

INSTITUTE OF SCIENCE & TECHNOLOGY

ASSIGNMENT QUESTION

BHM-1ST SEM

PAPER NAME:-PRINCIPLES OF MANAGEMENT

PAPER CODE : BHM 101

- 1) Discuss the contributions of Fayol in Modern Management Process School.
- 2) What do you mean by Line and Staff organization? Point out the main causes of line-staff conflict and discuss the steps which may be taken to improve the line-staff relationship.
- 3) Management is both a science and an art----elucidate.
- 4) Distinguish between centralization and decentralization.
- 5) What is planning? What are the importance of planning? Describe the process of planning.
- 6) Discuss various approaches of span of management and their limitations. What are the factors determining span of management?
- 7) Discuss the contribution of Taylor in management process.

PAPER NAME: ENGLISH LANGUAGE & COMMUNICATION

PAPER CODE: BHM 102

1. You are the administrative head of a hospital that operates as an international chain. Submit a proposal to the CEO requesting him to extend and incorporate some benefits to the patients for building still better reputation in the town. Include the details that are relevant to convince him of your views.
2. Assume that you are the President of your hostel. You have been facing and receiving several problems regarding various issues in your hostel. The issues are as follows: a) Tasteless and unhygienic food b) Filthy washrooms c) Night time security within the premises
3. Write an invitation letter as the head of the students' council to the Principal of your college inviting him to the annual fest.
4. Wanted 'Chief Assistant' for a renowned health care in Kolkata area. The candidates should have good academic record with experience of at least 1 year in the related field. This is an advertisement published in The Telegraph a week ago. Now write a job application letter with C.V.
5. Write essays for the following topics. (a) Advertisements and its effects (b) Emergency service in the health care.
6. Suppose you are attracted to see an advertisement and desire to apply:- A reputed health care requires for its main branch in various category. You are opting for the post of Floor Manager (care). Now state your candidature in details with a CV. Address to the HR of the hospital.

7. Write at least one type of model in Communication?
8. What is the role of communication in an Organisation?
9. How many barriers are there in the Communication? Discuss at least one type of barrier occurred in the Communication.
10. What do you mean by Grapevine Communication?

PAPER NAME : MEDICAL TERMINOLOGY-1
PAPER CODE : BHM-103

1. Explain cardiac cycle .
2. Explain the functions of nephron & the process of urine formation.
3. State the location, structure and function of Pituitary gland with hypo and hyper secretion of hormonal diseases.
4. What are the objectives of medical terminology and Explain word formation with an example?
5. Differentiate between benign and malignant tumors.
6. Write a short note on cardiac cycle.
7. Write a short note on function of liver.
8. Full form of BMR and What do you know about BMR.

SUBJECT : ACCOUNTING
SUBJECT CODE – BHM-104

1. Rectify the following and prepare a correct Trial balance.

Particulars	Debit (Rs.)	Credit (Rs.)
Opening Stock	49,770	
Closing Stock		61,740
Capital		3,00,000
Fixed Assets	2,37,000	
Sundry Creditors		37,500
Sundry Debtors	62,010	
Returns inward	7,200	
Purchases	1,82,760	
Sales		3,07,800
Discount allowed		2,280
Rates and Taxes	21,390	
Commission received		2,610
Cash in hand	1,140	
Bank Overdraft	33,000	
Interest paid		3,300
Rent receivable	11,400	
Bills payable		24,000
Bills receivable	45,000	

2. From	Wages and Salaries	94,200	
	Export duty		2,400
	Returns outward		3,690
	Carriage inward	2,400	
	Import duty	3,600	
	Carriage outward		5,550
		7,50,870	7,50,870

the

following Trial Balance Prepare Trading A/c, Profit & Loss A/c and Balance Sheet for the Year ended 31st December, 2016.

Particulars	Debit (Rs.)	Credit (Rs.)
Rent	20,000	
Drawings	10,000	
Capital		1,20,000
Advertisement	4,000	
General expenses	6,000	
Debtors	60,000	
Purchase return		2,000
Sales return	2,500	
Insurance premium	3,000	
Machinery	80,000	
Wages	25,000	
Sales		2,50,000
Purchases	1,10,000	
Salaries	19,000	
Loan		80,000
Cash in hand	300	
Land and building	80,000	
Creditors		45,000
Electric charges	2,400	
Reserves		33,500
Furniture	16,000	
Opening stock	28,000	
Telephone charges	2,400	
Cash at bank	59,800	
Discount	900	
Bad debts	1,200	
	5,30,500	5,30,500

Adjustments: (1) Closing stock valued at Rs. 30,000. (2) Outstanding liabilities for: Wages Rs. 5,000, Rent Rs. 3,000. (3) Depreciation @ 10% p.a. on machinery, @ 5% p.a. on land and building, @ 20% p.a. on furniture is to be provided. (4) Bad debt is to be written off Rs. 1,000. Provision for doubtful debts is to be maintained @ 5% on debtors.

3. Explain various advantages and disadvantages of FIFO and LIFO.

4. From the following information prepare a store ledger by using FIFO method.

January, 1	Opening stock 1,000 units	@ Rs. 4 each
January, 4	Received 600 units	@ Rs. 5 each
January, 9	Issued 1,300 units	
January, 12	Received 800 units	@ Rs. 6 each
January, 16	Issued 900 units	
January, 20	Received 500 units	@ Rs. 7 each
January, 24	Issued 600 units	

5. Differentiate profit and loss account and balance sheet.

PAPER NAME: –HOSPITAL & HEALTH SYSTEM-1
PAPER CODE : (BHM-105)

1. Mention the historical development of hospital in India.
2. Why is a modern hospital known as a complex entity? Discuss.
3. Write the names of any two health committees and discuss the recommendations given by them.
4. What is the definition of Hospital given by WHO? Describe in detail about PHC.
5. Briefly discuss about Spectrum of health.
6. Explain the different levels of health care.
7. Write short notes on
 - a. Health Gap
 - b. Hospital as a social system.

BCA-1ST SEM

SUBJECT: DIGITAL ELECTRONICS
PAPER CODE: BCA101

1. Describe with Two Inputs Truth Table & Standard Symbol of Three Basic Gates (AND, OR, NOT) & Two Universal Gates NAND
2. Realise the logic expression, $y = (A + C)(A + \bar{D})(B+C)$ using gates.
3. State De-Morgan's theorem. Prove that $(A+B) (A+C) = (A+BC)$.
4. Explain FULL ADDER circuit.
5. Define subtraction using 2's compliment method.

