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## B.Com SEM IV 14-15 Question Papers



## SSPES's

GOA MULTI-FACULTY COLLEGE
DHARBANDORA, GOA
B.com Semester End Examination, April 2015

Semester IV
Total No. of Questions: 06
Duration: $\mathbf{2}$ Hrs.

Business Finance -II
Total No. of pages:02
Maximum Marks: 80

Instructions: 1) Question No. I and No. 2 answer any four Question.
2) Answer any one Questions from Q.No. 3 to Q.No.6.
3) Figures to the right indicate maximum marks allotted.
4) Provide sufficient margin space in the answer-book for recording marks.
5) Enter the appropriate main \& sub-question numbers in the answer-book.

Q1. Answer the following question in brief. (Any Four)
( $4 * 4=16$ marks )

1) Self-linancing is a sources of long term finance.
2) Merits and Demerits of Bank Credit.
3) Features of Hire Purchases system.
4) Trade credit is the best short term source of finance to manufacturing unit.
5) Disadvantages of foreign Collaboration.
(6) Types of Preference shares.

Q2. Answer the following question in brief. (Any Four)
( $4 * 4=16$ marks $)$
A. Functions of Capital Market.
B. Public issues vs Private placement of securities
C. Option and Warrant in mutual fund.
D. Benefits of Issues house.
E. Gilt-edged securities market.
F. Tax Saving Schemes of Mutual fund.

Q3. A. Explain the Lease Finance meaning. features and any four types of lease.
OR
W. Explain the importance of Foreign Direct Investment in the inflow of foreign Capital in India
( 12 marks)

Q4. B. What is Certificates of Deposits meaning, and explain the features and merits \& demerits of Certificates of Deposit.

> OR
X. State the sources of shoriterm finance to business enterprises and explain any three sources of finance in brief.
Y. Ixplain the role of finetion and power of Securities and Exchange board of India (SI: HI ).
(9). 1). What do you mem hy underwriting of 'Shares:' I xplain in details any three methods of minderwriting of shares.

## OR

1. "Merehmu banking of become popular in India due to its functions and service" lnvestment in Multual fiund is better as comparred to bank Deposit" I Explain.
(12 marks)
-Best of l.uck

# SHREE SATERI PISSANI EDUCATION SOCIETY'S <br> SHRI. GOPAL GAONKAR MEMORIAL <br> GOA MULTI-FACUITY COLLEGE <br> DHARBANDORA-(;OA <br> SEMESTER END EXAMINATION - IV, APRIL 2015 

Class: SY B.Com
Sub: BUSINESS ENVIRONMENT-II
Mav Marks: 80
Duration: 2 Hours

## Instructions: 1) All questions are compulsory

2) Figures to the right indicate maximum marks.
3) Start each new question in a fresh page.
Q. 1) Answer any FOUR questions
( $4 \times 4=16$ Marks)
a) What are the objectives of XIIt ${ }^{\text {th }}$ FYP.
b) Briefly explain merits and demerits of Socialism.
c) List out tools of Monetary and fiscal policy.
d) What are the objectives of Consumer Protection Act?
e) Briefly write on Right to Information Act 2005 .
4) Explain i) Consumer Dispute and ii) Complainant.
Q. 2) Answer any FOUR questions
(4 X $4=16$ Marks)
a) Write brief note on Goa Handicrafts Rural And Small Scale Industries Development Corporation
b) Write on current status of Goan Economy.
c) What are the objectives of Local self government in Goa?
d) Write in brief about Dempo.
e) Write in brief about Vedanta Resources.
f) What are the objectives of Goa State Industries Association?
Q. 3) Answer any ONE questions
(1 X 12 = 12 Marks)
a) What is Economic Environment and what are its components?
(or)
b) Describe nature of dualism existing in India
Q. 4) Answer any ONE questions
(1 X 12 = 12 Marks)
a) What are the roles and objectives of Environment Protection Act 1986?
(or)
b) Write on composition of Redressal Agencies under the Consumer Protection Act.
Q. 5) Answer any ONE questions
(1 X $12=12$ Marks)
a) How Overseas Remittances are helping to drive local Economy .
(or)
b) Describe on Industrial Estates in Goa.
Q. 6) Answer any ONE questions
(1 X 12 = 12 Marks)
a) Write in detail on Sesa Sterlite.
(or)
b) Write in detail on Goa Chamber of Commeree \& Industry (GCCI).


