

## 8. 2072 Set C Q.No. 15

Obtain the variance from the following distribution:

[5]

Wages	0-20	20-40	40-60	60-80	80-100
No. of workers	10	12	15	8	5

Ans: 608.64

## 9. 2072 Set D Q.No. 8a

The average salary paid to 100 employees in an organization is Rs.600. The average salary paid to male employees is Rs.650 and that to female is Rs.550. Find the number of male and female employees in the organization.

[3]

Ans: Number of male = 50, number of female = 50.

## 10. 2072 Set D Q.No. 15

Compute the mean deviation from mode and the coefficient of mean deviation for the following data:

[5]

Marks	0-10	10-20	20-30	30-40	40-50
No. of students	10	20	30	25	15

Ans: 9.834, 0.37

## 11. 2072 Set E Q.No. 8a

Find the mean deviation from mean of the following observations.

[3]

x	6	8	10	12	14	16	18	20
f	1	14	25	27	18	9	4	2

Ans: 2.24

## 12. 2072 Set E Q.No. 15

Find the standard deviation of the following distribution.

[5]

Marks	10-20	20-30	30-40	40-50	50-60	60-70
No. of Students	10	14	20	30	14	12

Ans: 14.56

## 13. 2071 Supp Q.No. 8a

From the following data, compute mean deviation from median.

[3]

Marks	5	15	25	35	45
Number of Students	5	8	15	16	6

Ans: 9.2

## 14. 2071 Supp Q.No. 15

Find the coefficient of variation from the following distribution.

[5]

x	10	12	17	21	26
f	2	4	8	5	1

Ans: 25.25%

## 15. 2071 Set C Q.No. 8a

Calculate the mean deviation from mean of the following data: 40, 44, 54, 60, 62

[3]

Ans: 8

## 16. 2071 Set C Q.No. 15

Calculate the mean and the standard deviation from the following data:

[5]

Profits (in Rs.)	0-10	10-20	20-30	30-40	40-50
No. of Shops	8	13	16	8	5

Ans: Mean ( $\bar{x}$ ) = Rs. 22.8; S.D ( $\sigma$ ) = Rs. 11.88

## 17. 2071 Set D Q.No. 8a

If  $n = 10$ ,  $\bar{X} = 12$ ,  $\Sigma X^2 = 1530$ , find C.V.

[3]

Ans: 25%

## 18. 2071 Set D Q.No. 15

Find the standard deviation of the following frequency distribution.

[5]

Marks	20-30	30-40	40-50	50-60	60-70	70-80
f	8	16	20	32	14	10

Ans: 13.87

## 19. 2070 Supp Q.No. 8a

Find S.D. for the following data: 2, 4, 8, 10, 11.

[3]  
Ans: 3.46

## 20. 2070 Supp Q.No. 15

Compute the C.V. for the following distribution.

Wages	0-20	20-40	40-60	60-80	80-100
No. of workers	10	12	15	8	5

[5]  
Ans: 55.56%

## 21. 2070 Set C Q.No. 8 a

Find the standard deviation of the duration of phone calls in seconds: 4, 6, 10, 12, 18.

[3]  
Ans: 4.9 seconds

## 22. 2070 Set C Q.No. 15

The following distribution gives the marks of 30 students in a certain examination.

Marks	20-30	30-40	40-50	50-60	60-70	70-80
No. of students	3	5	6	8	4	4

Find the quartile deviation.

[5]  
Ans: 11.125

## 23. 2070 Set D Q.No. 8 a

Find M.D. from the mean for the following series:

20, 23, 24, 27, 31.

[3]  
Ans: 3.2

## 24. 2070 Set D Q.No. 15

Calculate the C.V. of the following distribution.

Marks	0-10	10-20	20-30	30-40	40-50
No. of students	10	20	30	25	15

[5]  
Ans: 45.09%

## 25. 2069 Supp Q.No. 8 a

Find the mean deviation from mean of the following data.

40, 44, 54, 60, 62.

[3]  
Ans: 8

## 26. 2069 Supp Q.No. 15

Calculate the standard deviation of the following data:

Marks	0-10	10-20	20-30	30-40	40-50
Number of Students	7	12	24	10	7

[5]  
Ans:  $\bar{x} = 24.67$ ;  $\sigma = 11.397$ 

## 27. 2069 Q.No. 8a

Define quartile deviation. Find the coefficient of quartile deviation of the following observations. [3]

Days	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
Temperature ( $^{\circ}$ C)	30	25	31	22	36	28	33

[3]  
Ans: 0.14

## 28. 2069 Q.No. 15

Find the standard deviation of the following distribution.

Marks	10-20	20-30	30-40	40-50	50-60	60-70
No. of students	4	6	10	15	8	7

[5]  
Ans: 14.36

## 29. 2068 Q.No. 8a

Some measurements of incomes (in Rs.) are made and the results are given below: [3]

525, 375, 640, 250, 480, 725, 510

Find the coefficient of quartile deviation.

[3]  
Ans: 0.26

## 30. 2068 Q.No. 15

Calculate the standard deviation from the following frequency distribution. [5]

Wages (in Rs.)	0-4	4-8	8-12	12-16	16-20	20-24
No. of persons	7	7	10	15	7	6

[5]  
Ans: Rs. 6.05

**31. 2067 Supp Q.No. 8a**

Calculate the mean deviation taken from mean of the data: [3]

35, 40, 45, 50, 55, 60, 65

Ans: 8.57

**32. 2067 Supp Q.No. 15**

Calculate the mean and the standard deviation of the following data: [5]

Marks	0-10	10-20	20-30	30-40	40-50
No. of students	6	10	5	4	3

Ans: 20.71 and 12.69

**33. 2067 Q.No. 8 a**

What will be the median of a distribution if mean = 30 and mode is 24? [3]

Ans: 28

**34. 2067 Q.No. 15**

Calculate the mean and standard deviation of the following data: [5]

Mark	0-10	10-20	20-30	30-40	40-50
No. of students	7	12	24	10	7

Ans:  $\bar{x} = 24.67$ ;  $\sigma = 11.397$ **35. 2066 Q.No. 8 a**

Calculate standard deviation from the following data: [3]

Marks:	10	20	30	40	50	60
No. of Students	3	7	10	20	12	8

Ans: 13.45

**36. 2066 Q.No. 15**

Find the mean deviation and its coefficient from the median from the data: [5]

Marks	0	10	20	30	40	50	60	70
No of Students	20	18	15	10	5	3	1	0

Ans: 12.08 and 1.21

**37. 2066 Supp Q.No. 8 a**

Find the mean and standard deviation of the five observations 11, 14, 15, 17, 18. [3]

Ans: 15 and 2.45

**38. 2066 Supp Q.No. 15**

Find the mean, median and variance of the frequency distribution: [5]

Class interval	10-14	14-18	18-22	22-26	26-30	30-34	34-38	38-42
Frequency	6	7	8	10	9	6	3	1

Ans: 23.52; 23.6; 52.85

**39. 2065 Q.No. 8 a**

Find the standard deviations of the following data: 10, 15, 25, 20, 30, 40, 50, 10. [3]

Ans: 13.46

**40. 2065 Q.No. 15**

Following are the marks obtained by two students Ram and Hari in 10 tests of 100 marks each:

Test	1	2	3	4	5	6	7	8	9	10
Marks of Ram	54	60	56	68	72	52	48	76	80	44
Marks of Hari	66	57	51	72	69	63	60	54	75	48

What is more consistent of performance? [5]

Ans:  $CV_{\text{Ram}} = 19.18\%$ ;  $CV_{\text{Hari}} = 14\%$ ; Hari is more consistent**41. 2064 Q.No. 8 a**

Calculate the mean deviation from the mean of the following frequency table: [3]

Bonus	10	15	20	25
Frequency	3	5	5	7

Ans: 4.7

**42. 2064 Q.No. 15**

Find the mean and the standard deviation from the following frequency distribution. [5]

Marks	0-10	10-20	20-30	30-40	40-50
No. of students	7	12	24	10	7

Ans:  $\bar{x} = 24.67$ ;  $\sigma = 11.397$

## UNIT 14: PROBABILITY

1. 2073 Set C Q.No. 8b

A pair of dice is rolled. Find the sample space and the probability that the sum of pair of numbers turning up is less than seven.

$$\text{Ans: } \frac{15}{36}$$

2. 2073 Set D Q.No. 8b

A bag contains 12 white balls, 8 green balls and 5 blue balls. If a ball is drawn from the bag, what is the probability that the ball drawn is either a white ball or a green ball?