SUB: BUSINESS SYSTEMS AND APPLICATIONS
PAPER CODE: BCA102

1. What are the basic difference between data and information, knowledge?
2. Describe the role of artificial intelligence and Expert system in business.
3. Explain the concept of data mining and data warehousing.
4. Mention three functions of transaction processing.
5. Describe various network topologies.
6. Explain the following with their advantages and disadvantages
 - a) Waterfall model
 - b) Spiral model
 - c) Prototype model
7. Differentiate between ERP and BRP. What is knowledge management? Write the step of knowledge management.
8. What are the basic elements of IT infrastructure? What IT resources are required to generate information? Define MIS and discuss its objectives. Where do you conduct cost benefit analysis in an SDLC?
9. Differentiate between OLTP and OLAP. Differentiate between LAN and WAN. What is end user computing? Why is end user computing? Why is end-user computing necessary?
10. What is transaction processing system? Explain the merits and demerits of batch processing system. Explain different types of decision making phases.

SUB: INTRODUCTION TO PROGRAMMING

PAPER CODE: BCA103

1. Given the radius of a circle, write a program to compute and display its area. Use a symbolic constant to define the π value and assume a suitable value for radius.
2. Write a program to output following multiplication table:


```
5 x 1 = 5
5 x 2 = 10
. . .
. . .
5 x 10 = 50
```
3. What is initialization? Why is it important?
4. What is an unsigned integer constant? What is the significance of declaring a constant unsigned?
5. Write a program to find the number of and sum of all integers greater than 100 and less than 200 that are divisible by 7.
6. Write a program to print a square of size 3 by using the character O instead of S the center of the square as shown below:


```
S S S S S
S S O S S
S S S S S
```
7. What is the nested for loop? Compare while loop and for loop with example.
8. What is mean by conditional expression? What is looping in C? What are the advantages of looping?
9. Explain the following bitwise operators
 - i) Bitwise AND ii) Bitwise OR iii) Bitwise XOR iv) Bitwise Left Shift v) Bitwise Right Shift
10. What is the printf() and compare with putchar().

PAPER NAME : MATHEMATICS

PAPER CODE : BM101

Answer the following questions.

1. Find the value of $\int_0^{\frac{\pi}{2}} \frac{\sin \theta}{\sin \theta + \cos \theta} d\theta$
2. Show that matrix $A = \frac{1}{3} \begin{pmatrix} -1 & 2 & -2 \\ -2 & 1 & 2 \\ 2 & 2 & 1 \end{pmatrix}$ is orthogonal and hence A^{-1}
3. Prove that a ring R is commutative if and only if $(a + b)^2 = a^2 + 2ab + b^2$
4. If by a rotation of co-ordinate axes expressions $ax + by$ and $cx + dy$ are transformed into $a'x + b'y$ and $c'x + d'y$, show that $a'd' - b'c' = ad - bc$.
5. Show that all root of the equation $x^4 = 1$ form a commutative group under the operation multiplication.
6. If $u = \log(x^3 + y^3 + z^3 - 3xyz)$ show that $\frac{\partial u}{\partial x} + \frac{\partial u}{\partial y} + \frac{\partial u}{\partial z} = \frac{3}{(x+y+z)}$.
7. Reduce the following equations to the canonical form and determine the nature of the conics:

$$6x^2 - 5xy - 6y^2 + 14x + 5y + 4 = 0.$$

8. Solve the equation by Cardan's method : $2x^3 + 3x^2 + 3x + 1 = 0$

PAPER NAME : - PC SOFTWARE

PAPER CODE : BCA104

- 1) What is browser? Write down the functions of browser.
- 2) What is an operating system? What are its features?
- 3) What is URL? What are domains? Give example of some common domain
- 4) How to create hyperlink in MS-Office.
- 5) What are Freezing and Splitting in Excel? Write differences between them
- 6) What are the uses of header and footer in MS-Word?
- 7) What are the major advantages of PowerPoint?
- 8) Input and output devices of computer.
- 9) Describe different steps to create a pie chart in Ms – Excel.
- 10) Explain the process of adding and deleting slides in power point presentation. Describe different steps for creating an animated slide presentation.

BBA-1ST SEM

PAPER NAME : ENGLISH-1

PAPER CODE : BBA-101

1. Choose the correct alternatives for the following.

- i) I am gladtomorrow is a holiday:- a) Because b) as c) for d) so
- ii) It is better to be..... than make a blunder: a) discard b) discreet c) discrete d)competent.
- iii) He gotmarks :- a) passing b)pass c) passed d) passes
- iv)There is intimacy between him and a) I b) me c) my d) mine
- v)He to go to Delhi last night: a) was b) had c) might d) went

2. What is business communication?

3. A leading MNC requires Management Trainee for its City branch. The incumbent should have good academic records with good personality. Experience of one year is desirable. Now write a job application letter with C.V. to the H.R. of the company within 10 days. This is an advertisement published in The Telegraph on 2nd October, 2017.

4. Write an invitation letter to the principal of your college for attending the fest on 5th September. Suppose you are the Secretary of the fest committee.

5. Suppose you are an agent of a manufacturer company of android phones. Now you are put in charge to promote sells of this type of mobile phone set in your area. What will you do? Write it to your brother.

6. Write a letter of complaint to a company that has provided your organisation with 15 defective machines out of a total order of 50.

7. Write an essay on the following topics.

- a) Global warming and its effect on environment
- b) Media in the lives of students.

8. Write a précis of the following paragraph.

A public library is important in many ways. It can be the most powerful of instruments in the education of the public taste. A good library does not content itself with handing across the counter the books which are demanded. It allows the reader access to the shelves, and it provides persons who are ready to advise him and to put him on the track of the sort of works he wants. There is in this respect all the difference in the world between good and bad library administration. The good library is not merely a store house. It is a place where children adults alike learn to read.

- b. I am reading a story book.
- c. My uncle has bought a gift for me.
- d. The earth moves round the sun.

PAPER NAME : MATHEMATICS

PAPER CODE : BBA-102

Answer the following questions.

1. Use mathematical induction to prove that $4^{2n+1} + 3^{n+2}$ is an integer multiple of 13, n being a positive integer.

2. Saina deposited Rs. 1,00,000 in a bank for three years. If the rate of interest is 7% p.a., calculate the interest that bank has to pay to Saina after three years if interest is compounded annually. Also calculate the amount at the end of the year.
3. If α, β be the roots of $ax^2 + bx + c = 0$, then form an equation whose roots are α/β and β/α .
4. Find the equation of circle which touches both the axes and passes through the point (6, 3).
5. Find the middle term of $(ax - \frac{1}{ax})^6$.
6. In a class of 25 students, 12 have taken Mathematics, 8 have taken Mathematics but not Biology. Find the number of students who have taken Mathematics and Biology and those who have taken Biology but not Mathematics.
7. Show that the function $f : \mathbb{R} \rightarrow \mathbb{R}$ defined by $f(x) = 2x + 3, x \in \mathbb{R}$ is objective. Determine f^{-1}

PAPER NAME : STATICS-1

PAPER CODE : BBA-103

Answer the following questions.