## SEMESTEREND EXAMINAIION-IV, APRIL 2015

| Class: SY B.Com | Sub: FINANCIAL ACCOUNTING - - 14 |
| :--- | :---: |
| Max Marks: 80 | Duration: 2 Hours |

Instructions: 1) Q. 1 is compulsory
2) Answer any three from Q. 2 to Q.6
3) Figures to the right indicate maximum marks.
3) Start each new question in a fresh page.
Q. 1 You are required to prepare financial statements from the following trial balance of Maruti Company Lid. for the year ended 31st March, 2012
Mehul Company Ltd.
Trial Balance as al 31st March, 2012

|  |  |  |  |
| :---: | :---: | :---: | :---: |
| Particulars | Rs. | Particulars | Rs. |
| Slock | 1.8 .1010 | I yuily Shares Capital (Shares of 10 each) | 2,50,000 |
| 1 urniture d Fixtures | 80.010) | (1", D) Debentures | 50,000 |
| 1)ncoumt | $\overline{4}$ | Bank I ams | 64,500 |
| Loan to Directors | 8.0010 | Bills liasable | 12,500 |
| Advertisement | 2,000 | Creditors | 15,600 |
| Bad Debts | 3,500 | Sales | 4,26,800 |
| Commission | 12,000 | Rent Received | 4,600 |
| Purchases | 231,900 | Transfer Fees | 1,000 |
| Plant and Machinery | 86,000 | Profil \& Loss Appropriation Account | 13,900 |
| Rentals | 2,500 | Provision for Depreciation on Plant \& Machinery | 14,600 |
| Current Account | 4,500 |  |  |
| Cash | 800 |  |  |
| Interest on Bank Loan | 11,600 |  |  |
| Preliminary Expenses | 1,000 |  |  |
| Wages | 90,000 |  |  |
| Consumables | 8.400 |  |  |
| Freehold Land | 1,54,600) |  |  |
| Tools and Equipments | 24.500 |  |  |
| Goodwill | 20,500) |  |  |
| Debtors | 28,700 |  |  |
| Bills Receivables | 15,300 |  |  |
| Trade Expenses | 17,700 |  |  |
| Debenture interest | 2000 |  |  |
|  | 8,53,500 |  | 8,53,500 |

Additional Information:

1. Closing stock as on 31 st march, 2012 , Rs. 82,300
2. Depreciation on furniture \& fixtures @ $5 \%$, Freehold land @ $2 \%$ and Tools and Equipments @ $5 \%$ to be provided.
Q. 2 From the following are the comparative Balance Sheet of Gupta \& Co., you are required to prepare
(a) Schedule of Changes in Working Capital
(b) Fund Flow Statement

Balance Sheets as at 31st March

| Liabilities | 2002 | 2003 | Assets | 2002 | 2003 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Share Capital | 90,000 | 1,00,000 | Goodwill | 12,000 | 10,000 |
| General Reserve | 14,000 | 18.000 | Buildings | 40,000 | 36,000 |
| Profit \& Loss <br> Alc | 19,500 | 12.000 | Machinery | 37,000 | 36,000 |
| Provision for Taxation | 16,000 | 17.1000 | Stock | 30,000 | 25,400 |
| Sundry Creditors | 8,000 | 5.400 | Sumdry Debtors | 20,000 | 22,200 |
| Provision for doubtful debt | 1,900 | 2.100 | Cashat Bank | 6,600 | 15,200 |
|  |  |  | Investments | 10,000 | 11,000 |
|  | 1,55,600 | 1,55,800 |  | 1,55,600 | 1,55,800 |


(2) Interim Dividend paid during 20003 was $R 07500)$
(3) Provision of $R_{s} 5000$ was made for taxation during the 20013
Q. 3 From the following Information, you are required to prepare the cash flow tatement of A Br Lid for the year ended 31 ot March

Balance sheet at at 310 c Mareh

|  | 2005 | 2for, | berct | 2005 | 20006 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Share (apital | 1.40 .000 | 1.40 ()N0) | firsed Anocto | 1.00000 | $182000$ |
| secured loan |  |  | invetuory | 30.0000 | \%uspoy |
| (reditors | 28.0000 | 78.5000 | pehtors | 10.000 | (1) $\times 100$ |
| Tax payable | 20\%\% | (0)(0) | rath | 40.000 | 14.000 |
| Profit \& l.oss A/c | 14.000 | 20) (4)( | Propaid capenves | 4000 | 8000 |
|  | 1,84,000 | 3,24,000 |  | 1,84,000 | 3.24 .0000 |