$$\text{Ans: } \frac{4}{5}$$

3. 2072 Supp Q.No. 8b

If a single draw is made from a pack of 52 cards, what is the probability of obtaining either an ace of spade or a jack of diamond?

$$\text{Ans: } \frac{1}{26}$$

4. 2072 Set C Q.No. 8b

What is the probability that a leap year will contain 53 Sundays?

$$\text{Ans: } \frac{2}{7}$$

5. 2072 Set D Q.No. 8b

What is the probability that non leap year will contain 53 Sundays.

$$\text{Ans: } \frac{1}{7}$$

6. 2072 Set E Q.No. 8b

From a pack of 52 cards three cards are drawn at random one after another. Find the probability that they are a king, a queen and a Jack.

$$\text{Ans: } 0.0029$$

7. 2071 Supp Q.No. 8b

The chance that A can solve a certain problem is  $\frac{2}{3}$  and the chance that B can solve it is  $\frac{3}{4}$ . Find the chance that the problem would be solved by at least one of them.

$$\text{Ans: } \frac{11}{12}$$

8. 2071 Set C Q.No. 8b

Out of 32 students in XII class, 12 are girls. If a student is selected at random, what is the probability that the selected student is a (i) girl (ii) boy?

$$\text{Ans: (i) } \frac{3}{8} \text{ (ii) } \frac{5}{8}$$

9. 2071 Set D Q.No. 8b

If two coins are tossed once what is the probability of getting at least one head?

$$\text{Ans: } \frac{3}{4}$$

10. 2070 Supp Q.No. 8b

What is the probability of drawing a club or a jack from a deck of 52 cards?

$$\text{Ans: } \frac{4}{13}$$

11. 2070 Set C Q.No. 8 b

A card is drawn at random from a well-shuffled deck of 52 cards. Find the probability that the card drawn is (i) a black card (ii) an ace.

$$\text{Ans: (i) } \frac{1}{2} \text{ (ii) } \frac{1}{13}$$

12. 2070 Set D Q.No. 8 b

A bag contains 6 white, 5 blue and, 4 black marbles. A marble is drawn at random. What is the probability of drawing a black or a white marble?

$$\text{Ans: } \frac{2}{3}$$

**13. 2069 Supp Q.No. 8 b**

Out of 32 students in grade XII, 12 students are girls. If a student is selected at random, what is the probability that the selected students is a boy? [3]

Ans:  $\frac{5}{8}$

**14. 2069 Q.No. 8 b**

Two coins are tossed simultaneously. Determine the sample space and the probability of getting (i) two heads (ii) one head. [3]

Ans: {HH, HT, TH, TT} (i)  $\frac{1}{4}$  (ii)  $\frac{1}{2}$

**15. 2068 Q.No. 8 b**

A bag contains 6 white, 5 blue and 4 black marbles. A marble is drawn at random. What is the probability of drawing a black or a white marble? [3]

Ans:  $\frac{2}{3}$

**16. 2067 Q.No. 8 b**

What is the probability of drawing a heart or an ace from a deck of 52 cards? [3]

Ans:  $\frac{4}{13}$

**17. 2066 Q.No. 8 b**

What is the probability of getting a king or a queen from well shuffled deck of 52 cards? [3]

Ans:  $\frac{2}{13}$

**18. 2066 Supp Q.No. 8 b**

A letter is selected at random from the letters of the word "PROBABILITY" what is the chance that it is a vowel? [3]

Ans:  $\frac{4}{11}$

**19. 2065 Q.No. 8 b**

What is the probability of drawing a club or a jack from a deck of 52 cards? [3]

Ans:  $\frac{4}{13}$

**20. 2064 Q.No. 8 b**

A bag contains 12 white balls, 8 green balls and 5 blue balls. If the ball is drawn from the bag, what is the probability that the ball drawn is either a white ball or a green ball? [3]

Ans:  $\frac{4}{5}$

## UNIT 15: RATIO AND PROPORTION

**1. 2073 Set C Q.No. 16**

An old man gives  $\frac{2}{5}$  of his property to the first son and 40% of the remainder to the second son.

Then he distributes the remaining property among three schools in the proportion 2:3:4. The difference of his son's shares is Rs. 64,000. What is the value of his property and how much was given to each school? [5]

Ans: Rs. 400,000; Rs. 32000, Rs. 48000, Rs 64000

**2. 2073 Set D Q.No. 9a**

A garrison of 120 men is provisioned for 24 weeks at the rate of 350 gms per day per man. How many men must leave so that the same provision may last those who remain 30 weeks at 320 gms per day per man? [3]

Ans: 15

**3. 2072 Supp Q.No. 9a**

A garrison of 120 men is provisioned for 24 weeks at the rate of 350 gms per day per man. How many men must leave so that the same provision may last those who remain 30 weeks at 320 gms per day per man? [3]

Ans: 15

**4. 2072 Set C Q.No. 9a**

If 16 men can perform a piece of work in 15 days of 8.5 hours each, how many men working the same hours a day can do  $\frac{1}{4}$  of the work in  $\frac{1}{3}$  of time, three of the second set being equal to four of the first? [3]

Ans: 9

## 5. 2072 Set D Q.No. 9a

If 5 typists can type 600 pages of 60 lines with 40 letters in each line in 16 days of 12 hours work a day, how many typists will be required to type 1000 pages of 45 lines with 50 letters in 18.75 days of 8 hours work a day?

[3]  
Ans: 10

## 6. 2072 Set E Q.No. 9a

If 200 men can make an embankment 5 km long in 25 days, how much overtime per day must 60 men work to complete an embankment 2 km long in 32 days; 12 hours being a day's work? [3]

Ans: 1/2 hour

## 7. 2071 Supp Q.No. 9a

20 men can do a piece of work in 24 days. After working for six days an additional number of men is employed to finish the work in 21 days from the beginning. Find the number of additional men. [3]

Ans: 4

## 8. 2071 Set C Q.No. 9a

20 men can do a piece of work in 24 days. After working for six days an additional number of men is added to finish the work in 21 days from the beginning. Find the number of additional men. [3]

Ans: 4

## 9. 2071 Set D Q.No. 9a

If 8 men working 9 hours a day can do a piece of work in 12 days, how long will it take 16 men working 6 hours to do the same work? [3]

Ans: 9

## 10. 2070 Supp Q.No. 9a

Rs. 3360 is paid into the paper currency of denominations Rs. 5, Rs. 25 and Rs. 100 in the ratio 1:3:4. How many of each were there? [3]

Ans: 7, 21, 28

## 11. 2070 Set C Q.No. 9a

If 12 men can do a piece of work in 30 days of 9 hours each, how many men will take to do the same piece of work if they work 24 days of 5 hours each? [3]

Ans: 27

## 12. 2070 Set D Q.No. 9a

In a race of 1 km, Mr. X beats Mr. Y by 70 m, Mr. Y beats Mr. Z by 80m. By how much does Mr. X beat Mr. Z? [3]

Ans: 144.4m

## 13. 2069 Supp Q.No. 9a

30 men can do a piece of work in 11 days, working 9 hours a day, how many hours a day have 55 men to work to finish the same piece of work in 19 days? [3]

Ans: 3

## 14. 2069 Q.No. 9a

If 30 men can do a piece of work in 11 days working 9 hours a day, how many hours a day have 55 men to work in order to finish another work twice as great in 18 days? [3]

Ans: 6

## 15. 2068 Q.No. 9a

A contractor had to complete the work of a road in 16 days. He employed 30 persons for 12 days and completes  $\frac{5}{7}$  of the work. How many more persons should be employed now in order to complete the work in time? [3]

Ans: 6

## 16. 2067 Q.No. 9a

20 men can do a piece of work in 24 days. After working for 6 days an additional number of men is taken to finish the work in 21 days from the beginning. Find the number of additional men? [3]

Ans: 4

## 17. 2067 Supp Q.No. 9a

20 men can do a piece of work in 24 days. After working for 6 days an additional number of men is taken to finish the work in 21 days from the beginning. Find the number of additional men. [3]

Ans: 4

**18. 2066 Q.No. 9 a**

An employer reduces his workman's hourly rate of wages in the ratio of 5 to 4 and raises the hour of labour in per week in the ratio of 8 to 9. What will be the increase or decrease in the full weekly wages bill which previously amounted to Rs  $653.33\frac{1}{3}$  P? [3]

Ans: Decrease in wages bill by Rs.  $65.33\frac{1}{3}$  P

**19. 2066 Old Q.No. 9 a**

There are six numbers which are in continued proportion; the first of them is 9 and the second one is 12; find the remaining numbers. [5]