1. Define Mean, Median, Mode.
2. Show that the correlation coefficient of x and y is zero if x and y are independence. Is the converse also true?
3. Draw ogives (less than types) for the following frequency distributions.

Wages (Rs)	50-59	60-69	70-79	80-89	90-99	100-109	110-119
No. of employees	8	10	16	14	10	5	2

4. Discuss the method of fitting mathematical curves for determining the trend in time series data.
5. In the following data two class frequencies are missing.

C.I.	100-110	110-120	120-130	130-140	140-150	150-160	160-170	170-180	180-190	190-200
Frequ ency	4	7	15	?	40	?	16	10	6	3

6. Prove that the standard deviation is independent of change of origin.
7. Let the lines of regression concerning two variables x and y be given by $y=32-x$ and $x=13-0.25y$. Obtain the values of the means and the correlation coefficient.

PAPER NAME : ECONOMICS-1

PAPER CODE : BBA-104

1. What do you mean by Production function? Discuss its advantages. Explain Law of variable proportion.
2. Differentiate firm and industry. Explain various types of price elasticity of demand.

3. What are the practical applications of perfect competition? Discuss Price and output determination under monopolistic competition.
4. Give short note on: (a) Perfect competition. (b) Oligopoly. (c) Quasi rent. (d) Economies of scale.
5. State the features of Monopoly. How does a monopolist determine equilibrium output and price in the short run and in the long run?

PAPER NAME : INDIAN SOCIETY & CULTURE

PAPER CODE : BBA-105

1. How did society originate?
2. State occupational structure and village system of agrarian society.
3. What are the features of Industrial Society? Give examples.
4. Define child labour. Why is child labour as a socio-economic problem?
5. State the norms and values of industrial society.
6. Discuss the causes of child labour in our country.
7. What is trade union? State the objectives of the trade union.
8. Define poverty. What are the causes of it?
9. State the cultural features and caste system of agrarian society.

PAPER NAME: COMPUTER APPLICATION-1

PAPER CODE: BBA-106

- 1) What is URL? What are domains? Give example of some common domain.
- 2) What are Program Manager and File Manager?
- 3) What is the difference between CUI and GUI?
- 4) Write the steps of recording a MACRO?
- 5) What are Freezing and Splitting in Excel? Write differences between them
- 6) What is auto-correct option? How do you apply it?
- 7) Explain about LAN and WAN.
- 8) Explain about cache memory.
- 9) What are pivot table and reference chart? Describe with example
- 10) What is the use of "control panel" icon in MS-Windows? Write down the features of "control panel".

MHA-1ST SEM

PAPER NAME : BASIC CONCEPT OF HEALTH

PAPER CODE : MHA-101

1. Define health. What are the determinants of health? Discuss in detail the dimension of health.
2. Define disease. What are the agent factors of disease? Discuss the natural history of disease.
3. What are the levels of health care? Discuss in detail the modes of intervention of disease.
4. What do you understand by health indicators .Define Mortality and Morbidity? How to find out indicators for the above? Give a suitable examples and calculation formula.
5. Describe about web causation of disease.
6. Define the concept of Spectrum of Health.
7. Write a short note about AYUSH.

PAPER NAME : HEALTH CARE SERVICES

PAPER CODE : MHA-102

1. What is NRHM? What are the aims and mission of NRHM? Discuss the plan of action to strengthen the infrastructure.
2. What is a National Health Policy? What are the different important issues of the latest National Health Policy of India?
3. What is demography? Discuss the significance and recording of vital statistics.
4. Discuss National AIDS control programme and the role of NACO?
5. Describe Census and it's important.
6. Write a short note about Demographic cycle.
7. Write a short note about Activities of ASHA.

PAPER NAME : EPIDEMIOLOGY & HEALTH CARE IN ITS CHANGING SCENERIO

PAPER CODE : MHA-103

1. What do you understand by levels of health care? Discuss in detail the secondary and tertiary care of our country.
2. What is Epidemiology? Describe in detail about methods of epidemiology.
3. Explain the agent, Host, and Environmental factors for any non- communicable disease. What is the National Immunization Schedule? Discuss briefly the hazards of wrong immunization.
4. What is epidemic? What are the objectives of an epidemic investigation? Discuss various steps of the epidemic.
5. Write a short note on Principles of Epidemiology.
6. Define Epidemiology.
7. Describe in short on Effect of privatization in Health care.
8. What are the uses of screening and surveys in Health Care

HEALTH EDUCATION & HEALTH COMMUNICATION

(MHA-104)

1. What is mass media? Describe the various types of mass media used for communication and explain the advantages and disadvantages of them.
2. What is NIC? What is health care reporting? Discuss what you know about the contribution of NIC in health care.
3. What is health education? Describe and give suitable examples of the various levels of health education which are provided by the health care personnel in the community.
4. Define communication. Discuss various types of barriers to communication and explain how the barriers can be overcome, give examples from the health care institutions.
5. Write a short note on principles of health education?
6. Briefly describe any two models of health promotion.
7. Briefly describe any two methods of health evaluation?

PAPER NAME: INFORMATION TECHNOLOGY

PAPER CODE: MHA-105

1. State the computer hardware and software components. Describe about their functioning.
2. Describe about working knowledge of commonly used hospital software.
3. What are the applications of computers in hospitals?
4. What is an operating system? Why do we need an operating system?
5. What is a process? Explain each state of a process with a diagram.
6. What do you mean by a database management system? Explain the ACID property of a database.
7. What is a transaction? Write the difference between a centralized database and a distributed database.
8. What is an ER diagram? What is an entity and attribute?
9. Describe different types of communication networks.
10. Describe various topologies.

PAPER NAME: PRINCIPLES OF MANAGEMENT

PAPER CODE: MHA-106

- 1) Draw and explain the structure of a matrix organization.
- 2) Results of Hawthorne experiments.
- 3) Discuss the contributions made by F. W. Taylor to management thought.
- 4) What is organizing? Give the steps of organizing. Draw a typical organization chart for a large multidisciplinary hospital.
- 5) Steps in the decision-making process.
- 6) Why are managing informal organizations always a challenge for a manager? Explain in detail with your reasons. Compare formal organizations with informal organizations.
- 7) Factors determining Span of Management.

