# VI Semester B.Com. Makeup Examination, Nov./Dec. 2021 

(Scheme : CBCS 2018-19)

# ADVANCED COST AND MANAGEMENT ACCOUNTING - II 

Time : 3 Hours<br>Instruction: Answer all parts. ఎల్లా భాగగษగగం లుత్తరిస.

Max. Marks : $\mathbf{8 0}$

## PART - A <br> బూగగ-ఎ

Answer any four of the following questions. Each question carries 5 marks.

$$
[4 \times 5=20]
$$



Q1) Write any 5 objectives of Management Accounting.


Q2) Write the difference between fund flow statement and cash flow statement.


Q3) Explain different types of Budgets.
మొంగడ జత్రగగఆ వివిధ బగేగఆ బగ్గి ఎిబరిసి.

## 73585

Q4) Calculate stock turnover ratio from the following data.
Opening stock - ₹ $4,80,000$
Closing stock - ₹ $6,00,000$

Purchases - ₹ $12,00,000$
Direct expenses - ₹ $3,00,000$

ఆరంభద సరపు-₹ 4,80,000 2రలదద-₹ $12,00,000$
అంకిము స్రరపు-₹ $6,00,000$ నెలర 2బひూఁగఆు-₹ $3,00,000$

Q5) From the following details calculate BEP
Variable cost per unit - ₹ 10
Selling price per unit -₹ 15
Fixed cost - ₹ $10,00,000$
శెళగిన విఐరగగింద బి.ఇ.జి [ససమానషాత బిండు] ఈండుఃండియిరి.
బదలలగుబ బె飞్బ్ ట్రై యిలనిటోగొ-₹ 10

స్థిర బేబ్జ్క-₹ 10,00,000

Q6) From the following information, calculate Trend percentages of ABC Co. Ltd.

| Particulars | $\begin{gathered} 2018 \\ ₹ \end{gathered}$ | $2019$ | $\begin{gathered} 2020 \\ ₹ \end{gathered}$ |
| :---: | :---: | :---: | :---: |
| Sales | 2,50,000 | 5,00,000 | 7,50,000 |
| Cost of goods sold | 1,50,000 | 2,00,000 | 2,50,000 |
| Administration expenses | 25,000 | 50,000 | 60,000 |
| Non-operating income | 10,000 | 20,000 | 30,000 |
|  |  |  |  |
| బిబరగళు | 2018 | 2019 | 2020 |
|  | ₹ | ₹ | ₹ |
| మూరలట | 2,50,000 | 5,00,000 | 7,50,000 |
|  | 1,50,000 | 2,00,000 | 2,50,000 |
| నిచ్ळణర చెజ్జూగకు | 25,000 | 50,000 | 60,000 |
| నిఐణळణలతర ఆదాయు | 10,000 | 20,000 | 30,000 |

## PART - B

భอกగ-బे
Answer any Three of the following questions. Each question carries 10 marks.
$[3 \times 10=30]$

Q7) What is Marginal Costing? Explain the assumptions of Marginal Costing.


Q8) From the following particulars prepare a cash flow statement in accordance with accounting standards using direct method for the year ended 31-03-2021.
a) Total purchases for the year were
₹ $4,05,000$ out of which cash purchases ₹ $1,50,000$
b) Cash balance on 01-04-2020 ₹ 10,000
c) Cash sales ₹ 40,000
d) Collection from Debtors ₹ 16,000
e) Interest on Investment ₹ 10,000
f) Interest on Debenture ₹ 2,000
g) Proceeds from issue of shares ₹ $2,00,000$
h) Purchase of fixed assets ₹ 20,000
i) Cash dividend paid ₹ 10,000
j) Income - Tax paid ₹ 5,000


ఎ) इజ్డ ఒట్టు ఎరిదద 4,05,000, ఇద్ధరల్లి సగదు ఎరిఁది రం. 1,50,000.
జ) 01-04-2020 రందు ఇద్దంతే ఆరంభిశ నగడుు కిల్కు-10,000.
ฝ) నగiడు మృరలట రా. 40,000.

ఇ) మూలణిళియ మొలిన బష్డి రో. 10,000.
ఎఘ్)నాలజ్ర్రద మొలిన బడ్డి రృ. 2,000

ळోజో)స్థర ఆస్తి బరిది రా. 20,000.
ఐ) నగగదు లాభాంత 山లచత రా. 10,000.
జీ) ఆదాయి తెరిగి ఱాచకి- రా. 5,000.