Ans: 16,  $\frac{64}{3}$ ,  $\frac{256}{9}$ ,  $\frac{1024}{27}$

**20. 2066 Supp Q.No. 9 a**

5 men or 7 women or 9 girls can dig a field in 15 days. How many days will 1 man, 1 woman and 1 girl take to dig the same field? [3]

Ans:  $33\frac{6}{143}$

**21. 2065 Q.No. 9 a**

A road 300 meter long was constructed by 45 men in 27 days working 8 hours a day. How many men will be required to construct one kilometer of the same road in 20 days if they work 9 hours a day? [3]

Ans: 180 men

**22. 2065 Old Q.No. 9 a**

If 200 men can make an embankment 5 km. long in 25 days, how much overtime per day must 60 men work to finish an embankment 2km. long in 32 days, 12 hours being a day's work? [5]

Ans: 1/2hour

**23. 2064 Q.No. 9 a**

20 men can do a piece of work in 24 days. After working for 6 days an additional number of men is taken to finish the work in 21 days from the beginning. Find the number of additional men. [3]

Ans: 4

**24. 2064 Q.No. 9 a Old**

If the four quantities a, b, c, and d are such that a : b = 2 : 3, b : c = 4 : 5 and c : d = 7 : 9; find the ratio between a and d, also find the continued ratio. [4]

Ans: a:d = 56:135; a:b:c:d = 56:84:105:135

**25. 2063 Q.No. 9 a**

30 men can do a piece of work in 11 days, working 9 hours a day, how many hours a day have 55 men to work in order to finish another work thrice as great in 18 days. [5]

Ans: 9 hours

**26. 2062 Q.No. 9 a**

If 200 men can make an embankment 5 km, long in 25 days, how much overtime per day must 60 men work to finish an embankment 2 km. long in 32 days, 12 hours being a day's regular working hour? [5]

Ans: 1/2 hour

**27. 2061 Q.No. 9 a**

A garrison of 120 men is provisioned for 24 weeks at the rate of 350 gm per day per man. How many men must leave so that the same provision may last those who remain 30 weeks at 320 gm per day per man? [5]

Ans: 15

**28. 2060 Q.No. 9 a**

Mr. A and Mr. B hired a pasture for 30 days and paid Rs. 1000. A put 6 cows for a certain number of days and paid Rs. 750. B put 10 cows for the remaining number of days and paid the remaining sum. How long had A put his cows? [5]

Ans: 25 days

**29. 2059 Q.No. 9 a**

If the railway carriage for 840 kg for a distance of 40 km is Rs. 210. What will be the change for conveying 950kg for 120 km, calculating half rate for the last 40 km? [5]

Ans: Rs. 593.75

30. 2058 Q.No. 9 a

In a race of one kilometer, Mr. X beats Mr. Y by 70 meters, Mr. Y beats Mr. Z by 80 meters. By how much does Mr. X beat Mr. Z?

[3]

Ans: 144.4m

31. 2057 Q.No. 9 a

If four quantities a, b, c and d are such that  $a:b = 3:4$ ,  $b:c = 6:7$  and  $c:d = 8:9$ , then find the ratio between a and d, and also the continued ratio.

[5]

Ans:  $a:d = 4:7$ ;  $a:b:c:d = 36:48:56:63$ 

## UNIT 16: PROFIT AND LOSS

1. 2073 Set C Q.No. 9b

A person bought 50 goats at Rs. 1500 a goat and fixed the selling price of each goat so as to gain 16% but 10 goats died, he sold the remaining at the intended price. What is his gain or loss percent?

[3]

Ans: 7.2%

2. 2073 Set D Q.No. 9b

A dealer purchased 240 electric bulbs at the rate of Rs. 198 per dozen. If  $6\frac{1}{4}\%$  of the bulbs were damaged in transit, at what rate should he sell the remaining bulbs so that he may earn 12.5% profit on the outlay?

[3]

Ans: Rs. 19.80

3. 2072 Supp Q.No. 9b

If a radio is sold at Rs. 1700, the loss is 15%, how much would have gained or lost if he had sold it for Rs. 1800?

[3]

Ans: Rs. 200 (Loss)

4. 2072 Set C Q.No. 9b

A bicycle agent allows 20% discount on his advertised price and yet gains 15%. What is his advertised price of a bicycle on which he gains Rs.720?

[3]

Ans: Rs.6900

5. 2072 Set D Q.No. 9b

An agent sold flour at Rs.22 per kg and gained Rs.550 as commission at 5%. Find the weight of flour he sold.

[3]

Ans: 500 kg

6. 2072 Set E Q.No. 9b

An article is sold for Rs. 150 with profit. Had it been sold for Rs 135, there would have been a loss equal to 50% of the original profit. Find the cost of an article.

[3]

Ans: Rs.140

7. 2071 Supp Q.No. 9b

A marked price of an electric fan is Rs. 1200. If a discount of 20% is allowed in the fan and the 13% VAT is added on it, what will be the sale price of the fan?

[3]

Ans: Rs. 1084.80

8. 2071 Set C Q.No. 9b

Marked price of an electric fan is Rs 2000. If a discount of 20% is allowed in the fan and then 13% VAT is added on it, what will be the sale price of an electric fan?

[3]

Ans: Rs. 1808

9. 2071 Set D Q.No. 9b

An article is sold for Rs. 150 at a gain. Had it been sold for Rs. 135 there would have been a loss of 50% of the original gain. Find the cost price of an article.

[3]

Ans: Rs. 140

10. 2070 Supp Q.No. 9b

A watch is sold for Rs. 400 at a loss. Had it been sold for Rs 500, there would have been a profit equal to  $\frac{2}{3}$  of the original loss. Find cost price of the watch.

[3]

Ans: Rs.460



**11. 2070 Set C Q.No. 9 b**

A dealer purchased 240 electric bulbs at the rate of 198 per dozen. If  $6\frac{1}{4}\%$  of the bulbs were damaged in transit, at what rate should he sell the remaining bulbs so that he may earn 12.5% profit on the outlay?

[3]  
Ans: Rs. 19.80**12. 2070 Set D Q.No. 9 b**

Amar buys an article and sells it to Suman at a profit of 10%. Suman sells it to Santosh at the gain of 20%. If Santosh paid Rs. 1386 for it, what did Amar pay for it?

[3]  
Ans: Rs. 1050**13. 2069 Supp Q.No. 9 b**

A dealer purchased 240 electric bulbs at the rate of Rs. 198 per dozen. If  $6\frac{1}{4}\%$  of the bulbs were damaged in transit, at what rate should he sell the remaining bulbs so that he may earn 12.5% profit on the outlay?

[3]  
Ans: Rs. 19.80**14. 2069 Q.No. 9b**

A shopkeeper buys a watch for Rs. 300 and marks it at such a price that he may make a profit of 25% after allowing a discount of 10%. Find the marked price.

[3]  
Ans: Rs. 416.67**15. 2068 Q.No. 9b**

An article is sold for Rs. 150 at a gain, if it has been sold for Rs. 135 there would have been a loss equal to 50% of the original gain. Find the cost price of the article.

[3]  
Ans: Rs. 140**16. 2067 Q.No. 9 b**

A buys an article and sells it to B at a profit of 10%, B sells it to C at a gain of 20%. If C paid Rs. 924 for it what did A pay for it?

[3]  
Ans: Rs. 700**17. 2067 Supp Q.No. 9b**

An article was sold at its marked price Rs. 6200 and a discount of 15% was allowed. The dealer still made a profit of 25%. Find the cost price.

[3]  
Ans: Rs. 4,216**18. 2066 Q.No. 9 b**

An article is sold for Rs. 150 at a gain. Had it been sold for Rs. 135 there would have been a loss equal to 50% of the original gain. Find the cost price of the article.

[3]  
Ans: Rs. 140**19. 2066 Old Q.No. 9 b**

A bicycle agent allows 20% discount on his advertised price and yet gains 15%. What is the advertised price of a bicycle on which he gains Rs. 24?

[4]  
Ans: Rs. 230**20. 2066 Supp Q.No. 16**

Ram sells two radios at Rs. 2475 each. If by selling them, he gains 10% on one and loses 10% on the other; find his gain or loss percent on whole transaction.

[5]  
Ans: Loss = 1%**21. 2065 Q.No. 9 b**

Ram bought a calculator for Rs. 132 and sold it gaining 12% on the selling price. If the cost price is increased by 16% and the selling price by 12.5%, find new percentage of gain.