PAPER NAME: ORGANIZATION BEHAVIOR

PAPER CODE: MHA-107

1. Describe OD intervention techniques.
2. What is personality? What according to the big five model, are the personality dimensions?
3. Define leadership. What are qualities of a good leader?
4. State the difference between motivation and job satisfaction.
5. What is perception? How personality determinants are playing in shaping an individual's personality?
6. Briefly discuss different views of conflict.
7. State the stages of group development.
8. Write a short note on managerial grid.

PAPER NAME : QUANTITATIVE METHOD

PAPER CODE : MHA 108

1. An urn contains 8 white balls and 3 red balls. If two balls are drawn at random, find the probability that: i) both are white ii) both are red.
2. What do you mean by time series? Explain the different components of such a series.
3. Discuss the method of fitting mathematical curves for determining the trend in time series data.
4. Let the lines of regression concerning two variables x and y be given by $y=32-x$ and $x=13-0.25y$. Obtain the values of the means and the correlation coefficient.
5. What do you mean by cost of living index number? Mention the use of it.
6. Draw the histogram of the following frequency distribution and find the proportion of firms with annual sales greater than Rs. 70,000.

Annual Sales (Rs '000)	0-20	20-50	50-100	100-250	250-500	500-1000
No. of firms	20	50	69	30	25	19

7. Show that the correlation coefficient of x and y is zero if x and y are independence. Is the converse also true?

BHM-3RD SEM

PAPER NAME : HOSPITAL OPERATIONS MANAGEMENT - II

PAPER CODE : BHM-301

1. Describe in brief about guiding principles in planning the hospital & services.
2. Describe in brief about O.T in a hospital.
3. What are the categories and sources of outpatient? Describe the planning consideration, location, flowchart of functions, physical infrastructure and facilities needed in an OPD.

4. What do you mean by CSSD? Briefly describe its functions, location, space and equipment required.
5. Write a short note about Types of Hospital.
6. Describe Functions of OPD in a Hospital.
7. Primary factors in determining a site for a proposed hospital.
8. Write a short note about Protective zone.

PAPER NAME : BIO STATISTICS II

PAPER CODE : BHM 302

Answer the following questions.

1. Show that $P(A \cap B) \leq P(A)$ $P(A \cup B) \leq P(A) + P(B)$.
2. What is the chance that a leap year selected at random will contain 53 Wednesday ?
3. Prove that correlation coefficient does not depend on the origin or scale of the observations.
4. In the following data two class frequencies are missing.

C.I.	100-110	110-120	120-130	130-140	140-150	150-160	160-170	170-180	180-190	190-200
Frequency	4	7	15	?	40	?	16	10	6	3

However it was possible to ascertain the total number of frequencies was 150 and that the median has been correctly found out as 146,25. Find the two missing frequencies.

5. There are 3 children in a family. Find the probability that all the children are boys, i) if no prior information is available about the children, ii) if it is known that the two eldest are boys, iii) if it is known that at least two of them are boys.
6. Draw the histogram of the following frequency distribution and find the proportion of firms with annual sales greater than Rs. 70,000.

Annual Sales (Rs '000)	0-20	20-50	50-100	100-250	250-500	500-1000
No. of firms	20	50	69	30	25	19

SUB: HEALTH ECONOMICS

PAPER CODE :BHM- 303

- 1) Explain why better health is one of the principal components of economic development.
- 2) Scope of health economics.
- 3) Briefly state the importance of economic evaluation of health care.
- 4) Define economic development and explain why better health is one of its principal components?
- 5) Briefly state the basic concepts of demand and supply analysis.

- 6) What are the major economic problems in an insurance market? What is TPA?
- 7) Discuss the cost benefit analysis and cost effective analysis as tools of evaluation of health service programmes.

PAPER NAME : MEDICAL RECORD SCIENCE-I

PAPER CODE : BHM-304

1. Describe the importance of medical records for various users.
2. What are hospital statistics? Why are they so important in a hospital? How do they help? a hospital manager to assess the quality of services rendered by the hospital.
3. Describe the staffing of Medical Records Department with its location, layout and Equipment required.
4. Discuss about the legal aspect of medical records with special reference to various acts applicable.
5. Write a short note about Consent.
6. Describe benefits of medical record.
7. What are the Characteristics of Good Medical Records?

SUBJECT : INVENTORY CONTROL & PURCHASE MANAGEMENT

SUBJECT CODE – BHM-305

1. Enumerate the importance of EOQ in inventory control. Explain the assumptions of EOQ. Discuss the need of vendor development and vendor rating.
2. Define materials handling. “The selection of materials handling equipment is vital and very important decision in an industry.” What factors are to be considered in the selection of materials handling equipment in Hospital?
3. What is purchasing cycle? Explain purchasing cycle with the help of a diagram.
4. Give short note on: (a) ABC analysis (b) Agreement (c) Store keeper (d) Bin Card.
5. A hospital purchases an item at the rate of Rs. 50 per piece. The annual consumption of the items are 18000 nos. If the ordering cost is Rs. 500 per order and carrying cost is 25% p.a. what would be the EOQ? If the supplier offers a discount of 5% for order quantity of 3000 nos. per order do you accept the discount offer?

BCA-3RD SEM

SUBJECT : OPERATING SYSTEM

SUBJECT CODE – BCA301

1. What is process? Draw the state diagram of a process and describe it.
2. What is PCB? Describe it with suitable diagram.
3. Consider a system with a 32bit logical address space, a two level paging scheme, 4 byte page table entries, 1 kb pages and a 4 entry TLB. The page table base register access time is 0ns, TLB access time is 10ns and memory access time is 100ns.
 - i) How many address bits are needed for the page offset?
 - ii) How much memory in bytes is required to store the outer page table entirely in main memory?
4. What is the problem of fragmentation and how can it be solved?
5. Mention one characteristic each of time sharing system and batch processing system. What are the advantages of using thread over process? What is system call?
6.
 - a) Briefly explain the critical section problem.
 - b) Mention the criteria which must be satisfied to solve the critical section problem.
 - c) What is semaphore? What are the alternatives?
 - d) Briefly explain the role of semaphore in relation to critical section problem.
 - e) Differentiate between pre-emptive and non pre-emptive scheduling of processes.
7.
 - a) Describe the task of long term, short term and medium term scheduler with diagram.
 - b) Consider the following set of processes. CPU burst times of them are given below in milliseconds.

process	Burst time	Arrival time
P1	3	1
P2	8	0
P3	1	2
P4	5	4
P5	2	5

Draw the gnat chart and calculate average waiting time, average turnaround time for

- i) FCFS
 - ii) R.R scheduling where time quantum $q=2$ milliseconds.
 - iii) SRTF
8.
 - a) What is deadlock?
 - b) Describe the necessary and sufficient conditions for the occurrence of deadlock.
 - c) "All unsafe states may not lead to deadlock". Why or why not?
 - d) Consider the following snapshot of a system :

process	allocation	max	Available
	A B C D	A B C D	A B C D
P0	0 0 1 2	0 0 1 2	1 5 2 0
P1	1 0 0 0	1 7 5 0	
P2	1 3 5 4	2 3 5 6	
P3	0 6 3 2	0 6 5 6	
P4	0 0 1 4	0 6 5 6	

Answer the following questions using the Bankar's algorithm:

- i) What is the content of the matrix need?
- ii) Is the system a safe state?
- iii) If a request from process P1 arrives for (0, 4, 2, 0), can the request be granted immediately?