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Q9) From the following information for the year 2019-20 and 2020-21 prepare common size statement of Anushitha Co.

| Particulars | $31-03-2020 ₹$ | $31-03-2021 ₹$ |
| :--- | ---: | ---: |
| Share Capital | $35,00,000$ | $42,00,000$ |
| General Reserve | $3,50,000$ | $4,20,000$ |
| Secured Loan | $1,40,000$ | $1,05,000$ |
| Other Liabilities | 70,000 | 35,000 |
| Bills payable | $2,80,000$ | $3,50,000$ |
|  | $43,40,000$ | $51,10,000$ |
| Buildings | $21,00,000$ | $24,50,000$ |
| Stock | $7,00,000$ | $5,60,000$ |
| Machinery | $10,50,000$ | $15,40,000$ |
| Bills Receivable | $1,40,000$ | 70,000 |
| Cash at Bank | $3,50,000$ | $4,90,000$ |

ఈ శిళగిన మూకికిగళింద "అనుషితా చం." రవర స్మూన గలత్ర ఆస్తి-జదాబ్దారి జెట్టియన్ను 2019-20 ముత్తు 2020-21 నాల ఎజ్య్ర్ర్ర उయారిసి.

| విబెరెగు | 31-03-2020₹ | 31-03-2021₹ |
| :---: | :---: | :---: |
| アలరు బండదాళ | 35,00,000 | 42,00,000 |
| సరమూన్య మిలెలు | 3,50,000 | 4,20,000 |
| భద్రకెయ నాలగకు | 1,40,000 | 10,5,000 |
| ఇకరర మొอణึగరరిశిగటు | 70,000 | 35,000 |
| 2อడబిలరుద ముంณిగు | 2,80,000 | 3,50,000 |
| ఒట్ట్రు | 43,40,000 | 51,10,000 |
| రేట్టెగగకు | 21,00,000 | 24,50,000 |
| దాన్తును | 7,00,000 | 5,60,000 |
| యంంక్రలమచరణ | 10,50,000 | 15,40,000 |
| బరబిలరాద్ Шుంณిగటు | 1,40,000 | 70,000 |
| బ్లాంరినల్లిరువ నగదు | 3,50,000 | 4,90,000 |
| ఒట్టు | 43,40,000 | 51,10,000 |

## 73585

Q10）The following figures relate to Star Trek Ltd．，for the year ended 31－03－2021．

| Particulars | $₹$ |
| :--- | ---: |
| Opening stock | $1,70,000$ |
| Purchases | $6,70,000$ |
| Wages | $1,10,000$ |
| Office expenses | 20,000 |
| Sales | $14,10,000$ |
| Carriage inwards | 40,000 |
| Closing stock | $1,10,000$ |
| Selling expenses | 10,000 |

Calculate：
a）Gross profit Ratio
b）Net profit Ratio
c）Operating Ratio
d）Stock－Turnover Ratio


| పిదరగజు | ₹ |
| :---: | :---: |
| ఆరంభ దలన్తరను | 1，70，000 |
| 2ర¢ది | 6，70，000 |
| చoల | 1，10，000 |
| శభిలరి బెబ్జుగకు | 20，000 |
| మూరాట్ | 14，10，000 |
| 2రిలద నలగగాణిశ బె飞్జ | －40，000 |
| అంకిము దాన్తాను | 1，10，000 |
| మారాట చొ飞్జ | 10，000 |

\＃ంmburaili：
ఎ）นีళ̧ల లాభ ※రిమూణ．
బ）నివ్ణ లాభ Шరిమూణ．
ฝ）బ్యవదారిచ బిజ్జ 山రిముణ．
（ి）స్రరపు ఆవత్చ జరిమోణ．