[3]  
Ans: 10.20%**22. 2064 Q.No. 9 b**

An article was sold at its marked price Rs. 6,200 and a discount of 15% was allowed. The dealer still made a profit of 25%. Find the cost price.

[3]  
Ans: Rs. 4,216

**23. 2063 Q.No. 9 b**

A person bought 50 goats at Rs. 2,200 a goat and fixed the selling price of each goat so as to gain 16%. But 10 goats died. He sold the remaining goats at the same intended price. What is his gain or loss percent?

[4]

Ans: Loss = 7.2%

**24. 2062 Q.No. 9 b**

A man sells two bicycles at Rs. 2475 each. If by selling them, he gains 10% on one and loses 10% on the other, find his gain or loss percent on the whole transaction.

[4]

Ans: Loss 1%

**25. 2061 Q.No. 9 b**

Shova buys an article and sells it to Nirmal at a profit of 10%. Nirmal sells it to Pavitra at the gain of 20%. If Pavitra paid Rs. 1386 for it, what did Shova pay for it?

[4]

Ans: Rs. 1050

**26. 2060 Q.No. 9 b**

The cost of an article is Rs. 1500. What should be the marked price of the article in order to get 20% profit on cost price allowing 10% discount on marked price?

[4]

Ans: Rs. 2000

**27. 2057 Q.No. 9 b**

A bicycle agent allows 20% discount on his advertised price and yet gains 15%. What is the advertised price of bicycle on which he gains Rs. 24?

[4]

Ans: Rs. 230

**UNIT 17: PARTNERSHIP****1. 2073 Set C Q.No. 9a**

A, B, and C invest Rs. 5,000, Rs. 6,000 and Rs. 7,000 respectively. Total profit comes to Rs. 2,160. Divide the profit among them according to their investment.

[3]

Ans: Rs. 600; Rs. 720; Rs. 840

**2. 2073 Set D Q.No. 16**

A, B and C enter into a partnership. A putting Rs. 2000 for the whole year, B putting Rs 3000 at first and increasing it to Rs. 4000 at the end of 4 months whilst C puts in at first Rs 4,000 but withdraws Rs 1000 at the end of 9 months. How should they, at the end of a year divide a profit of Rs. 8475?

[5]

Ans: Rs. 1,800; Rs. 3,300; Rs. 3,375

**3. 2072 Supp Q.No. 16**

X, Y and Z form a business with capitals Rs. 5000, Rs. 4500 and Rs. 6500 respectively. After 6 months, X doubles his capital and after next 3 months Y trebles his capital. If the profit at the end of the year amounted to Rs. 8300, find the profit obtained by each of X, Y and Z.

[5]

Ans: Rs. 3,000; Rs. 2700; Rs. 2600

**4. 2072 Set C Q.No. 16**

Eliza, Dipika and Sirjana started a business with capitals Rs.5,000, Rs.4,500 and Rs.6,500 respectively. After 6 months, Eliza doubles her capital and after next 3 months, Dipika trebles her capital. If the profit at the end of the year amounted to Rs.8,300, find the profit obtained by each of Eliza, Dipika and Sirjana.

[5]

Ans: Rs. 3,000, Rs. 2,700, Rs. 2,600

**5. 2072 Set D Q.No. 16**

Sonam, Ronas and Suman form a partnership contributing Rs.5,000, Rs.3,000 and Rs.2,500 respectively. Suman gets 12.5% of the profit as salary. Remaining profit is distributed in proportion to their capital contribution. If at the end of the year, Suman gets a total of Rs.2,800 from the firm, what is the total profit of the firm and how much do Sonam and Ronas receive?

[5]

Ans: Total profit = Rs. 8400; Sonam: Rs.3500; Ronas: Rs.2100

**6. 2072 Set E Q.No. 16**

Ram, Shyam and Hari invest in a business with capitals Rs. 5,000 and Rs. 4,500 and Rs. 6,500 respectively. After six months, Ram doubles his capital and after next three months Shyam trebles his capital. If the profit at the end of the year amounted to Rs. 8,300, find the profit obtained by each.

[5]

Ans: Ram Rs.3,000; Shyam: Rs 2,700; Hari: Rs.2,600

**7. 2071 Supp Q.No. 16**

A and B are partners in a business and invest Rs.2000 and Rs.3000 respectively. A acts as manager for which he gets 25% of the profit for his service, and remaining is divided in the ratio of their investment. If B gets Rs.1350 of profit in his share, what would A get? [5]

Ans: Rs.1,650

**8. 2071 Set C Q.No. 16**

A and B started business with capitals of Rs. 5,000 and Rs. 4,000 respectively; after 6 months they admitted C with a capital of Rs. 8,000. If the profit at the end of the year amounts to Rs. 13,000, find the share of each in profit. [5]

Ans: Rs. 5,000, Rs. 4,000, Rs. 4,000

**9. 2071 Set D Q.No. 16**

Ram, Hari and Krishna entered into partnership investing Rs. 12,000 each for 6, 8 and 12 months respectively. Find the share of each in a profit of Rs. 26,000 after a year. [5]

Ans: Rs. 6,000; Rs. 8,000; Rs. 12,000

**10. 2070 Supp Q.No. 16**

Ramesh and Dipesh are partners. They contribute Rs. 20,000 and Rs. 30,000 respectively. Ramesh, however, acts as a manager, the understanding that Ramesh gets 25% of the total profit for his services, the remaining profit to be divided in the ratio of their contributions. If Dipesh gets Rs. 13,500 as his share, what should Ramesh get? [5]

Ans: Rs. 16,500

**11. 2070 Set C Q.No. 16**

A started a business with a capital of Rs. 7,000 in the beginning of the year. After 4 months, he admitted B with a capital of Rs. 6,000, after 6 months they admitted C with a capital of Rs. 8,000. If the profit at the end of the year amounts Rs. 15,000, find their profits individually. [5]

Ans: Rs. 7,000; Rs. 4,000; Rs. 4,000

**12. 2070 Set D Q.No. 16**

A, B and C start a business with capitals Rs. 5,000, Rs. 4,500 and Rs. 6,500 respectively. After 6 months, A doubles his capital and after next three months B trebles his capital. If the profit at the end of the year amounted to Rs. 8,300, find the profits obtained by each of A, B and C. [5]

Ans: A: Rs. 3,000; B: Rs. 2,700; C: Rs. 2,600

**13. 2069 Supp Q.No. 16**

A, B and C enter into a partnership, A putting in Rs. 2000 for the whole year, B putting Rs. 3000 at first and increasing it to Rs. 4000 at the end of 4 month whilst C puts in at first Rs. 4000 but withdraw Rs. 1000 at the end of 9 months. How should they at the end of a year divide a profit of Rs. 8475? [5]

Ans: Rs. 1800, Rs. 3300 and Rs. 3375

**14. 2069 Q.No. 16**

A, B and C are partners in a business with a joint capital of Rs. 18,000. A gives Rs. 2,000 more than B and B gives Rs. 2,000 more than C. Divide a profit of Rs. 1,080 among them. [5]

Ans: Rs. 480, Rs. 360, Rs. 240

**15. 2068 Q.No. 16**

A started business with a capital of Rs. 7,000 in the beginning of the year. After 4 months, he admitted B with a capital of Rs. 6,000; after 6 months they admitted C with a capital of Rs. 8,000. If the profit at the end of the year amounts to Rs. 15,000, find their profits individually. [5]

Ans: Rs. 7,000; Rs. 4,000; Rs. 4,000

**16. 2067 Q.No. 16**

A and B started business with capitals of Rs.5000 and Rs. 4000 respectively; after 6 months they admitted C with capital of Rs.8000. If the profit at end of the year amounts to Rs. 13000, find the profit according to time devotion. [5]

Ans: Rs. 5000; Rs. 4000 and Rs. 4000

**17. 2067 Supp Q.No. 16**

A is working as a working partner where B as a sleeping partner in a business. A invests Rs. 50,000 and B Rs. 60,000. A gets 12.5% for management and the remaining A and B in a total profit of Rs. 44,000. Find the share of each partner. [5]

Ans: Rs. 23,000 and Rs. 21,000

**18. 2066 Q.No. 16**

A, B, C engage in a business with a joint capital of Rs. 18000. A gives Rs. 2000 more than B and B Rs.2000 more than C. Divide a profit of Rs. 1080 among them. [5]

Ans: Rs. 480; Rs. 360 and Rs. 240

**19. 2066 Old Q.No. 9 c**

A and B starts a business with Capitals of 5:7. They withdraw respectively  $\frac{2}{3}$  and  $\frac{3}{4}$  of their capital at the end of 4 and 6 months. At the end of the year, a profit of Rs. 2660 is divided. Find the share of each [5]