9.

- a) What are seek time and latency time?
- b) A disk has tracks (numbered 0 through 199). At a given time, it was servicing the request of reading data from track 120 and at the previous request, service was for track 90. The pending request (in order of their arrival) is for track numbers -30 70 115 110 80 20 25

How many times will the head change its direction for the disk scheduling policies-

- i) SSTF(shortest seek time first)
- ii) FCFS (first come first serve)?

10. Write short notes on any three of the following:

- a) Segmentation
- b) Belady's anomaly
- c) Kernel level thread
- d) Inode
- e) Security and protection in operating system.

SUBJECT : DATA STRUCTURE WITH C

SUBJECT CODE – BCA302

1. What is Circular Queue? Write an algorithm to insert an element into a Circular queue.
2. What is complexity? What are the different types of complexity? What do you mean by algorithm?
3. Write down an algorithm for deleting a node from a single linked list.(first, middle position)
4. Explain the tower of Hanoi problem of recursion of 3 peg and 3 disks.
5. Write down the algorithm for Insertion sort.
6. a. Construct a binary tree with the following traversals and write the pre order traversal of the following.
POST-Order- DCBGFEA
IN-Order- BDCAFGE
b. What is Hashing? How is collision problem solved in hashing?
7. a. Show the stages in growth of a 4 order B-tree when the following keys are inserted in the given order.
74, 72, 19,84 , 51, 10, 35, 18, 60, 76, 58, 19, 45.
b. Write a C – function to implement PUSH and POP operation in a Stack.
8. a. How B tree is different from binary tree?
b. Insert the following keys into a AVL tree.
64, 1, 44, 26,13,110,89,85,20
Then delete the following keys. 85,1
9. a. What are the advantages of circular queue over ordinary queue?
b. Explain Big O notation.
c. Write an algorithm to reverse the elements of a linked list.
d. Convert the following infix to postfix expression using Stack
 $4+3*10/6+7-4/2+5^3$

10 .Write short notes on **any three** the followings:

- a. Breadth first search
- b. Dequeue
- c. BST
- d. 2-D Array
- e. Selection Sort

PAPER NAME : GRAPHICS & INTERNET

PAPER CODE :BCA303

1. What is aspect ratio? What do you mean by a resolution of a screen?
2. Briefly explain class-full static IP addressing systems.
3. Define the difference between class-full & classless addressing system.
4. What are the different layers in the OSI network model? Describe TCP and UDP services provided by the transport layer.
5. Define the difference between IPv4 and IPv6. What is address space?
6. a) Define the following terms :
 - i) Triad ii) Aspect Ratio iii) Refresh Rate iii) Interlacing iv) Bit Plane.
- b) Write mid-point circle drawing algorithm and generate coordinates for a circle of radius 12 cm with the centre located at (0, 0).
7. a) Explain in brief different categories of parallel and perspective projection in 2D.
b) Briefly explain class-full static IP addressing systems.
c) Raster scanning display system
8. a) What do you mean by clipping ? Write different types of clipping.
b) Discuss with example Cohen-Sutherland clipping algorithm.
c) Draw the Bezier curve defined by the control points (2, 1), (3, 2), (5, 0) and (6, 2).
9. a) What is cookie? Write stages of database connection using ASP.
b) Define class A, B, C, D, and E Networks.
c) Write a short note on FTP.
10. Write Short notes on any three:
 - a) z-buffer algorithm.
 - b) Shadow masking
 - c) Cohen-Sutherland clipping algorithm
 - d) SMTP
 - e) DNS

PAPER NAME : MATHEMATICS FOR COMPUTING

PAPER CODE : BM301

. Answer the following question:

1. Find the CNF of the following statement: $\sim(pvq) \leftrightarrow (qAr)$.
2. Prove that a simple graph with n number of vertices and k number of components can have maximum $\frac{(n-k)(n-k+1)}{2}$ number of edges.
3. Find the Grammar on the set of terminals {a, b} that generates the language $L = \{a, ab, ab^2, ab^3\}$.
4. Draw the transition diagram finite state automata that accepts the following set of non-null strings over $I=\{0,1\}$
 - (i) which ends with 100 (ii) starts with 100

5. In a room there are 40 men and 20 women of which half the men and half the women have blue eyes. How many ways two of them may be selected where (i) both are men (ii) both are blue-eyed.
6. Using generating function solve the recurrence relation $a_n - 7a_{n-1} + 10a_{n-2} = 0$ for all $n > 1$, and $a_0 = 3, a_1 = 3$.
7. Show that $\{(p \wedge \sim q) \rightarrow r\} \rightarrow \{p \rightarrow (q \vee r)\}$ is a tautology.

PAPER NAME : MANAGEMENT & ACCOUNTING

PAPER CODE : BBA301

1. Journalise the following transactions for the month of April 2016 in the books of Mr. Banerjee.

Date	Transactions	Amount (Rs.)
01	Started his business with cash	5,00,000
02	Borrowed from Mahesh	5,00,000
02	Purchased furniture	1,00,000
04	Purchased furniture from Mohan on credit	1,50,000
05	Purchased goods for cash	50,000
06	Purchased goods from Ram on credit	2,50,000
08	Sold goods for cash	1,25,000
09	Sold goods from Shyam on credit	25,000
10	Paid cash to Ram	90,000
11	Deposited into bank	5,00,000
11	Withdrew cash for personal use	10,000
14	Withdrew cash for office use	50,000
19	Paid Ram by cheque	1,50,000
20	Paid salary	30,000
25	Paid installment of loan	25,000
28	Interest allowed by bank	8,000
30	Paid LIC premium	12,000

2. The following two projects S and R require an investment of Rs. 2,00,000 each. The cost of capital is 10%. The income after tax for these two projects is as follows-

Year	1	2	3	4	5	6
S	80,000	80,000	40,000	20,000	----	----
R	20,000	40,000	40,000	40,000	60,000	60,000

Using the following criteria determine which of the project will be preferable and why?