Q11）Sanjitha Ltd．，has two sales divisions at Bangalore and Mangalore．It sells two products $P_{1}$ and $P_{2}$ ．The budgeted and actual sales for the year ending 31－12－2020 are given below．

| Division | Product | Budgeted Sales |  | Actual Sales |  |
| :--- | :--- | :--- | :---: | :---: | :---: |
|  |  | $\underline{\text { Units }}$ | $\frac{\text { Rate per }}{}$ | $\underline{\text { Units }}$ | $\underline{\text { Rate per }}$ |
| Bangalore | $\mathrm{P}_{1}$ | $1,50,000$ | $\frac{\text { unit }}{20}$ |  | $1,80,000$ |
|  | $\mathrm{P}_{2}$ | $1,00,000$ | 15 | $1,25,000$ | 15 |
| Mangalore | $\mathrm{P}_{1}$ | $3,00,000$ | 20 | $3,40,000$ | 20 |

From the reports of sales personnel it was considered that the sales budget for the year ending 31－12－2021 would be higher than 2020 budget in the following aspects－
Bangalore product $P_{1}$
30，000 units
Bangalore product $P_{2}$ 20，000 units
Mangalore product $P_{1} \quad 50,000$ units
Intensive sales campaign is expected to result in sales of 75,000 units of product $\mathrm{P}_{2}$ in Mangalore．Prepare Sales Budget for the year 2021 including budgeted and actual sales of previous year 2020.




| దిబాగ | జదాథ్ | అందాజు సొరాట్ర |  | న్నెజ మూరౌట |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | యులనిటా | యొలనటో దర | యొలనిటో | యుననిటో దర |
| బెంగఆకరు | ${ }^{\text {® }}$ | 1，50，000 | 20 | 1，80，000 | 20 |
|  | $\dot{\omega}_{2}$ | 1，00，000 | 15 | 1，25，000 | 15 |
| ముంగజీృరు | $\mathrm{\omega}^{1}$ | 3，00，000 | 20 | 3，40，000 | 20 |

మూరాట సిబ్బంది పరది జ్రహరర 31－12－2021 ర అంత్యక్క్ 2020 ర అందాజిగింత ఈ


| బెంగఆృอరు | むదంథ్ | 30，000 | యృనిటౌగటు |
| :---: | :---: | :---: | :---: |
|  | むదっథร | 20，000 | యృనిటౌగజు |
| ముంగళృอరు | むదాథ్ | 50，000 | యృనిటోగటు |

 మోరాむ మూడూబळదు．
 అందాజు మూరాట జేట్టయయన్ను కయారిసి．

Answer any two questions. Each question carries 15 marks. $[2 \times 15=\mathbf{3 0}]$


Q12) Visakha Enterprises are currently working at $50 \%$ capacity and produces 3,000 units. The break up of cost at this capacity is as below. Items

Materials
Wages Cost per unit

| Items | Cost per unit <br> (₹) |
| :--- | ---: |
| Materials | 200 |
| Wages | 50 |
| Factory overhead | $100(40 \%$ fixed $)$ |
| Administration overhead | $60 \quad(30 \%$ variable $)$ |
| Total Production cost | 410 |
| Selling price per unit | 450 |

At $60 \%$ capacity the cost of raw materials will increase by $4 \%$ and wages will increase by $2 \%$. At $80 \%$ capacity the cost of raw materials will increase by $5 \%$ and labour cost decreases by $4 \%$ and selling price falls by $5 \%$.
Prepare flexible budget @ $50 \%, 60 \%$ and $80 \%$ capacity level indicating estimated profit.


อిబరెగఆు
జ్ర్ర యులనిటోన ఐెబ్చ

చఙ్ల్జా 山దాథ్గఆు
ఓలల
 ఆడీత్ మెలలు బెబ్బ ఒట్టు లుత్బాదనా బెజ్జ్ ష్రె ఘూటఈద్ మూరుబ్ బిల



 ఈడిమెయయాగుత్తది.



## 73585

Q13)Given :
Total sales in units $1,00,000$
Selling price per unit ₹ 10
Variable cost per unit ₹ 7
Total fixed cost ₹ 90,000
you are required to compute :
a) Break Even Sales
b) Profit Volume Ratio
c) Margin of safety when profit is $₹ 30,000$
d) Profit when sales are $₹ 10,00,000$
e) Sales required to earn a profit of $₹ 4,00,000$
f) New BEP if selling price per unit is reduced by $10 \%$.