Profit and loss Account for the year ended 31st March 06

| Particulars | Rs. | Particulars | Rs. |
| :---: | :---: | :---: | :---: |
| Opening Stock | 30.000 | Salcs | 2,00,000 |
| Purchases | 1.960000 | (losing inventor) | 80.000 |
| Gross profil c/d | 54, (100) |  |  |
| General Expenses | 2,80,0000) |  | 2,80,000 |
| Depreciation | 22.000 | Cross profit b d | 54,000 |
| Provision fortax | 16.000 |  |  |
| Vet Profit cod | giof) 3,(f) |  |  |
|  | צorut |  |  |
| Dividend (interim) | 54.006 |  | 54,000 |
| balance $\mathrm{c} / \mathrm{d}$ | 20.2000 | halance ${ }^{\text {d }}$ | 14,000 |
|  | 20.006 | cot profith hd | 8000 |
|  | 22,000 |  | 22,000 |

Q. 4
a) From the following financial statements of Samrat Co. Led, for the year ended 30 June, 2000 calculate the following ratios and give comments
(a) Current Ratio,
(b) Liquid or Ouick Ratio,
(c) Operating Ratio,
(d) Return on Proprietors' Fund.
(e) Return on investment.

Profit \& Leoss A/c for the yar anded on 30 June. 2000

| Particulars | Rs. | particulars |  |
| :---: | :---: | :---: | :---: |
| Opening Stock | 2.0000000 | - Particula | Rs. |
| Purchases(credit) | 20,0000000 | Closing inventory | 4,00,000 |
| Gross profit c/d | 18,00.000) |  |  |
|  | 40,00,000 |  | 40,00,000 |
| To Office \& Administration Exp. | 6,00.000 | By Gross profit b/d | 18,00,000 |
| To Selling \& Distribution Expenses | 3,00.000 | By Profit on Sale of Assets | 60,000 |
| To Other Financial Expenses | 1,00000 |  |  |
| To Net Profit | 860000 |  |  |
|  | 1860000 |  | 1860000 |


b) Dehtors velocily $=3$ months

Creditors velocity -3 months
Stock velocity $=2$ months
Tixed Assels - Turnover Ratio $=2.5$ times
Capital Turnover Ratio - 1.5 times
Gross Profir Margin $=25 \%$
(erose Profil for the year amounts 10 Rs. 1.15.000. Reserve and Surplus amounts to Rs. 40,000.
1 rend Assets are Rs. I. 10.000 . Closing Stoch of the year is Rs. 15.000$)$ more than the Opening




I rom the above information you are required to lime (oul (a) Sales. (b) Purchase. (c) Sundry (reditors (d) Sundry Debtors. (c) Share Capital
Q. 5
a) From the following Balanceshect of Earlh (o. Lid as on 31-3-20)12 and 31-3-13, prepare a comparative Balanceshhel.
(14)

| Particulars | Nole No. | 31-3-2012 | 31-3-2013 |
| :---: | :---: | :---: | :---: |
| III. Equity \& Liabilities |  |  |  |
| 4. Shareholders Funds |  |  |  |
| c) Share capital |  | 3,75,000 | 4,90,000 |
| d) Reserves \& Surplus |  | 86,000 | 44,000 |
| 5. Non current Liabilities |  |  |  |
| a)Long term borrowings |  | 2,22,000 | 2,68,000 |
| b)Long term provisions |  | 70,000 | 35,000 |
| 6. Current liabilities |  |  |  |
| b) Short term borrowings |  | 26,000 | 39,000 |
| Total |  | 7,79,000 | 8,76,000 |
| IV. Assets |  |  |  |
| 2) Non Current Assets |  |  |  |
| d) Fixed assets |  |  |  |
| i) Tangible assets |  | $3.32,000$ | 4,00,000 |
| ii) Intangible assets |  |  |  |
| b)Non current investments |  | 1,70,000 | 1,12,000 |
| 2. Current assets |  |  |  |
| b) Inventories |  | 33,000 | 66000 |
| e) Trade recivables |  | 69,000 | 1,00,000 |
| f) Cash \& cash equivalents |  | 85,000 | 78,000 |
| Total |  | 7,79,000 | 8,76.000 |

b) Distinguish between Old Schedule and Revised Schedule VI
Q. 6 Write short notes (Any Four)
a) Trend analysis
b) Comparative statement analysis
c) Significance of ratio analysis
d) Cash flow statement $\mathrm{V} / \mathrm{s}$ Fund flow statement
e) Importance of financial statements
f) Cash flow statement

# GOA MULTI FACULTY COLLEGE 

 DHARBANDORA, GOA

IV Semester Examination, APRIL 2015

Class: SYBCom<br>Max Marks: 80

Sub: Advertising<br>Duration: 2 hrs.