Ans: Rs. 1,033 and Rs. 1,627

**20. 2066 Supp Q.No. 9 b**

There are three partners, A, B, C in a business and invested Rs. 40,000, Rs. 50,000 and Rs. 60,000 respectively. How can a profit of Rs. 30,000 be divided among them in proportion of their investments? [3]

Ans: Rs. 8,000; Rs. 10,000; Rs. 12,000

**21. 2065 Q.No. 16**

X, Y, Z start a business with a capital Rs. 21,000 of this X gives Rs. 1,000 more than Z and Y Rs. 2,000 more than Z. At the end of the year the profit to be divided is 16% of the total capital. What should each receive? [5]

Ans: Rs. 1,120; Rs. 1,280 and Rs. 960

**22. 2064 Q.No. 16**

Sukhi and Khushi entered into partnership investing Rs. 10,000 and Rs. 7,500 respectively. They passed an agreement that after charging 6% interest on their respective capitals, the balance of the profit if any should be shared by them in equal ratio. Find the share of each partner, if the business makes a profit of Rs. 6,400. [5]

Ans: Rs. 3,275; Rs. 3,125

**23. 2064 Q.No. 9 c Old**

A and B were equal partners in a manufacturing concern. C was admitted as a new partner to whom A agreed to give up  $\frac{2}{19}$  of his share and B,  $\frac{3}{19}$  of his share. When the profits were divided, C got Rs. 1690. How much did A and B receive? [5]

Ans: Rs. 5746; Rs. 5408

**24. 2063 Q.No. 9 c**

Dharma, Marma and Karma enter into a partnership. Dharma invests Rs. 25,000 for the whole year, Marma investing Rs. 32,000 at first and then increasing it to Rs.40,000 at the end of 5 months while Karma invests Rs. 40,000 at first but withdraws Rs. 5,000 at the end of 8 months. How should they divide a profit of Rs. 61,500 at the end of the year? [5]

Ans: Rs. 15375, Rs. 22,550, Rs. 23,575

**25. 2062 Q.No. 9 c**

Ram and Shyam contribute Rs. 5,000 and Rs. 4,000 towards partnership. They agree to divide the profit up to the 25% of the total capital equally amongst themselves and further agree that the excess if any should be divided in proportional to their capitals. How should a profit of Rs. 2,700 be divided between them? [5]

Ans: Rs. 1375, Rs. 1325

**26. 2061 Q.No. 9 c**

Ranjan, Sajjan and Arjan start a business with a capital of Rs. 21,000. Of this, Rs. 7,000 is contributed by Ranjan, Rs. 8000 by Sajjan and rest by Arjun. After 8 months Arjan withdraws Rs. 1000 while Ranjan and Sajjan each add Rs. 500. At the end of the year the profit to be divided is 16% of the total capital. What should each receive, assuming the profit to be divided in proportion to capitals? [5]

Ans: Rs. 1146.67, Rs. 1306.67 and Rs. 906.66

**27. 2060 Q.No. 9 c**

X, Y and Z are partners in a business and invest Rs. 40,000, Rs. 50,000 and Rs. 60,000 respectively. Divide a profit of Rs. 30,000 among them in proportion of their investments. [5]

Ans: Rs. Rs. 8,000; 10,000; Rs. 12000

**28. 2059 Q.No. 9 c**

A and B are partners in a business. A contributes Rs. 32000 and B Rs. 80000. A, however, acts as manager and is to receive 15% of the profit as salary, it is being agreed that the balance is to be shared between the partners in proportion to their contributions. A's share of profit and salary in the business in a year amounts to Rs. 11000. What is B's share? [5]

Ans: Rs. 17000

**29. 2058 Q.No. 9 c**

Two partners start a business Mr. X contributes Rs. 24000 and Mr. Y Rs. 36000. Mr. X receives 25% of the profit as salary as manager. At the end of 7 months Mr. X withdraws 1/4 of his capital and Mr. Y withdraws 1/6 of his capital. If the profit for the year amounted to Rs. 42,000, what sum of money will each receive? [5]

Ans: Rs. 22813.64, Rs. 19186.36

**30. 2057 Q.No. 9 c**

Mari and Bijaya invested Rs. 60,000 and Rs. 36,000 in a firm. They agreed to receive 10% interest on their capital out of the annual profits and the remaining profits are shared in the ratio of their capitals. If Mari receives a total amount of Rs. 16,500, find Bijaya's share. [5]

Ans: Rs. 9900

**UNIT 18: MONEY AND EXCHANGE****1. 2073 Set C Q.No. 10a**

A merchant in Nepal buys goods in London to the value of £ 2000. Find the value of the goods in NC when the rate of exchange between Nepal and India is Rs. 1.60 for Rs. 1(I.C) respectively, and between London and India is £ 10 for Rs. 845 I.C. [3]

Ans: Rs. 270,400 (NC)

**2. 2073 Set D Q.No. 10b**

If Rs 134.16 = £1, £51 = 132.60 Australian dollars, 60 Australian dollars = 51.60 Swiss francs, how many Swiss francs will be equal to Rs. 67500? [3]

Ans: Rs. 67,500

**3. 2072 Supp Q.No. 10b**

If 2 kg of tea is worth 3.3 kg of sugar, 2.2 kg of sugar is worth 9.6 kg of flour and 24 kg of flour is worth 1 kg of coffee, how much quantity of tea is worth 12 kg of coffee? [3]

Ans: 40 kg

**4. 2072 Set C Q.No. 10a**

If 2 kg of mangoes are worth 4 kg of oranges, 9 kg of oranges, are worth 4 kg of apples and 6.25 kg of apples are worth 3 kg of grapes, how many kg of mangoes are worth 7 kg of grapes? [3]

Ans: 16.41 kg

**5. 2072 Set D Q.No. 10a**

If Rs.22 = £1, £0.5 = 3.52 marks, 48 francs = \$1 and 391 marks = \$1, find the arbitrary rate of exchange between France and Kathmandu. [3]

Ans: 1 Franc = Rs. 315.46

**6. 2072 Set E Q.No. 10a**

A merchant in Nepal buys goods in London to the value of £ 1000. Find the value of goods in N.C. in Kathmandu when the rate of exchange between India and Nepal is Rs. 1.60 (NC) for IRI (I.C.), and between London and India is £ 10 = IR 833. [3]

Ans: Rs. 1,33,280 (NC)

**7. 2071 Supp Q.No. 10a**

If 2 kg of mangoes is worth 4 Kg of oranges, 9 Kg of oranges is worth 4 Kg of apples and 6.25 Kg of apples is worth 3 Kg of grapes, then how many Kg of mangoes is worth 7 Kg of grapes? [3]

Ans: 16.41 kg

**8. 2071 Set C Q.No. 10b**

If 90 dollars = 75 Euro, 60 Euro = 89.10 Swiss Francs, 56 Swiss Francs = £25 and £1 = Rs. 134.40, how many rupees are equivalent to 500 dollars? [3]

Ans: Rs. 37,125

## 9. 2071 Set D Q.No. 17

A merchant in Nepal buys goods in London to the value of £2,000, find the value of the goods in N.C. when the rate of exchange between Nepal and India is Rs. 1.60 for Re. 1 (I.C.) respectively, and between London and India is £ 10 for Rs. 845 (I.C.)