జంట్టిరువుదు:
ఒట్టు మూరాట యొననిటాగళల్లి రం. 1,00,000

బదలలగుబ బెజ్జ్ జ్ర్రి యిననిటోగగ రృ. 7
ఒట్టు స్థిర వేజ్జేగహు రో. 90,000
ఈ శేళగినవుగళన్ను చండుఃంఠియిరి.
ఎ) సుముటిభాజも మూరాఙ
బి) లాభ గాత్ర
2) సురళ్షిత అంజిన 山రిమూణ ₹ 30,000 లాభ విద్దాగ
a) రృ. 10,00,000 మూరాట మూఙిద్దాగ బరుజ లాభ.



## 73585

Q14)The following is the Balance Sheet of Bhoomi Ltd.,

| Capital \& Liabilities | $₹$ | Assets | $₹$ |
| :--- | ---: | :--- | ---: |
| Equity share capital | $4,50,000$ | Land \& Building | $1,90,000$ |
| Reserve fund | 50,000 | Plant \& Machinery | $3,10,000$ |
| Profit and Loss a/c | 20,000 | Furniture \& Fittings | 80,000 |
| Sundry creditors | $1,00,000$ | Sundry debtors | 90,000 |
| 8\% Debentures | $2,70,000$ | Bills receivable | $1,00,000$ |
| Bank overdraft | 50,000 | Stock-in-trade | $1,20,000$ |
|  |  | Cash balance | 45,500 |
|  |  | Prepaid Insurance | 2,500 |
|  |  | Preliminary expenses | 2,000 |
|  |  |  | $9,40,000$ |

Additional information
Current year sales ₹ $10,00,000$.
Calculate the following Ratios:

1) Current Ratio
2) Liquidity Ratio
3) Proprietary Ratio
4) Fixed Assets Turnover Ratio
5) Debtors Turnover Ratio
6) Debt Equity Ratio

## 73585




## むొひ్షుదరి మోరితిగలు：

ఈ నాలిన మూరాట రా．10，00，000
ఈ శేళగిన 山రియూణగఆన్ను లెళ్రు దారి．
1）జౌల్తి జరిమూణ．
2）ద్రె్యతర జరిఱూణ．
3）మృలిఁశ్ట్టద జరిమూణ．
4）స్థిర ఆస్తి ఆజత్న 山రిమూణ．
5）ขుణి 山రిభ్రముణ 山రిమూణ．
6）యుణ మూలిలశ్ట్ట జురిమూణ．

## 73585

Q15)The following are the balance sheets of Deekshitha Ltd.

| Assets | $\underline{31-03-2019}$ | $\underline{31-03-2020}$ |
| :--- | ---: | ---: |
| Plant and machinery | $2,00,000$ | $2,80,000$ |
| Building | $1,60,000$ | $2,40,000$ |
| Investment | $2,80,000$ | 40,000 |
| B/R | 80,000 | $2,00,000$ |
| Stock | 80,000 | $1,60,000$ |
| Cash in hand | $8,00,000$ | 80,000 |
| Liabilities | $3,20,000$ | $10,00,000$ |
| Share capital | 60,000 | $4,00,000$ |
| Reserves | 24,000 | 80,000 |
| P/L A/c |  | 40,000 |
| Debentures | 28,000 | 80,000 |
| Provision for tax | 40,000 | 40,000 |
| Proposed dividend | $3,28,000$ | 80,000 |
| Creditors | $8,00,000$ | $2,80,000$ |

Additional Information
a) Depreciation @ $25 \%$ was charged on plant \& machinery.
b) Rs. 20,000 was paid as income tax.
c) Old machinery costing Rs. 20,000 (WDV Rs. 80,000) was sold for Rs. 14,000 .

Prepare cash flow statement under Indirect method [as per AS - 7]

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| ఆససై | 31-03-2019 | 31-03-2020 |
| :---: | :---: | :---: |
| యంం్ర ముత్తు గ్థ్థచర | 2,00,000 | 2,80,000 |
| శృట్టడగకు | 1,60,000 | 2,40,000 |
| ஹூనఙిరెగు | - | 40,000 |
| బరెబెలశృద్ జుంณిగై | 2,80,000 | 2,00,000 |
| 入రపు | 80,000 | 1,60,000 |
| నగదు | 80,000 | 80,000 |
| 000.08 | $\overline{8,00,000}$ | $\overline{10,00,000}$ |
| జఱాబ్దారిగటు |  |  |
| రెలరు బండదాళ | 3,20,000 | 4,00,000 |
| మిలసెలుగ్ర | 60,000 | 80,000 |
| లాభ-నజ్ట్ర 2లకె | 24,000 | 40,000 |
| నలలజ్రగ్రు | - | 80,000 |
| మిలసెలు తెరిగ్ | 28,000 | 40,000 |
| లాభంలశ్ర్ర మిలసెలు | 40,000 | 80,000 |
| ధణిగెు | 3,28,000 | 2,80,000 |
| 000,08 | $\overline{8,00,000}$ | $\overline{10,00,000}$ |