- (a) Pay Back Period (PBP)
- (b) Accounting rate of Return (ARR)

3. What are the advantages and disadvantages of Zero based Budgeting (ZBB).

Difference between trial balance and balance Sheet.

4. Give short note on: (a) Accounting Equation (b) Net Present Value (NPV) (c) LIFO method

5. Find out EOQ from the following particulars:

Annual usage = 6000 units

Cost of material per unit = Rs. 20

Cost of placing and receiving one order = Rs. 60

Annual inventory carrying cost of one unit = 10% of inventory value.

BBA-3RD SEM

PAPER NAME : PRINCIPAL OF MANAGEMENT

PAPER CODE : BBA 301

- 1) Discuss the contributions of Fayol in Modern Management Process School.
- 2) What do you mean by Line and Staff organization? Point out the main causes of line-staff conflict and discuss the steps which may be taken to improve the line-staff relationship.
- 3) Management is both a science and an art----elucidate.
- 4) Distinguish between centralization and decentralization.
- 5) What is planning? What are the importance of planning? Describe the process of planning.
- 6) Discuss various approaches of span of management and their limitations. What are the factors determining span of management?
- 7) Discuss the contribution of Taylor in management process.

PAPER NAME : BUSINESS ENVIRONMENT

PAPER CODE : BBA 302

1. What is business environment? What are its various components?
2. How economic system can be described?
3. Write a note on liberalization.
4. State the manifestation of globalization.
5. State the advantages of privatization.
6. Describe the main features of new industrial policy.
7. State the features of Balance of Payment.
8. Write a short note on IMF.

PAPER NAME : BUSINESS REGULATORY FRAMEWORK

PAPER CODE : BBA 303

1. Who is a minor? State the law relating to the minor's agreement.
2. What do you mean by free consent? State the difference between coercion and undue influence.
3. Define contingent contract. Discuss the essential characteristics of contingent contract.
4. Discuss the meaning and types of performance of contract.
5. How many ways a contract may be discharged?
6. Discuss the types of quasi-contracts.
7. What do you mean by contract of sale? State the essentials of contract of sale.

Distinguish between sale and agreement to sale.

PAPER NAME : BUSINESS ECONOMICS

PAPER CODE : BBA 304

1. What do you mean by business cycle? Explain various theories of business cycle.
2. Define forecasting. Discuss different methods of forecasting.
3. What do you mean by BEP? Write down its assumptions. Explain advantages and disadvantages of BEP.
4. Give short note on: (a) Profit planning and control (b) Game theory (c) Model building (d) Exchange rates.
5. State the various measurements of profit. Explain various characteristics of Bills of Payment.

Elaborate IS-LM Framework in detail.

PAPER NAME : BUSINESS COMMUNICATION

PAPER CODE : BBA 305

1. Choose the correct alternative for the following.
 - i) The start and end of communication process involves:- a) Sender & decoder b) Sender & feedback c) Message & feedback d) Encoding & feedback
 - ii) Communication is : - a) Universal b) strong c) Verbal d) Reflect
 - iii) Which can be regarded as end of communication system? a) Receiver b) decoding c) feedback d) channel transmission
 - iv) In one way communication there is no: a) channel b) input c) message d) feedback
 - v) Interpersonal communication is communication among: a) Two or more person b) one or more person c) three or more person d) two people
2. What are 7cs in communication?
3. Write short on any one: - a) Video conferencing b) Fax.

4. State some functions of business letter.
5. What are the essentials of good business writing?
6. How does language act as a barrier to effective communication?
7. Draft a sales letter announcing introduction of new product.
8. How group discussion can be made effective?
9. Write some personal barriers in communication.
10. Write some features of sales letter.

PAPER NAME : FINANCIAL ACCOUNTING

PAPER CODE : BBA 306

Course: Bachelor of Business Administration

Sub: FINANCIAL ACCOUNTING

Sub Code: BBA-306

1. Explain various classifications of expenditure and receipts.
2. Define trial balance. Discuss its different thumb rules. How a trial balance differ from a balance sheet?
3. What do you mean by BEP? Write down its assumptions. Explain advantages and disadvantages of BEP.
4. Give short note on: (a) Accounting concepts (b) Golden rule of accounting (c) Methods of depreciation (d) Expired cost.
5. From the following Trial Balance Prepare Trading A/c, Profit & Loss A/c and Balance Sheet for the Year ended 31st December, 2016.

Particulars	Debit (Rs.)	Credit (Rs.)
Rent	20,000	
Drawings	10,000	
Capital		1,20,000
Advertisement	4,000	
General expenses	6,000	
Debtors	60,000	
Purchase return		2,000
Sales return	2,500	
Insurance premium	3,000	

Machinery	80,000	
Wages	25,000	
Sales		2,50,000
Purchases	1,10,000	
Salaries	19,000	
Loan		80,000
Cash in hand	300	
Land and building	80,000	
Creditors		45,000
Electric charges	2,400	
Reserves		33,500
Furniture	16,000	
Opening stock	28,000	
Telephone charges	2,400	
Cash at bank	59,800	
Discount	900	
Bad debts	1,200	
	5,30,500	5,30,500

Adjustments: (1) Closing stock valued at Rs. 30,000. (2) Outstanding liabilities for: Wages Rs. 5,000, Rent Rs. 3,000. (3) Depreciation @ 10% p.a. on machinery, @ 5% p.a. on land and building, @ 20% p.a. on furniture is to be provided. (4) Bad debt is to be written off Rs. 1,000. Provision for doubtful debts is to be maintained @ 5% on debtors.

MHA-3RD SEM

SUBJECT : HEALTH ECONOMICS

SUBJECT CODE – MHA301

1. Explain various types of elasticity of demand with their practical application.
2. Discuss macroeconomics of various national health programmes.
3. Define business cycle. Discuss various phases of business cycle.
4. What are the roles of managerial economist? Discuss cobb-douglas function in detail.
5. Explain cost-output relationship in short run and long run in detail.

SUBJECT : MANAGERIAL ACCOUNTING

SUBJECT CODE – MHA302

1. Discuss the advantages and disadvantages of working capital. Explain various sources of working capital. What are the determinants of working capital?
2. Explain various techniques of Managerial Accounting. What are the responsibilities of a manager in respect of Managerial Accounting?
3. Explain Japanese Model of corporate governance in detail.
4. Define Receivable Management. Explain its characteristics. How receivable management can create an impact of a firm?
5. What is operating cycle? Explain the importance and characteristics of operating cycle. Explain different phases of operating cycle.