## INSTRUCTIONS:

1) All questions are compulsory.
2) Figures to the right indicate maximum marks.
3) Start each new question on a fresh page.
Q.1) Answer ANY FOUR of the following.
1. Define Slogan and write the guidelines for writing effective slogans.
2. Write a Short note on Advertising Agency.
3. Explain what is a pre testing method, why it is required?
4. What are the requisites for effective poster? Explain any four points.
5. Explain the concept of Optical centre with diagram.
6. Write a Short Note on client turnover.
Q.2) Answer ANY FOUR of the following.
7. Explain any four types of Copy.
8. Write benefits of Advertising Effectiveness.
9. Which features you have to remember while writing a copy for print advertisement?
10. Name the personality you choose to advertise following products.
11. Sports Shoes 2. Books 3. Cosmetics 4. A fitness DVD
12. Write a short note on Components /elements of Copy.
13. Explain any four types of logos which are used in market.
Q.3) Answer ANY ONE of the following.
i) Write a poster script to create awareness in society-Save girl Child

OR
ii) Write a TV script for advertising New brand of Ice cream.
Q.4) Answer ANY ONE of the following.
i) Write all post testing methods of advertising effectiveness.

OR
ii) Explain need for testing advertising effectiveness of both the methods.
(1) Answer ANY ONE of the following.

1) II rite a rado senpt for aderticing "Save water Campaign".
(11) I uplain Anatome of an Advertisement with the help of diagram.
Q.6) Answer ANY ONE of the following.
i) Write a difference between Advertising Agency and Advertising Department.
ii) Write a difference between Copy and Layout.

OR
ii) Explain any two methods used for compensation payment to an advertising ageney
$====$ ALL THE BEST $===$

# SHREE SATERI PISSANI EDUCATION SOCIETYS'S <br> GOA MULTI-FACULTY COLLEGE <br> DHARBANDORA - GOA 

Semester End Examination - IV, APRIL 2015

| Class: S.Y.B.COM |
| :--- |
| Max. Marks: 80 Sub: BI SINESS LAWS -II <br> Duration: 2 Hours  |
| Instructions: |
| 1. All questions are compulsory, however internal choice is available. |
| 2. Answer sub-questions. Question No. I Question No. 2 in not more than 100 words each. |
| 3. Answer questions, from Question No. 3 to ()uestion No. 6 each in not more than 400 words. |
| 4. Figures to the right indicate full marks allotted to each question. |
| 5. Start each new question on a fresh page |

Q. 1 Answer the following (ANY FOUR)
a) Inquiry into abuse of dominant position
b) Competitive Commission of India
c) Objectives of FEMA, 1999
d) Adjudicating Authority under FEMA
e) Authorised person
f) Kinds of endorsement of a Negotiable Instrument (any four)

## Q. 2 Answer the following (ANY FOUR)

$(4 \times 4=16)$
a) Distinguish between Promissory Note \& Bill of Exchange (any four points)
b) Performer's Right
c) Compulsory Licensing under Patent law.
d) Piracy of registered design
e) Characteristics of trademark
f) Essential features of Design

Non - Regisdreable Design
Q. 3 X ) Explain the following:
i. Orders passed by Commission on anti-competitive agreements
ii. Export of goods and services under FEMA, 1999.
( $6 \times 2=12$ )

> OR
Y) Explain the following:
i. Penalties for contravention of orders of Commission under Competition Act.
ii. Capital account transactions
Q. 4 X) Define a "Cheque". Explain various types of crossing of cheque.

## OR

Y) What are the various modes of Discharge of Negotiable Instrument?
Q. 5 X ) What is patentable invention? Explain the inventions which are not patentable.

## OR

Y) What is Copyright? Explain the acts which do not amounts to infringements of copyright.
Q. 6 X) What is a Design? Explain its essential features.