ఇకరరె బూరికిగజు

బి) ఆదాయి తెరిగగ ఱలฝతిసిద్దు రా. 20,000.
 రృ. 14,000 ఫ్ ఫ్ మూరలాగిది.


## QUANTITATIVE DECISION TOOLS <br> Skill Enhancement Course

Time : 3 Hours

Max. Marks : $\mathbf{8 0}$

Instruction: Answer all the parts. ఎల్లా భాగగళెగం లుక్తరిసి.

## PART - A <br> బూగగ-ఎ

Answer any four questions. Each question carries 5 marks.
$[4 \times 5=20]$


Q1) State the essential properties of a good average. లుత్తము సరరాసరియి అగత్య గుణలళ్షణగళన్ను కిళిసి.

Q2) From the following data estimate the value of $x$ when $y=80$.

$$
\begin{array}{ll}
\overline{\mathrm{X}}=47.5 & \overline{\mathrm{Y}}=39.5 \\
\sigma x=17.8 & \sigma y=10.8
\end{array}
$$

$$
r=0.96
$$



$$
\begin{array}{ll}
\overline{\mathrm{X}}=47.5 & \overline{\mathrm{Y}}=39.5 \\
\sigma x=17.8 & \sigma y=10.8 \\
r=0.96 &
\end{array}
$$

Q3) State the steps involved in testing of hypothesis.

Q4) Distinguish between primary and secondary data.

Q5) In a distribution, the value of mean and mode are respectively 50 and 48 . Find the median.
ఒందు గామూన్య వికరణేయల్లి సరాసర ముత్తు బఱులచగళు శ్రషుదాగి 50 ముత్తు 48 ఆగిరుత్తదే. అదర ముధ్యచపన్ను చండుళియిరి.
Q6) Prepare a blank table to show the following.
a) Year: 2019, 2020
b) State: Karnataka, Kerala, Maharashtra
c) Sex: Male and Female.

శెళగిన అంహగళన్ను తృలరిసుఎ ఒందు 2లలి టీఁబలా తయారిసి:
ఎ) ఎజశగఆు : 2019, 2020.

స) లింగ్ : 山ురుజ ముత్తు ముఃిళి.

## PART - B

బాగగ-బి
Answer any three questions. Each question carries 10 marks. $\quad[3 \times 10=30]$


Q7) Following are the ranks given by three judges in a singing competition, mention which pair of Judges coincides most.

| R | Rajesh | 1 | 7 | 3 | 2 | 9 | 4 | 10 | 8 | 5 | 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| N | Vijay | 7 | 4 | 5 | 1 | 6 | 2 | 3 | 8 | 10 | 9 |
| S | Arjun | 4 | 10 | 3 | 9 | 8 | 2 | 1 | 5 | 7 | 6 |

 ళేళగగినంతిది.


|  | రృజిలరో | 1 | 7 | 3 | 2 | 9 | 4 | 10 | 8 | 5 | 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ఎిజయో | 7 | 4 | 5 | 1 | 6 | 2 | 3 | 8 | 10 | 9 |
|  | అజుF నో | 4 | 10 | 3 | 9 | 8 | 2 | 1 | 5 | 7 | 6 |

Q8) A company manufactures car tyres. Their average life is $40,000 \mathrm{kms}$. A change in the production process is believed to result in a better production. A test sample of 100 new tyres as mean life of $41,000 \mathrm{kms}$. you can conclude at $5 \%$ L.O.S that the new product gives better result and standard deviation of 5,000 kms.

ఒండు చంజని చారిన ట్తియురుగేత్ను లుత్టాదిసుత్తిది. అదర సరాసర బాఖి 40,000


 \%. మిల. నిలడుత్తదా ఎందు శెల. 5 L.O.S. ఆిలమూశనిసబఱుదు.