Ans: Rs. 270,400 (NC)

## 10. 2070 Supp Q.No. 10a

Determine the exchange rate between England and Germany assuming that £ 1 = 123.27

grains of gold  $\frac{11}{12}$  fine and 10 marks = 61.4 grains of gold  $\frac{9}{10}$  fine. [3]

Ans: £ 1 = 20.45 marks

## 11. 2070 Set C Q.No. 10 b

If £ 95 = 133 Euro, 5 Swiss francs = \$4, \$ 10 = Rs. 745, 538 Swiss francs = £ 250, find how many Euro are equal to Rs. 80,162. [3]

Ans: 875 Euro

## 12. 2070 Set D Q.No. 10 a

A merchant at Kathmandu imports goods worth 15,200 francs. The rate of remitting the amount through T.T. is Rs. 35.50 for a franc, while the rate is 0.29 francs for Rs. 10 if remitting through sight draft. Find which method is cheaper and by what amount? [3]

Ans: 2<sup>nd</sup> method and Rs. 15462.07

## 13. 2069 Supp Q.No. 10 b

If 0.5 kg of tea is worth 1.5 kg of sugar, 5 kg of sugar is worth 15 kg of flour, 25 kg of flour is worth 1 kg of coffee, how many kg of tea is worth 9 kg of coffee? [3]

Ans: 25 kg

## 14. 2069 Q.No. 10a

Find the arbitrated rate of exchange between euro € in Italy and Rs. in Kathmandu as Rs.130 = £ 1, 50p = 1.97 marks, 7.62 Franc = euro € 1 and 2.98 Franc = 1 mark. [3]

Ans: Euro € 1 = Rs. 84.37

## 15. 2068 Q.No. 10b

A merchant in Nepal buys goods in London to the value of £1000. Find the value of the goods in N.C.; when the rate of exchange between India and Nepal is Rs. 1.60 (N.C.) for Re. 1 (I.C.) and between London and India is £100 = Rs. 8425 (I.C.). [3]

Ans: Rs. 1,34,800

## 16. 2067 Q.No. 17

If 6 chairs are worth 4 tables, 5 tables are worth 3 desks and 20 desks are worth 6 daraj, find the cost of a daraj when a chair is worth Rs. 960. [5]

Ans: Rs. 8000

## 17. 2067 Supp Q.No. 10a

Find the arbitrary rate of exchange between France and Rupee of Rs. 75.50 = 1.50 pence = 3.50 marks, 4.80 Francs = 3.90 marks = \$1. [3]

Ans: 1 Franc = Rs. 17.53

## 18. 2066 Q.No. 10 a

Determine the par of exchange between London and New York. If £1 contains 61.635 grains of gold  $\frac{11}{12}$  fine and 1 dollar contained 25.8 grains of gold  $\frac{9}{10}$  fine. [3]

Ans: £1 = \$ 2.43

## 19. 2066 Old Q.No. 10 a

Razor blades are quoted at German port at 490 DM per kg. Find the imported cost of blades per gross, being given that £1 = 3.91DM, Re1 = £0.044, 1 kg = 15400 grains, weight of blade = 3.2 grains, average cost of transport, insurance, customs etc. Rs 26.81 per gross. [5]

Ans: Rs. 112.03

## 20. 2066 Supp Q.No. 10 a

If Rs. 126.36 = £1, 50p = 3.52 marks, 4.3 francs = \$1, 3.91 marks = \$1, find the arbitrary rate of exchange between Francs and Kathmandu. [3]

Ans: 16.32

## 21. 2065 Q.No. 10 a

If Rs. 126.36 = £1, 50P = 3.52 marks, 4.8 francs = \$1, 3.91 marks = \$1, find the arbitrary rate of exchange between France and Kathmandu. [3]

Ans: Rs. 14.62 = 1 Francs

## 22. 2064 Q.No. 10 a

Find the arbitrary rate of exchange between New York and Kathmandu from the following data:  
Rs. 135.75 = £1, £2 = 3 Euro (€), \$9 = 11.25 Swiss francs and 18.1 Swiss francs = 12 Euro (€). [3]

Ans: \$1 = Rs. 75

## 23. 2064 Q.No. 10 a Old

If 6 chairs are worth 4 tables, 5 tables are worth 3 desks and 20 desks are worth 6 daraj; find the cost of a daraj when a chair is worth Rs. 180. [5]

Ans: Rs. 1,500

## 24. 2063 Q.No. 10 a

A merchant of New York bought some goods from Nepal worth Rs. 55,680. If 1 dollar = Rs. 72.50 and £1 = Rs. 128, if by sending money through London he saves 19.80 dollars, find the rate of exchange between New York and London. [5]

Ans: £1 = \$1.72

## 25. 2062 Q.No. 10 a

A merchant in American owners Rs. 36,570 to a merchant in Kathmandu. If the exchange in Kathmandu is at the rate of Rs. 71.00 per dollar while the exchange in London is at the rate of £24 = \$45 and the exchange between London and Kathmandu is £6 = Rs. 795. Find how much the merchant will gain or loss by remitting through London instead of direct. [5]

Ans: Gain by \$2.43

## 26. 2061 Q.No. 10 a

A student going to Australia for study changed his entire amount Rs. 44992 into Australian dollars at the rate of 1 Australian dollar = Rs. 56.24. He spent 400 Australian dollars in Australia. On returning to Nepal he changed the amount left with him and got Rs. 22600, find the new rate of exchange between Nepal and Australia. [5]

Ans: Rs. 56.50 = 1 Australian dollar

## 27. 2060 Q.No. 10 a

A merchant in Nepal buys goods in London to the value of £1000. Find the value of the goods in NC. When the rate of exchange between India and Nepal is Rs. 1.6 for Rs. 1 IC and between London and India is £20 Rs. 1690 IC. [5]

Ans: Rs. 135200 NC

## 28. 2059 Q.No. 10 b

If the exchange between London and Paris is £1 for 14.28 Francs, between Paris and New York 100 Francs for \$15, between New York and Calcutta \$1 for Rs. 63, between Calcutta and Moscow Rs. 650 for 100 roubles. Calculate the arbitrary rate of exchange between London and Moscow? [5]

Ans: £1 = 20.76 roubles

## 29. 2058 Q.No. 10 a

A merchant of Kathmandu imports goods with 15200 Francs. The rate of remitting the amount through T.T. is Rs. 35.50 for a Franc, while the rate is 0.29 Franc for Rs. 10 if remitting through sight draft. Find which method is cheaper and by what amount? [5]

Ans: 2<sup>nd</sup> method and Rs. 15462.07

## 30. 2057 Q.No. 10 b

Determine the exchange rate between England and Germany assuming that £ 1 = 123.27 grains of gold,  $\frac{11}{12}$  fine and 10 Marks = 61.4 grains of gold  $\frac{9}{10}$  fine. [5]

Ans: £1 = 20.45 Marks

## UNIT 19: PRESENT WORTH AND DISCOUNT

## 1. 2073 Set C Q.No. 17

The banker's discount on a bill due 6 months hence at 6% is Rs. 37.08. Find the true discount. [5]

Ans: Rs. 36

2. 2073 Set D Q.No. 10a

A bill drawn for Rs. 2700 was discounted in the bank for Rs. 2655. If the rate of discount was 5% p.a., find the time for which the bill was drawn. [3]

Ans: 4 months

3. 2072 Supp Q.No. 10a

A bill of Rs. 3750 was discounted which has 3 months to run before it matures legally at 8% p.a. Find the banker's discount and the discounted value of the bill. [3]

Ans: B.D. = Rs. 75; DV = Rs. 3675

4. 2072 Set C Q.No. 17

The interest on a certain sum is Rs.336 and the discount for the same time at the same rate is Rs.300. Find the sum. [5]

Ans: Rs. 2800.

5. 2072 Set D Q.No. 17

Find the difference between banker's discount and true discount on a bill for Rs.15,250 due 3 months hence at 5% p.a. [5]

Ans: Rs. 2.36

6. 2072 Set E Q.No. 10b

A purchased goods for Rs. 1500 and agreed to pay after six months with interest 10% p.a. Find the true discount payable by him. [3]

Ans: Rs.75

7. 2071 Supp Q.No. 17

The banker's discount on a bill due 6 months hence at 6% is Rs.37.08. Find the true discount. [5]

Ans: Rs.36

8. 2071 Set C Q.No. 10a

At what rate is the banker's discount calculated when a bill of Rs. 5000 is accepted by a bank for Rs 4700 due 8 months? [3]

Ans: 9% p.a.

9. 2071 Set D Q.No. 10a

Find the present worth on a bill of Rs. 1655 payable 3 months hence at the rate of interest 13% p.a. [3]

Ans: Rs. 1602.91

10. 2070 Supp Q.No. 17

A bill of Rs. 16790 drawn for 150 days was discounted in the bank at the rate of 5% p.a., what was banker's discount and how much did the holder of the bill receive? [5]

Ans: Rs. 16445

11. 2070 Set C Q.No. 10 a

A person draws a 4 months bill for Rs. 1500 and discounts it with a bank on the same day at 9% p.a. Find what does he receive from the bank. [3]

Ans: Rs. 1455

12. 2070 Set D Q.No. 17

A bill of Rs. 5,050 drawn for 6 months is discounted in the bank at 4% p.a. How much does the holder of the bill receive from the bank? [5]

Ans: Rs. 4,949

13. 2069 Supp Q.No. 10 a

Find the difference between the banker's discount and the true discount on R. 330 in 4 years at 2.5% p.a [3]

Ans: Rs. 3

14. 2069 Q.No. 17

The difference between the true and banker's discount on a certain bill due three months hence at 4% p.a. is Rs. 5. Find (a) true discount (b) the banker's discount (c) amount of the bill. [5]

Ans: (a) Rs. 500 (b) Rs. 505 (c) Rs. 50,500

15. 2068 Q.No. 10a

A banker discounts a bill which has 25 days to run before it is legally due at  $5\frac{1}{16}$ % p.a. This discount amounts to Rs. 20.25 P. For what sum was the bill drawn? [3]

Ans: Rs. 5,840



**16. 2067 Q.No. 10 a**

Find the difference between the banker's discount and true discount on a bill of Rs. 3500 due in 219 days 5% p.a.