## OR

Y) What is a Trademark? Explain the various grounds for refusal of registration of trademark.

## $\mathbf{X X X X X X}$

# SHREE SATERI PISSANI EDUCATION SOCIETY'S <br> SHRI. GOPAL GAONKAR MEMORIAL <br> <br> GOA MULTI -FACULTY COLLEGE <br> <br> GOA MULTI -FACULTY COLLEGE DHARBANDORA-GOA 

## SEMESTER END EXAMINATION - IV, APRIL 2015

(lass: S) B.Com
Ma, Marks: 80
Sub: FCONOMICS OF RESOURCES
Duration: 2 Hours
Instructions: 1) All questions are compulsory
2) Figures to the right indicate maximum marks.
3) Start each new question in a fresh page.

## Q. 1) Answer any FOUR questions

a) Write in brief on interlinkages between economy ( $\mathbf{~ X ~ 4 = 1 6 ~ M a r k s ) ~}$
b) Why do externalities lead to market failure?
c) Explain i) Dynamic efficiency and ii) Social efficiency.
d) What are the consequences of over-use of open-access resources?
e) What is National Resources and list major national resources?
f) Briefly explain Thomas Malthus's view on resource use.

## Q. 2) Answer any FOUR questions

a) What are the scopes of Energy economics?
b) Explain in brief on "Energy security".
c) Why water should be treated as both a Social and Economic Ground.
d) Explain i) Birth Rate ii) Death Rate iii) Density Ratio iv) Mortality Ratio
e) What are benefits of education?
f) What are the major health status indicators.
Q. 3) Answer any ONE questions
a) Write in detail on scope of Environmental and resource ( $\mathbf{~ X ~ 1 2 ~ = 1 2 ~ M a r k s ) ~}$
(or)
b) Describe Allocative efficiency with suitable diagram.

## Q. 4) Answer any ONE questions

a) Explain in detail on Environmental Impact Assessment of India.
( X 12 = 12 Marks)
(or)
b) Describe Pessimist conclus
Answer any ONE questions

## Q. 5) Answer any ONE questions

a) What are the Properties of Energy R
(1 X 12 = 12 Marks)
b) Describe India's "National (or)
(or)
Policy (2012)".

## Q. 6) Answer any ONE questions

a) What are the major indicators of Human Resource Development? (or)
b) Describe UNDP's Human Development Report 2014 in context of India.

## SHREE SATERI PISANNI EDUCATION SOCIETYS

GOA MULTL- FACULTY COLLEGE
DHARBANDORA, GOA

## Semester End Examination-IV, April 2015

Class:S) BCom Max. Marks: 80

Sub: Statistical Techniques - II
Duration: 2 hours

Instructions:

1) Figures to the right indicate full marks.
2) Graph will be provided on request.
3) All questions are compulsory (choice is internal)
4) Use of calculators are allowed.
Q. 1 Answer the following:
a) Explain the term positive and negative correlation.
b) 3 coins are tossed. Find the probability of getting
i) No Head
ii) Two Head
iii) Atleast 2 Heads
iv) Atmost 2 Heads
c) A biased coin is tossed thrice. $X$ denotes the number of tails in the 3 tosses, the probability mass function of X is given below:

$$
\begin{align*}
\mathrm{P}(\mathrm{X}=\mathrm{x}) & =1 / 5 & & \mathrm{x}=0,1  \tag{7}\\
& =1 / 8 & & x=2 \\
& =1 / 4 & & x=3 \\
& =0 & & \text { otherwise }
\end{align*}
$$

Find i) $\mathrm{P}(\mathrm{x}<3) \quad$ ii) $\mathrm{P}(\mathrm{x} \leq 2)$
iii) $E(X)$ iv) $V(X)$

OR
Q. 1 Answer the following:
x) Explain the term scatter diagram and uncorrelation.
y) i) State and prove multiplication them of probability.
ii) A card is drawn from a pack of cards given that it is a heart,
what is the probability that it is not a face card?
z) i) Explain the term probability distribution
ii) Define random variable and its yypes will example.
Q. 2 Answer the following:
a) Write a note on lottery method and cluster sampling.
b) Ten girls participate for a beauty pageant, their ranks for beauty and intelligence are as follows:
$(1,7)(2,9)(3,2)(4,10)(5,1)(6,4)(7,8)(8,5)(9,3)(10,6)$. Using Spearman's
formula, find their rank correlation coefficient.
(5)
c) 7 samples, each of size 4 , with range as given below are to be tested. Find CL, UCL, LCL, and draw the control chart for R. [ $D_{3}=0$ and $\left.D_{4}=2.282\right]$. Also state whether The system is in control.

