CLASS XII (COSTING)

TYPES OF REMUNERATION

Pg 170 q13 Two workers

Sunny & binny

Standard time to produce 1 unit = 36 seconds

Rate per hour is ₹3.00

Sunny produces 900 units

Binny produces 800 units

Working hours – 8 hours

Standard time to produce 1 unit 36 seconds

In 1 hour no of seconds = 60 x60 = 3600 seconds

So standard production in 1 hour = 3600/36 = 100 units

STANDARD PRODUCTION IN 8 HOURS =100 x 8 = 800 UNITS

Rate per hour = ₹3.00

So normal piece rate = rate per hour/no of units produced in 1 hour

= 3.00/100 = 0.03

Straight piece

Sunny earnings = no of units produced X rate per piece

= 900 units X 0.03 = ₹27.00

BInny earnings = no of units produced X rate per piece

= 800 units X 0.03 = ₹24.00.

Taylor differential

Sunny efficiency = AP/SP x 100 = 900/800 x 100 = 112.5%

>= 100% SO 120 % OF 0.03 = 0.036

WAGES = NO of UNITS PRODUCED x RATE PER PIECE

= 900 x 0.036= ₹32.4

Binny efficiency = AP/SP x 100 = 700/800 x 100 = 87.5%

< 100% SO 80 % OF 0.03 = 0.024

WAGES = NO of UNITS PRODUCED x RATE PER PIECE

= 700X 0.024= ₹16.8

Standard time to produce 1 unit = 4 min

Rate per hour = ₹75.00

X produces 600 units

Y produces 720 units

Z produces 900 units

Calculate their earnings.

In 4 min 1 unit produced

So 1 hours no of unit produced = 60/4 = 15 units

Rate per hour = ₹75

Normal piece rate = rate per hour/no of units produced in 1 hour = 75/15 = ₹5.00

X earnings = no of unit produces X rate per pice

= 600 x 5 = 3000

Y earnings = no of unit produces X rate per pice

= 720x 5 = 3600

Z earnings = no of unit produces X rate per pice

= 900 x 5 = 4500

Taylor differential piece rate system

Find out efficiency level of each labour = Actual Production/Standard Production X 100 (%)

<100% then the wages applicable will be 80% of normal piece rate

>=100% then the wages applicable will be 120% of normal piece rate.

Normal ₹10 per piece

80% of ₹10.00

>=100 120% of ₹10.00

Standard production in 8 hours = 48 units

Wage rate per hour = ₹72

X produces 40 units

Y produces 60 units

Calculate the earnings of X and Y under TDPRS.

Standard production in 8 hours = 48 units

So in 1 hour standard production will be = 48/8 = 6 units

Rate per hour = ₹72.00

Normal piece rate = 72/6 = ₹12

X

EFFICIENCY = AP/SP x `100 = 40/48 X 100 = 83%.

WORKER X EFFICIENCY LEVEL <100% SO APPLICABLE PIECE RATE WILL 80% OF ₹12 = ₹9.6

EARNINGS = NO OF UNITS PRODUCED x RATE PER PIECE

40 X 9.6 = ₹384

y

EFFICIENCY = AP/SP x `100 = 60/48 X 100 = 125%.

WORKER Y EFFICIENCY LEVEL >=100% SO APPLICABLE PIECE RATE WILL 120% OF ₹12 = ₹14.4

EARNINGS = NO OF UNITS PRODUCED x RATE PER PIECE

60 X 14.4 = ₹864

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Q7.

Standard Time allowed = 120 units per hour

Standard production in 8 hours = 120 x 8 = 960 units

Hourly rate = ₹7.00

Normal piece rate = 7/120= 0.058

P = 900 units

Efficiency = 900/960 X 100 = 94%

<100% so applicable piece rate = 80% of 0.058 = 0.0464

Earnings = 900 X 0.0464 = ₹42

Q = 1500 units

Efficiency = 1500/960 X 100 = 156%

>=100% so applicable piece rate = 120% of 0.058 = 0.0696

Earnings = 1500 X 0.0696 = ₹105

Q8. Standard output : 240 unit per day

Higher rate : 0.08

Lower rate : 0.05

A = 200 units

Efficiency = ap/sp X 100 = 200/240 X 100 = 83.33%

As the efficiency is <100% so applicable piece rate = 0.05

Earnings of A = No of units produces X rate per piece

= 200 X 0.05 = ₹10

B = 260 units

Efficiency = ap/sp X 100 = 260/240 X 100 = 108.33%

As the efficiency is >=100% so applicable piece rate = 0.08

Earnings of A = No of units produces X rate per piece

= 260 X 0.08 = 20.80

Q9. Standard production = 3200 units per week

Working hours in a week = 40 hours

Standard Units produced in 1 hour = 3200/40 = 80 units

Wage rate per hour = ₹20

Normal piece rate = rate per hour/no of units produced in 1 hour.

