

WEST BENGAL CIVIL SERVICE EXAMINATION, 2008
COMPULSORY PAPER

ARITHMETIC AND TEST OF REASONING

Time Allowed: 3 hours

Full Marks: 100

Answers may be written either in English or in Bengali but all answers must be in one and the same language.

GROUP-A

Arithmetic: 50 Marks

Answer all the questions.

1. (a) Convert into ordinary fraction: 31.56349.
(b) What percent is 2kg 250gm of 0.72 quintals?
(c) If $A : B = 4 : 6$, $B : C = 8 : 10$, $C : D = 6 : 5$. Find $A : B : C : D$.
2+1+2
2. A.B.C individually can do a work in 10, 12 and 15 days respectively. They start working together. But 5 days before the work is finished A leaves and B leaves 3 days before it is finished. What time is taken to finish the work ?
5
3. A cistern has two taps. First tap can fill the whole cistern in 1.8 minutes and the second tap can empty the full cistern in 12 minutes. Both the taps are opened simultaneously when the cistern is half full with water. In how much time the cistern will be full empty?
5
4. In a box there are 378 coins in one rupee, 50 paise and 25 paise coins. If the ratio of their values be 13:11:7. Find the numbers of each coin in the box.
5
5. If 120 men can dig a trench 324 m long 24 m wide and 2 m deep in 9 days of 12 hours each, how many men can dig a trench 1458 m long 20 m wide and 3 m deep in 36 days of 9 hours each ?
5
6. The price of sugar decreases by 10% and this decrease in price enables a man to purchase 1 kilogram more sugar for Rs.90. Find the present as well as previous price of sugar per kilogram.
5
7. A contractor hoping to construct a road for Rs. 25000 quotes a price 29.6% higher. But due to sudden rain the cost rises by 8%. What will be the gain percent?
5

8. In two types of brass, the ratios of copper to zinc are 8: 3 and 15: 7. The two types of brass are mixed in the ratio 5 : 2 and a new type of brass is obtained. Find the ratio of copper to zinc in this new type of brass. 5
9. In a joint stock business the capitals of A, B, C are as $\frac{1}{2} : \frac{1}{3} : \frac{1}{4}$. After 4 months A withdraws half of his capital and after 8 months more the profit is Rs. 6072. Find what profit each will have? 5
10. Two persons to go one from A to B and another from B to A, start simultaneously. After they meet they reach their destinations after 16 mins and 25 mins respectively. Find the ratio of their speeds. 5

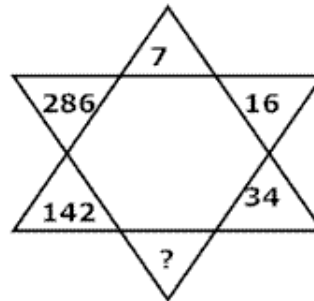
GROUP-B

Test of Reasoning : 50 Marks

Answer all the questions.

11. (a) What is the last digit of $(2 \times 4^n)^2 + 1$, for any +ve integer n ?
(b) Find the number of terms in the sequence: 4,11,18,.....186.
(c) If the interior angle of a regular polygon is 162° , find the number of sides of the polygon. 1+2+2
12. (a) The difference between two number is 16. If one-third of the smaller number is greater than one-seventh of the larger number by 4. Then find the two numbers.
(b) Consider the following statements:
The number 12375 is (i) divisible by 3
(ii) divisible by 11
(iii) divisible by 9
Of these statements, find the correct statements. 3+2
13. (a) If HOUSE is coded as KRTXH. What is the code for the word CASTLE?
(b) Complete the series : 8. 15, 31, 60, 122, —.
(c) One term in the number series is wrong. Find it out.
445, 221, 109, 46, 25
(d) If we omit vowels from the alphabet which will be the middle letter?
(e) If the value of A is 1, that of B is 2 and that of C is 3 and so on. What is the total value of all alphabet ? 2x5

14. (a) The number of boys in a class is three times the number of girls.
Which one of the following numbers cannot represent the total number of children in the class?
(i) 48 (ii) 44 (iii) 42 (iv) 40
- (b) In a cricket match, five batsmen A, B, C, D, E scored and average of 36 runs. D scored 5 more than E : E scored 8 fewer than A : B scored as many as D and E combined. B and C scored 107 between them.
How many runs did E score? 2+3
15. (a) Arrange the following in a meaningful sequence :
1. Consultation 2. Illness 3. Doctor 4. Treatment
5. Recovery
- (b) Find the missing number—



- (c) Choose the missing character -

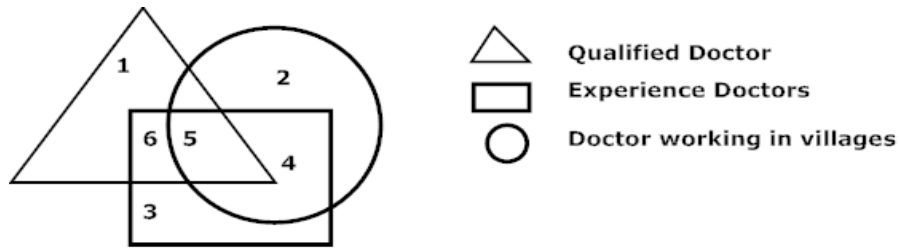
4	5	6
2	3	7
1	8	3
21	98	?

(i) 96 (ii) 76 (iii) 73 (iv) 16

2+ 1+2

16. (a) How many 5's are there in the following sequence which are immediately followed by 3 but not preceded by 7 ?
8 9 5 3 2 5 3 8 5 5 6 8 7 3 3 5 7 7 5 3 6 5 3 3 5 7 3 8
- (b) In a row of 21 girls, when Monika was shifted by four places towards the right, she became 12th from the left. What was her earlier position from the right end of the row?
- (c) If the seventh day of a month is three days earlier than Friday, what day will it be on the nineteenth day of the month? 2+2+1

17. Study the diagram below and answer the questions that follow:



- The qualified and experienced doctors working in villages are represented by number_____
 - The qualified and experienced doctors working' outside villages are represented by number_____.
 - Experienced but not qualified doctors working in villages are represented by number_____
 - Doctors who are neither qualified nor experienced but working in villages are represented by number_____
 - Qualified doctors working outside villages are represented by number_____ 1x5
18. A, B, C, D, E are five girls. A, D, E are tall, others are short: B, D. E are dark, others are fair. B, C are fat, others are thin. Keeping this information in mind, answer the following questions:
- In the first desk, sits a short, fat, dark girl. Who is she ?
 - Behind the above mentioned girl sits a tall, dark, thin girl. Who is she?
 - On the right side of the girl mentioned in (b) sits one who is tall, dark and fat. Who is she?
 - On the left of the girl referred in (c) sits a short, fat, fair, girl. Who is she?
 - The remaining girl is—(i) Fat (ii) Dark (iii) Tall. 2x5