| Samples | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Range | 0.4 | 0.38 | 0.32 | 0.36 | 0.33 | 0.37 | 0.34 |

OR
Q. 2 Answer the following:
x) Write a short note on Sampling methods.
y) Find the correlation coefficient for following data

| x | 1 | 2 | 3 | 5 | 4 | 3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| y | 2 | 4 | 5 | 5 | 3 | 1 |

z) 6 samples of size 4 each are drawn. The values of their respective means and
range are listed below. Find the C.L, UCL and LCL Also draw the control chart of Mean and State whether the process is in control. ( $A_{2}=0.729$ )

| Samples | 1 | 2 | 3 | 4 | 5 | 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Mean | 11.5 | 11.8 | 11.3 | 11.9 | 11.7 | 11.4 |
| Range | 0.2 | 0.17 | 0.16 | 0.21 | 0.24 | 0.22 |

Q. 3 Answer the following:
a) The average number of incoming telephone calls at a switch board per minute is 2 . Find the probability that during a given minute, 2 or more calls are received. $\left(\mathrm{e}^{-2}=0.135\right)$
b) Find the Spearman's coefficient of correlation for:

| $R_{1}$ | 6 | 4 | 1 | 3 | 4 | 2 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $R_{2}$ | 4 | 1 | 6 | 5 | 1 | 3 |

c) When a coin is tossed 5 times, head appears 15 times. Does this mean that the coin is biased?

## OR

## Q. 3 Answer the following:

x) Write properties of normal distribution.
y) For the following bivariate data, find
i) The coefficient of regression
ii) The equation of the lines of regression
iii) Find the value of y for $\mathrm{x}=2$ and value of x for $\mathrm{y}=1$.
z) Out of 36 students appearing for SSC Exam from a school, only 19 passed.

Does this mean that the passing percentage from this school, in general is $60 \%$ at $1 \%$ level of significance?

## Q. 4 Answer the following:

a)Explain the term certain event and equally likely event.
b) Find the spearman's coefficient of correlation for the following

| $R_{1}$ | 3 | 5 | 2 | 8 | 1 | 6 | 3 | 6 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $R_{2}$ | 1 | 4 | 6 | 3 | 2 | 8 | 4 | 7 |

c) Write the procedure for testing the quality of goods using samples. OR

## Q. 4 Answer the following:

x) Explain the term events with example.
y) For the following bivariate data find
i) The coefficient of correlation.
ii) The coefficient of regression.

| X | 9 | 7 | 11 | 5 |
| :---: | :---: | :---: | :---: | :---: |
| Y | 6 | 4 | 8 | 2 |

z) To check the quality of TVS produced by a company, 6 samples each of size 5 are selected. The fraction defective of each sample is as follows:

| Samples | 1 | 2 | 3 | 4 | 5 | 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| p | 0.3 | 0.2 | 0.4 | 0.1 | 0.5 | 0.3 |

Find the CL, UCL, LCL and draw the control chart for p. Also check whether the system is in control.

## Q. 5 Answer the following:

a) A random sample of 400 objects has mean 5.7 , can it be regarded as a sample from a population with mean 6 and standard deviation 3? [Use $1 \%$ level]
b) i) A box contain 5 black balls and 3 red balls. 2 balls are drawn at random.

Find the probability distribution of red balls drawn
ii) Find the mean and variance for the following:

$$
\begin{aligned}
& \text { x) } n=12, p=1 / 3 \\
& \text { y) } n=100, p=0.1
\end{aligned}
$$

c) Prove that $P(A \cup B)=P(A)+P(B)-P(A \cap B)$.
Q. ${ }^{5}$ Answer the following
x) Define the term I) Hypothesis
ii) Level of significance and Type-ll erfor
v)II Find the mean and variance for the following probability distribution

| X | 0 | 1 | 2 | 3 |
| :---: | :---: | :---: | :---: | :---: |
| P | 0.3 | 0.4 | 0.2 | 0.1 |

ii) For a binomial distribution, mean=10 and standard deviation=3, find n \& $p$.

ر) Ixplain the term random experiment and sample space