[3]  
Ans: Rs. 3.06**17. 2067 Q.No. 10 b**

The interest on a sum in Rs. 600 and the discount for the same time at the same rate is Rs. 500. Find the sum.

[3]  
Ans: Rs. 3,000**18. 2067 Supp Q.No. 10b**

Find the rate of discount if the discount on Rs. 4200 payable 4 months hence is Rs. 112.

[3]  
Ans: 8.21%**19. 2066 Q.No. 17**

If the credit price of 5 copies of a book is equal to the cash price of six copies of the same book, what is the rate of discount?

[5]  
Ans:  $16\frac{2}{3}\%$ **20. 2066 Old Q.No. 10 b**

The difference between the true and the banker's discount on a certain bill due three months hence is Rs. 18. The rate of interest being 12%, find (i) True discount (ii) Banker's discount (iii) Amount of the bill discounted.

[5]  
Ans: (i) Rs. 600 (ii) Rs. 618 (iii) Rs. 20,600**21. 2066 Supp Q.No. 18**

The interest on a certain sum of money is Rs. 22 and discount on the same for the same time and the same rate is Rs. 20. Find the sum.

[5]  
Ans: Rs. 220**22. 2065 Q.No. 10 b**

If the credit price of 5 copies of a book is equal to cash price of 6 copies of the same book, what is the rate of discount?

[3]  
Ans:  $16\frac{2}{3}\%$ **23. 2065 Q.No. 17**

Ram draws a bill upon Shyam for Rs. 1825, which includes a discount of Rs. 73 at a rate of 12.5% p.a. Find the due time.

[5]  
Ans: 4 months**24. 2065 Old Q.No. 10 b**

The true discount on a bill for Rs. 2814 is Rs. 14 at 2.5%. Find how many days before the due date the bill was drawn.

[5]  
Ans: 73 days**25. 2064 Q.No. 17**

A banker discounts a bill which has 25 days to run before it is legally due at  $5\frac{1}{16}\%$  p.a. This discount amounts to Rs. 20.25. For what sum was the bill drawn?

[5]  
Ans: Rs. 5,840**26. 2064 Q.No. 10 b Old**

The true discount on a certain bill due 2 years hence at 10% p.a. is Rs. 100. Find the banker's discount on the same sum for the same time and at the same rate.

[5]  
Ans: Rs. 120**27. 2063 Q.No. 10 b**

A bill of Rs. 5,050 drawn for 6 months is discounted in the bank at 4% p.a. How much does the holder of the bill receive from the bank?

[5]  
Ans: Rs. 4,949**28. 2062 Q.No. 10 b**

Find the difference between the banker's discount and the true discount on a bill of Rs. 4,368 due in 146 days at 10% p.a.

[5]  
Ans: Rs. 6.72**29. 2061 Q.No. 10 b**

The difference between the true discount and banker's discount on a certain bill due three months hence at 4% p.a. is Rs. 5. Find the amount of the bill.

[5]  
Ans: 50,500

## 30. 2060 Q.No. 10 b

If the banker's discount of Rs. 28000 at 3.5% p.a. be equal to the true discount on Rs. 28735 for the same time at the same rate, when are the sums due? [5]

Ans: 9 months

## 31. 2059 Q.No. 10 a

The interest on a certain sum due 3 years is Rs. 41.50 and the discount on the same sum for the same time at the same rate is Rs. 40. Find the rate percent p.a. [5]

Ans: 1.25%

## 32. 2058 Q.No. 10 b

The interest on a certain sum is Rs. 600 and the discount for the same time at the same rate Rs. 500. Find the sum. [5]

Ans: Rs. 3000

## 33. 2057 Q.No. 10 a

Find the difference between banker's discount and true discount on a bill for Rs. 15,250 due 3 months hence 5% p.a. [5]

Ans: Rs. 2.36

## UNIT 20: COMPOUND INTEREST AND DEPRECIATION

### A. COMPOUND INTEREST

## 1. 2073 Set C Q.No. 10b

With what rate of compound interest Rs. 4,500 in two years yields Rs. 945 as an interest? [3]

Ans: 10%

## 2. 2073 Set D Q.No. 17

The simple interest on a certain sum for 2 years at 9% p.a. is Rs. 90. Find the corresponding compound interest. [5]

Ans: Rs. 94

## 3. 2072 Supp Q.No. 17

Sarita lends two sums each of Rs. 2500 to two of her friends for 3 years charging 8% p.a. at simple interest for one and the same rate percent at compound interest for the other. Find the difference of interests obtained from the two friends. [5]

Ans: Rs. 49

## 4. 2072 Set E Q.No. 17

What is the rate percent per annum of a sum of money that doubles itself in 17 years at compound interest? [5]

Ans: 4.2%

## 5. 2070 Supp Q.No. 18

The difference between the simple interest and the compound interest on a certain sum for two years at 4% p.a. is Rs 32. Find the sum invested. [5]

Ans: Rs. 20,000

## 6. 2070 Set C Q.No. 17

A lady lends two sums each of Rs. 2,500 to two of her friends for 3 years charging 8% p.a. at simple interest for one and the same rate percent at compound interest for the other. Find the difference of interest obtained from the two friends. [5]

Ans: Rs. 49

## 7. 2070 Set D Q.No. 18

What is the rate percent p.a. of a sum of money which doubles in 17 years at compound interest? [5]

Ans: 4.2%

## 8. 2069 Supp Q.No. 17

Find the difference between the simple interest and the compound interest on Rs. 700 for 3 years at 5% p.a. [5]

Ans: Rs. 5.40

## 9. 2069 Q.No. 18

Find the rate percent per annum at which a certain sum invested at compound interest trebles itself in 15 years. [5]

Ans: 7.6% p.a.

**10. 2068 Q.No. 17**

Find the compound interest on Rs. 6,900 for 3 years if the rate of interest be payable half yearly and the rate of interest for the first two years being 6% p.a. and for the third year 9% p.a. [5]  
 Ans: Rs. 1,576

**11. 2067 Supp Q.No. 17**

In how many years will a sum of money double itself at 5% compound interest payable half-yearly? [5]  
 Ans: 14 years (nearly)

**12. 2066 Old Q.No. 10 c**

What is the compounded interest of Rs. 4000 lent for 2 years at 8% p.a. if interest is payable (i) yearly (ii) half yearly and (iii) quarterly? [5]  
 Ans: (i) Rs. 665.60 (ii) Rs. 676 (iii) Rs. 684

**13. 2066 Supp Q.No. 10 b**

Obtain the sum if the difference between C.I. and S.I. on a certain sum put out for 6.5 years at 6.5% p.a. was Rs. 84.50. [3]  
 Ans: Rs. 1,000

**14. 2065 Q.No. 18**

Find the compound interest on Rs. 6,900 for 3 years if the interest be payable half yearly and the rate of interest for the first two years being 6% p.a. and for the third year 9% p.a. [5]  
 Ans: CI = Rs. 1,576

**15. 2065 Old Q.No. 10 c**

A sum of money put out a compound interest increased by Rs. 180 at the end first year and Rs. 188.10 at the end of second year. Find the rate percent and the sum. [5]  
 Ans: 4.5%, Rs. 4,000

**16. 2064 Q.No. 18**

The difference between the simple interest and the compound interest on a certain sum for two years at 4% p.a. is Rs. 32. Find the sum invested. [5]  
 Ans: Rs. 20,000

**17. 2064 Q.No. 10 c Old**

If the compound interest on Rs. 500 for 5 years is Rs. 99.8, find the compound interest on Rs. 625 for 15 years at the same rate. [5]  
 Ans: Rs. 450

**18. 2063 Q.No. 10 c**

Find the difference between the simple and the compound interests on Rs. 2,500 for 32 years at 4% p.a. [5]  
 Ans: Rs. 11

**19. 2061 Q.No. 10 c**

The simple interest on a certain sum for 3 years at 4% p.a. is Rs. 240. Find the compound interest for the same sum at the same rate for the same time. [5]  
 Ans: Rs. 249