SUBJECT : HEALTH CARE INDUSTRY
SUBJECT CODE – MHA303

1. Describe the impact of information technology on health care.
2. What is PPP? What are the various PPP models? State and explain the advantages of PPP over traditional model.
3. Define telemedicine? What are the objectives of telemedicine? Write a short on Challenges faced in practicing of telemedicine.
4. Describe about corporate tie-up. Define briefly latest development and changes in health care.
5. Define health insurance. Describe briefly the working of Third Party Administrator.
6. Describe briefly about functions of hospital?
7. What are the challenges faced by the practice Telemedicine.
8. Define the need for accreditation of hospital.
9. What are the objectives of telemedicine?

SUBJECT : LEGAL ASPECT OF HEALTH
SUBJECT CODE – MHA304

1. Discuss 'Every contract is an agreement but every agreement is not a contract'. Mention essential elements of contract with real examples?
2. Discuss the Organ transplantation act and its objectives.
3. Discuss Donation of organs Act. What are its salient features and penal provisions under this Act?

4. Write down the objectives and salient features of West Bengal Clinical Establishment Act. Why this act is called the backbone of health care delivery system?
5. Write down the medico-legal problems in relation to health administration.
6. Write a short note on consent.
7. What do you know about professional indemnity schemes?
8. Write a short note on PNDT act.

SUBJECT : OPERATIONAL RESEARCH

SUBJECT CODE – MHA305

Answer the following questions.

1. Write down the queuing model for $\{(M/M/1) : (\infty/FCFS)\}$.
2. Use two-phase simplex method to solve the following LPP problem:
 Maximize $z = 3x_1 + 2x_2 + 2x_3$
 Subject to $5x_1 + 7x_2 + 4x_3 \leq 7$
 $-4x_1 + 7x_2 + 5x_3 \geq -2$
 $3x_1 + 4x_2 - 6x_3 \geq 29/7$, $x_1, x_2, x_3 \geq 0$.
3. A businessman has two independent portfolios A, B available to him, but he lacks the capital to undertake both of them simultaneously. He can either choose A first and then stop, or if A is not successful, then take B or vice-versa. The probability of success of A is 0.6, while for B it is 0.4. Both investment schemes required an initial capital outlay of Rs 10,000 and both returned nothing if the venture proves to be unsuccessful. Successful completion of A will return Rs 20,000 (over cost) and successful completion of B will return Rs 24,000 (over cost). Draw a decision tree in order to determine the best strategy.
4. A small project involves 7 activities, and their time estimates are listed in the following table. Activities are identified by their beginning (i) and ending (j) node numbers.

Activity (i-j)	Estimated duration		
	Optimistic	Most likely	Pessimistic
1-2	1	1	7
1-3	1	4	7
1-4	2	2	8
2-5	1	1	1
3-5	2	5	14
4-6	2	5	8
5-6	3	6	15

- (i) Draw the network diagram of the activities in the project.
- (ii) Find the expected duration and variance for each activity.
- (iii) What is the expected project length.
5. Use penalty method (Big-M) to solve the following LPP
 Maximize $z = 3x_1 + 2x_2 + 3x_3 - x_4$
 Subject to $x_1 + 2x_2 + 3x_3 = 15$
 $2x_1 + x_2 + 5x_3 = 20$
 $x_1 + 2x_2 + x_3 + x_4 = 10$, $x_1, x_2, x_3, x_4 \geq 0$.
6. In the modification of the plant layout of a factory 4 machines M_1, M_2, M_3, M_4 are to be installed in a machine shop. There are 5 vacant places A, B, C, D, and E available. Because of limited space,

machine M_2 cannot be placed at C and M_3 cannot be placed at A. The cost of locating a machine in a place (in 100 Rs.) is as follows:

	A	B	C	D	E
M_1	9	11	15	10	11
M_2	12	9	-	10	9
M_3	-	11	14	11	7
M_4	14	8	12	7	8

7. Write down the difference between PART AND CPM

SUBJECT : RESEARCH METHODOLOGY

SUBJECT CODE – MHA306

- 1) Explain the difference between research methods and research methodology.
- 2) What is the sequence of steps involved in marketing research projects?
- 3) What is research design? Elaborate in detail different types of research designs. Why is a research design necessary for conducting a study?
- 4) What is Chi-Square test? Explain the significance in statistical analysis of any research problem. What is analysis of variance?
- 5) Ordinal scale vs Nominal scale
- 6) Define research. What should be considered as the criteria of a good research? Describe depth interview and focus group in detail and mention their differences.
- 7) Relevance of research in corporate hospital sector.

SUBJECT : INDUSTRIAL RELATION

SUBJECT CODE – MHA307

1. Define industrial dispute. State the causes of industrial dispute.
2. Define trade union. What are the rights of recognized trade unions?
3. What are different types of industrial disputes?
4. State the objectives of ILO.
5. What are the objectives of Factories Act, 1948?
6. What are the parties to industrial relations?
7. What are the classifications of trade union?

What is industrial relations? What are the objectives of industrial relations?

SUBJECT : MARKETING MANAGEMENT-II

SUBJECT CODE – MHA308

- 1) Write a note on the role of post-purchase behaviour in health care industry.
- 2) Outline in detail consumer purchase decision process. “ In service, experience and credence qualities dominate”. How relevant it is in health care perspective?

- 3) Marketing strategy and planning are of little value without a system of control. What control procedures can be employed by marketing management?
- 4) Write a note on the role of post-purchase behaviour in health care industry.
- 5) Importance of 'Positioning' in corporate hospital.
- 6) What do you understand by medical tourism? Detail the factors responsible for the rapid growth of this phenomenon in India. What are the threat in the development of medical tourism?

Define consumer behaviour. How is the understanding of consumer behaviour relevant to a health care provider? Enumerate briefly on the factors responsible for influencing consumer behaviour.

MCA-3RD SEM

SUBJECT : OPERATING SYSTEMS & SYSTEMS SOFTWARE

SUBJECT CODE – MCA301

1. Consider a system with a 32bit logical address space, a two level paging scheme, 4 byte page table entries, 1 kb pages and a 4 entry TLB. The page table base register access time is 0ns, TLB access time is 10ns and memory access time is 100ns.
 - iii) How many address bits are needed for the page offset?
 - iv) How much memory in bytes is required to store the outer page table entirely in main memory?
2. What is the problem of fragmentation and how can it be solved?
3.
 - f) Briefly explain the critical section problem.
 - g) Mention the criteria which must be satisfied to solve the critical section problem.
 - h) What is semaphore? What are the alternatives?
 - i) Briefly explain the role of semaphore in relation to critical section problem.
 - j) Differentiate between pre-emptive and non pre-emptive scheduling of processes.
4.
 - c) Describe the task of long term, short term and medium term scheduler with diagram.
 - d) Consider the following set of processes. CPU burst times of them are given bellow in milliseconds.

process	Burst time	Arrival time
P1	3	1
P2	8	0
P3	1	2
P4	5	4
P5	2	5

Draw the gnat chart and calculate average waiting time, average turnaround time for

- iv) FCFS
- v) R.R scheduling where time quantum $q=2$ milliseconds.
- vi) SRTF

5. What is deadlock? Describe the necessary and sufficient conditions for the occurrence of deadlock. "All unsafe states may not lead to deadlock". Why or why not?