Q9) Calculate the mode from the following series with the help of grouping and analysis tables.

| Marks | $20-30$ | $30-40$ | $40-50$ | $50-60$ | $60-70$ | $70-80$ | $80-90$ | $90-100$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number <br> of <br> Students | 40 | 44 | 52 | 48 | 40 | 36 | 55 | 30 |

 బములచచన్ను లెచ్ప్రణారి:

| అంచగటు | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 | 80-90 | 90-100 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ఎిద్యాథిรగఆ స్యియ్య | 40 | 44 | 52 | 48 | 40 | 36 | 55 | 30 |

Q10)What is classification? Explain the different methods of classifying statistical data.
 బిబరిసి.

Q11)From the following, calculate the index number by
a) family budget method and
b) aggregate expenditure method.

| Food <br> Items | Price |  | Quantity |
| :---: | :---: | :---: | :---: |
|  | 2019 | 2020 | 2019 |
| A | 8 | 14 | 4 |
| B | 15 | 21 | 2 |
| C | 10 | 14 | 1 |
| D | 20 | 30 | 5 |
| E | 6 | 12 | 3 |
| F | 7 | 14 | 1 |
| G | 5 | 15 | 2 |

శళళగినపుగళింద.
ఎ) ひటుంబ బజిటా ఎిధాన ముత్తు


| $\begin{aligned} & \text { ఆळారు } \\ & \text { బేుగు } \end{aligned}$ | బెల |  | జ్ర్రమూ |
| :---: | :---: | :---: | :---: |
|  | 2019 | 2020 | 2019 |
| A | 8 | 14 | 4 |
| B | 15 | 21 | 2 |
| C | 10 | 14 | 1 |
| D | 20 | 30 | 5 |
| E | 6 | 12 | 3 |
| F | 7 | 14 | 1 |
| G | 5 | 15 | 2 |

## PART - C

2อกーえ

Answer any two questions. Each question carries 15 marks. $\quad[2 \times 15=\mathbf{3 0}]$


Q12)Define statistics and explain its features. What are the rules for tabulation of data?
 నియముగళు యీచువు?

Q13)From the following data, calculate Mean, Median and standard deviation:

| Wages (in ₹ ) | No. of persons |
| :--- | :---: |
| $100-120$ | 04 |
| $120-140$ | 10 |
| $140-160$ | 18 |
| $160-180$ | 24 |
| $180-200$ | 46 |
| $200-220$ | 23 |
| $220-240$ | 16 |
| $240-260$ | 09 |



| చొలి (రం. గెళల్లి) | చ్నర్రిగట స్సం2్s |
| :---: | :---: |
| 100-120 | 04 |
| 120-140 | 10 |
| 140-160 | 18 |
| 160-180 | 24 |
| 180-200 | 46 |
| 200-220 | 23 |
| 220-240 | 16 |
| 240-260 | 09 |

Q14)Construct Fisher's Index Number from the data given below and show that how it satisfies the "Time Reversal" and "Factor Reversal" Tests.

| Commodity | 2019 |  | 2020 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Quantity | Price | Quantity | Price |
| M | 50 | 15 | 40 | 25 |
| N | 60 | 40 | 70 | 60 |
| O | 80 | 30 | 76 | 50 |
| P | 20 | 10 | 24 | 20 |
| Q | 30 | 30 | 24 | 40 |


 ఎంబుదస్ను ఔలఁరిి.

| సెరచుగఆు | 2019 |  | 2020 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | జ్ర్రమూణ | బెత | む్రైమరణ | బెలె |
| M | 50 | 15 | 40 | 25 |
| N | 60 | 40 | 70 | 60 |
| O | 80 | 30 | 76 | 50 |
| P | 20 | 10 | 24 | 20 |
| Q | 30 | 30 | 24 | 40 |

Q15)Calculate co-efficient of correlation and its probable error from the following data.
 లెళ్పృळఃర:

| $\mathbf{Y}$ | $50-60$ | $60-70$ | $70-80$ | $80-90$ | $90-100$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $40-50$ | 2 | 3 | 3 | - | - |
| $50-60$ | 2 | 6 | 8 | 4 | - |
| $60-70$ | - | 4 | 15 | 10 | 2 |
| $70-80$ | - | 2 | 10 | 5 | 2 |
| $80-90$ | - | 1 | 8 | 4 | 1 |
| $90-100$ | - | - | 2 | 4 | 2 |

