\ 3}{20}$ = 183

8. (4);

9. (4);

$\frac{170}{100}$ x 470 - $\frac{47}{100}$ x 300

= 799 – 141 = 658

10. (5);

(36.5 x 28) + $\frac{7.8\ x\ 1000}{100}$

= 1022 + 78 = 1100

11. (1);

$(\frac{1}{65})^{-2/5} + (\frac{1}{93})^{-2/3}$

$= (6^{-5})^{-2/5} + (9^{-3})^{-2/3}$

$= 6^2 + 9^2 = 117$

12. (4);

$\sqrt[3]{21952} = \sqrt[3]{(28)3} = 28$

13. (4);

? = (145 x 37)- (1878 + 1534)

= 5365- 3412 = 1953

14. (3);

247.5 + 22.25 = 269.75

15. (4);

$(?)^2 = 147 \text{ x } 363$

= 7 x 7 x 3 x 11 x 11 x 3

$= (7 \text{ x } 11 \text{ x } 3)^2$

$\therefore ? = 11 \text{ x } 7 \text{ x } 3 = 231$

16. (1);

17. (1); $(86)^{26+14(-40)50} = (86)^{80-50} = (86)^{30}$

18. (3);

$\sqrt{7744} = 88$

$\sqrt{1764} = 42$

$\therefore ? = 88 - 42 = 46$

19. (1);

$[\sqrt[3]{\sqrt[2]{(11)4}}]^{3/2} = [\sqrt[3]{(11)2}]^{3/2}$

$= [11^{2/3}]^{3/2} = 11$

20. (2);

$? = \frac{(175\ x\ 1.4)-165}{5} = \frac{245-165}{5}$

$= \frac{80}{5} = 16$

21. (3);

22. (2);

23. (5);

24. (2);

? = $\sqrt{(7)2x\ (19)2\ x\ (24)2}$

= 7 x 19 x 24 = 3192

25. (1);

26. (3);

Income = 50 + (50 x $\frac{70}{100}$)

= 50 + 35 = 85 lakh

27. (1);

P_{2000} = 55 x $\frac{20}{100}$ = 11 lakh

P_{2005} = 90 x $\frac{10}{100}$ = 9 lakh

$\therefore$ Total = 20 lakh

28. (3);

Reqd ratio = $\frac{40\ x\ \frac{25}{100}}{80\ x\ \frac{15}{100}} = \frac{10}{12} = \frac{5}{6}$

29. (2);

P_{2003} = 40 x $\frac{50}{100}$ = 20 lakh

P_{2004} = 50 x $\frac{70}{100}$ = 35 lakh

$\therefore$ % more = $\frac{35-20}{20}$ x 100 = 75%

30. (1);

P_{2002} = 80 x $\frac{15}{100}$ = 12 lakh

P_{2005} = 90 x $\frac{10}{100}$ = 9 lakh

$\therefore$ Reqd % $= \frac{9}{12}$ x $100 = 75\%$

31. (4);

Gain per cent = $\frac{1665-1480}{1480}$ x 100

= 12.5

32. (4);

Let shyam's salary be x so. Ramesh's

Salary is x + $\frac{45x}{100}$ = 1.45x.

Because, x + 1.45x =19600

$\therefore$ x $= \frac{19600}{2.45} = 8000$

Difference $= 1.45$x – x

$= 0.45$x x $8000 = 3600$

33. (4);

Let the man's speed be x km/h and that of the stream be y km/h. Then

X + y = 16 and x – y = 6

Solving these eqns, x = 11 km/h, y = 5 km/h

34. (2);

Speed of the train = 36 x $\frac{5}{18}$ = 10 m/s

Distance = 120 + 30 = 150 m

$\therefore$ Time $= \frac{150}{10} = 15$ seconds.

35. (1);

15, (15 + 2) x 3 = 51

(51 + 3) x 3 = 162,

(162 + 4) x 3 = 498

(498 + 5) x 3 = 1509

(1509 + 6) x 3 = 4545