= 20/80 = 0.25

Akash

Efficiency = AP/SP X 100 = 3000/3200 X 100 = 93.75%

<100 % so applicable piece rate = 80% of 0.25 = 0.2

Wages = 3000 X 0.2 = ₹600

BIkash

Efficiency = AP/SP X 100 = 5000/3200 X 100 = 156.25%

>=100 % so applicable piece rate = 120% of 0.25 = 0.3

Wages = 5000 X 0.3 = 1500

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Standard time to produce in 1 unit = 20 seconds

So standard production in 1 hour = 3600/20 = 180 units

Standard production in 8 hours = 180 X 8 = 1440 units

Hourly rate= ₹18

Normal piece rate = 18/180 = 0.1

Earnings under straight piece

X = no of units produced X rate per piece

1300 units X 0.1 = ₹130

y = no of units produced X rate per piece

1500 units X 0.1 = ₹150

Taylor differential

X efficiency = AP/SP X 100 = 1300 /1440 x 100 = 90.2%

<100 % SO 80% OF 0.1 = 0.08

EARNINGS = NO OF UNITS PRODUCES x RATE PER PIECE

= 1300 x 0.08 =₹104

Y efficiency = AP/SP X 100 = 1500 /1440 x 100 = 104.1%

>=100 % SO 120% OF 0.1 = 0.12

EARNINGS = NO OF UNITS PRODUCEd x RATE PER PIECE

= 1500 x 0.12 =₹180

MERRICK MULTIPLE PIECE RATE SYSTEM

EFFICEICNY = AP/SP x 100

UPTO 83.33% THE WAGES IS PAID AT NORMAL pIECE RATE

>83.33% UPTO 100% THE WAGES ARE PAID AT 110% OF NORMAL PIECE RATE

>100 THE WAGES AE PAID AT 120% OF NORMAL PIECE RATE

NO 12

PIECE RATE /UNIT = ₹4.00

STANDARD OUTPUT IN 48 UNITS PER DAY OF 8 HOURS

ACTUAL OUTPUT

Amar = 32 units

Akbar = 42 units

Anthony = 50 units.

Amar

Efficiency = AP/SP X 100

= 32/48 x 100 = 66.7%

EFFICIENCY IS WITHIN 83.33% SO WAGES IS ACCORDING TO NORMAL PIECE RATE

= 32 x 4 = ₹128

Akbar

Efficiency = AP/SP X 100

= 42/48 x 100 = 87.5%

EFFICIENCY > 83.33% but less than 100% SO WAGES will be 110% of 4 = ₹4.4

= 42 X 4.4

= ₹184.8

Anthony

Efficiency = AP/SP X 100

= 50/48 x 100 = 104%

EFFICIENCY IS >100% SO WAGES IS 120% of ₹4 = 4.8

= 50 X 4.8

= ₹240

15.

Straight piece method

A wages = 600 units X 0.10 = ₹60

B wages = 1000 units X 0.10 = ₹100

C wages = 400 units X 0.10 = ₹40

Differential Piece rate earnings

Earnings of A = 400 x 0.10 + 200 x 0.12 = 40 + 24 =₹64

Earnings of B = 400 X 0.10 + 200 X 0.12 +200 x 0.14 + 200 X 0.16= 40 +24 + 28+32=₹124

Earnings of C = 400 X 0.10 = ₹40

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Efficiency	wages
70%	₹2
75%	₹2
80%	₹2
85%	₹2
90%	2.3
95%	2.3
100%	2.3
105%	2.5
110%	2.5
115%	2.5
120%	2.5
125%	2.5

Between 90% to 100 %115% of 2 = 2.3

> 100% 125% of 2 = 2.5

11.

Standard production per hour = 6 units

Normal rate per hour : ₹12

In a day of 8 hours worker produces : 38 unit

So standard production in 8 hours = 8X 6 = 48 units

Normal piece rate = rate per hour / no of unit produced in 1 hours = 12/6 = ₹2

Efficiency = AP/SP X 100

= 38/48 X 100 = 79.16%

According to merrick upto 83.33%, wages will be normal piece rate

Wages = 38 X 2 = ₹76.

Question :

Standard time to produce 1 unit = 4 min

Normal rate per hour ₹75

In a week of 48 hours Production of A,B,C are 600 units, 720 Units and 960 units

Calculate the wages under TDPRS and MMPRS