**20. 2060 Q.No. 10 c**

Find how long it will take for a sum of money to double itself at 5% p.a. compound interest payable annually. [5]  
 Ans: 14.2 years

**21. 2057 Q.No. 10 c**

The population of a certain city in 1990 was 5,00,000. It increased to 5,57,200 in 1995. Find the yearly rate of compound increase. [5]  
 Ans: 2.5%

**B. DEPRECIATION****1. 2072 Set C Q.No. 18**

A machinery costing Rs.60,000 has an estimated life for 20 years. If in 20 years, its cost is reduced by Rs.43,000, find the rate of compound depreciation. [5]  
 Ans: 6.11%

**2. 2072 Set D Q.No. 18**

A machine costing Rs.24,000 is estimated to have a life of 8 years. By charging depreciation on the reducing balance, if its break up value after this period is estimated at Rs.4,000, find the rate of depreciation. [5]  
 Ans: 20.7%

**3. 2071 Supp Q.No. 10b**

Find the scrap value of the machine costing Rs. 20000 after 10 years at 10% p.a. compound depreciation. [3]

Ans: Rs. 6966

**4. 2071 Set C Q.No. 17**

A machine, the life of which is estimated to be 10 years, cost Rs. 10,000. Calculate its scrap value at the end of its life; depreciation on the reducing instalment system being charged at 10% p.a. [5]

Ans: Rs. 3,483

**5. 2071 Set D Q.No. 10b**

A machinery is purchased at Rs. 10,000. Its life is estimated at 10 years and then to fetch a sum of Rs. 4,000 there after find the rate of compound depreciation. [3]

Ans: 8.76%

**6. 2066 Supp Q.No. 13**

In how many years should a plant costing Rs. 48,000 be reduced to Rs. 8,000 providing depreciation at 25% p.a. on the diminishing balance? [5]

Ans: 6.23 years

**7. 2062 Q.No. 10 c**

Depreciation on a machinery is written off at 5% every year. If its value of the end of 12 years is Rs. 12,500, what was the original cost of the machinery? [5]

Ans: Rs. 23150

**8. 2059 Q.No. 10 c**

A machinery costing Rs. 60,000 has as estimated life for 20 years. If in 20 years, its cost is reduced by Rs. 43,000, find the rate of compound depreciation. [5]

Ans: 6.11%

**9. 2058 Q.No. 10 c**

In how many years a machine costing Rs. 60,000 will be reduced to Rs. 1000, providing depreciation at 5% p.a. on the diminishing balance? [5]

Ans: 79.74 yrs

**UNIT 21: ANNUITY****1. 2073 Set C Q.No. 18**

In how many years will an annuity certain of Rs. 1000 amount to Rs 3993 at 8% p.a. compound interest? [5]

Ans: Rs. 3.6 years

**2. 2073 Set D Q.No. 18**

Find the present value of an annuity of Rs. 400 for 10 years at 5% compound interest. [5]

Ans: Rs. 3,089.60

**3. 2072 Supp Q.No. 18**

Find the amount of an annuity of Rs. 250 per year for 5 years at 8% p.a. [5]

Ans: Rs. 1465.625

**4. 2072 Set C Q.No. 10b**

Kathmandu Mahanagarpalika borrowed from the government of Nepal an interest free loan of Rs.10,00,000 to be paid back in 20 years. Find the amount that should be deposited in a bank annually to accumulate 4% p.a. compound interest to pay-off the debt. [3]

Ans: Rs.33670.

**5. 2072 Set D Q.No. 10b**

In how many years will an annuity certain of Rs.1000 amount to Rs.3993 at 8% p.a.? [3]

Ans: 3.6 years

**6. 2072 Set E Q.No. 18**

Find the amount of an immediate annuity of Rs. 1200 a year for 12 years at 6% p.a. [5]

Ans: Rs.20240

**7. 2071 Supp Q.No. 18**

What is the present value of an annuity of Rs.500 a year for 5 years at 3.5% p.a.? [5]

Ans: Rs.2551.42

**8. 2071 Set C Q.No. 18**

Find the amount of an immediate annuity of Rs. 700 a year for 4 years at 5% p.a. [5]

Ans: Rs. 3,010

**9. 2071 Set D Q.No. 18**

Find the present value of an annuity of Rs. 400 in a year for 10 years at 5% p.a. [5]  
 Ans: Rs. 3089.60

**10. 2070 Supp Q.No. 10b**

Find the present value of an annuity due of Rs. 400 per year for 15 years at 8% p.a. [3]  
 Ans: Rs. 3696.30

**11. 2070 Set C Q.No. 18**

Find the present value of an immediate annuity of Rs. 150 per year for a period of 12 years, at the rate of 3.5% p.a. [5]  
 Ans: Rs. 1446.43

**12. 2070 Set D Q.No. 10 b**

Find the present value of annuity of Rs. 800 a year for 20 years at 5% p.a. [3]  
 Ans: Rs. 9972.80

**13. 2069 Supp Q.No. 18**

Find the amount of an annuity of Rs. 700 a year for 4 years at 5% p.a. [5]  
 Ans: Rs. 3,010

**14. 2069 Q.No. 10b**

Find the amount of annuity of Rs. 400 per year for 5 years at 6% p.a. [3]  
 Ans: Rs. 2,260

**15. 2068 Q.No. 18**

Find the present value of annuity of Rs. 400 for 10 years at 5% compound interest. [5]  
 Ans: Rs. 3,089.60

**16. 2067 Q.No. 18**

In how many years will annuity of Rs. 400 amount to Rs. 4064 at 3% p.a. compound interest? [5]  
 Ans: 9 years (approx)

**17. 2067 Supp Q.No. 18**

What is the present value of an immediate annuity of Rs. 1,200 payable for 5 years compound interest at the rate of 9% p.a.? [5]  
 Ans: Rs. 4665.33

**18. 2066 Q.No. 10 b**

Find the present value of an annuity of Rs. 80 a year for 20 years at 5% p.a. [3]  
 Ans: Rs. 997.28

**19. 2066 Q.No. 18**

Find the present value of an annuity of Rs. 8000 a year for 20 years at 5% p.a. [5]  
 Ans: Rs. 99,728

**20. 2066 Old Q.No. 10 d**

A person retires at the age of 60 years. He is supposed to get from his office an annual pension of Rs. 3000 payable in half yearly installment. The office expects him to be alive for 13 more years and, therefore, it desires to set aside a fund for allowing him the pension for the period. If the sum set aside yields 8% p.a. C.I.; what single sum should be set aside? [5]  
 Ans: Rs. 23,947.50

**21. 2065 Old Q.No. 10 d**

Find the present value of an annuity due of Rs. 400 per year for 15 years at 8% p.a. [5]  
 Ans: Rs. 3696.30

**22. 2064 Q.No. 10 b**

Find the amount of an annuity of Rs. 700 a year at 4 years at 5% p.a. [3]  
 Ans: Rs. 3,010

**23. 2064 Old Q.No. 10 d**

Find the amount of an immediate annuity of Rs. 1,200 a year for 12 years at 6% p.a. [5]  
 Ans: Rs. 20,240

**24. 2063 Q.No. 10 d**

A donor decides to grant to the students of a college an annual scholarship of Rs. 6,000 for a period of 10 years. What should he deposit in the bank with compound interest at 12% p.a., so that the sum may be sufficient to grant a scholarship? Assume that the scholarship is payable to the students at the end of the year. [5]  
 Ans: Rs. 33,895

**25. 2062 Q.No. 10 d**

A loan of Rs. 18,000 and interest three on at  $4\frac{1}{2}\%$  p.a. is being paid off at 18 equal installments, the first payment being made at the end of the first year. Find the amount of each installment. [5]  
 Ans: Rs. 1481.08

26. 2061 Q.No. 10 d

Find the amount of an immediate annuity of Rs. 6200 a year payable for 6 years at 5% p.a. [5]

Ans: Rs. 42284

27. 2060 Q.No. 10 d

What is the present value of an annuity of Rs. 500 a year for 5 years at 3.5% p.a.? [5]

Ans: Rs. 2250

28. 2059 Q.No. 10 d

Find the present value of an annuity of Rs. 8,000 a year for 20 years at 5% p.a. [5]

Ans: Rs. 99728

29. 2058 Q.No. 10 d

Find the present value of annuity due to Rs. 5000 per year for 10 year at 6% p.a. [5]

Ans: Rs. 39008

30. 2057 Q.No. 10 d

In how many years will annuity certain of Rs. 1000 amount to Rs. 3,993 at 8% p.a. compound interest? [5]

Ans: 3.6 yrs

Question Bank Nepal