6. Consider the following snapshot of a system :

process	allocation	max	Available
	A B C D	A B C D	A B C D
P0	0 0 1 2	0 0 1 2	1 5 2 0
P1	1 0 0 0	1 7 5 0	
P2	1 3 5 4	2 3 5 6	
P3	0 6 3 2	0 6 5 6	
P4	0 0 1 4	0 6 5 6	

Answer the following questions using the Bankar's algorithm:

- iv) What is the content of the matrix need?
 - v) Is the system a safe state?
 - vi) If a request from process P1 arrives for (0, 4, 2, 0), can the request be granted immediately?
7. What is process? Draw the state diagram of a process and describe it.
8. What is PCB? Describe it with suitable diagram.
- 9.
- c) What are seek time and latency time?
 - d) A disk has tracks (numbered 0 through 199). At a given time, it was servicing the request of reading data from track 120 and at the previous request, service was for track 90. The pending request (in order of their arrival) is for track numbers -30 70 115 110 80 20 25
- How many times will the head change its direction for the disk scheduling policies-
- iii) SSTF (shortest seek time first)
 - iv) FCFS (first come first serve)?
10. Write short notes on any three of the following:
- f) Segmentation
 - g) Belady's anomaly
 - h) Kernel level thread

SUBJECT : UNIX & SHELL PROGRAMMING

SUBJECT CODE – MCA302

1. Distinguish between Internal command and external command.
2. Compare Absolute path and relative path.
3. a) Explain the function of pipe.
b) What do you mean by system call
4. Describe the seven columns in details from which we get information of file by typing ls-l command?
5. What is meta character? Describe command for creating and editing a file in UNIX system.
6. How many accessing mode present in UNIX system? Explain how we count the words in a file?

7. What does "bulk loading of a table" mean? Indicate advantages and disadvantages of using these features
8. What is the difference between the following vi commands?
(i) :w (ii) :q! (iii) :wq (iv) zz.
9. What is regular expression? List out the components of it.
10. What command would give user read, write and execute permission, group members execute permission and give others only read permission for a file ? Use both relative and octal notations.

SUBJECT : INTELLIGENT SYSTEMS

SUBJECT CODE – MCA303

1. Describe 15-puzzle algorithm.
2. Describe 8-puzzle algorithm using BFS.
3. Describe 8-puzzle algorithm using DFS.
4. Short note: Tic-Tac-Toe.
6. What is AI? Describe with example.
7. Solve 8-Queen problem. How many distinct and unique cases are there? Give comparison of Propagation Techniques.
8. Convert the following English statements to statements in first order logic :
 - i) Every boy or girls is a child
 - ii) Every child gets a doll or a train or a lump of coal
 - iii) No boy gets any doll.
 - iv) No child who is good gets any lump of coal.
 - v) Jack is a boy.
9. Write A* algorithm.
10. Compare the depth-first search and breadth-first search algorithms by writing out their advantage and disadvantages.

SUBJECT : STATISTICS & NUMERICAL TECHNIQUES

SUBJECT CODE – MM 301

Answer the following questions.

1. Show that $P(A \cap B) \leq P(A)$ $P(A \cup B) \leq P(A) + P(B)$.
2. Construct the iterative scheme of Gauss's Elimination method for solving a system of Linear Algebraic Equations.
3. Solve the system of linear equations by LU-factorization method:

$$2x - 6y + 8z = 24$$

$$5x + 4y - 3z = 2$$

$$3x + y + 2z = 16$$

4. There are 3 children in a family. Find the probability that all the children are boys, i) if no prior information is available about the children, ii) if it is known that the two eldest are boys, iii) if it is known that at least two of them are boys.
5. Construct the Milne's Method or Predictor-Corrector Method.
6. In the following data two class frequencies are missing.

C.I.	100-110	110-120	120-130	130-140	140-150	150-160	160-170	170-180	180-190	190-200
Frequency	4	7	15	?	40	?	16	10	6	3

However it was possible to ascertain the total number of frequencies was 150 and that the median has been correctly found out as 146,25. Find the two missing frequencies.

SUBJECT : BUSINESS MANAGEMENT

SUBJECT CODE – MBA 301

1. What do you mean by controlling? State the different types of control.
2. What do you mean by recruitment and selection? Describe the steps in selection process.
3. Define productivity. How does it differ from production?
4. Differentiate between MBO and MBE.
5. State the role of IT in business management.
6. Write a note on the BCG matrix.
7. What do you mean by training? Compare between training and development.
8. Management is both an art and a science explain.
9. Write a short note on managerial grid.

SUBJECT : MANAGEMENT ACCOUNTING

SUBJECT CODE – MBA 302

1. Calculate the PV Ratio from the following details

Particulars	Total sales	Total Costs
Year ending 31 st December, 2015	22,23,000	19,83,600
Year ending 31 st December, 2016	24,51,000	21,43,200

What are the advantages and disadvantages of Budget.

2. Draw a Flexible Budget for the level of operation at 70%, 80% and 90%.

Variable Overheads at 80% capacity:

Indirect labour Rs. 12,000
Stores and spares Rs. 4,000

Semi variable overheads at 80% capacity:

Power (30% fixed) Rs. 20,000
Repair and maintenance at 60% fixed Rs. 2,000

Fixed overheads at 80% capacity:

Depreciation Rs. 11,000

Insurance Rs. 3,000

Salaries Rs. 10,000

The estimated direct labour hours is 1, 24,000.

3. What are the advantages and disadvantages of Zero based Budgeting (ZBB).
Difference between trial balance and balance Sheet.
4. Give short note on: (a) Cash Budget (b) Debtors turnover ratio (c) Contra entry
5. Describe the importance of having a good ERP system in a large multi-functional and multi-locational manufacturing company in the domain of financial accounting and decision making.

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BHM-5TH SEM

PAPER NAME : QUALITY IN HEALTH CARE

PAPER CODE : BHM-501

- 1) Patient's expectation vs Patient's perception.
- 2) What is the difference between Quality Assurance and Quality Improvement?
- 3) Define TQM. What is the role of the top management in the implementation of TQM?
What is the relation between TQM and outcome management?
- 4) Describe ISO 9000, its elements, advantages and disadvantages with special reference to a hospital.
- 5) PDCA cycle.
- 6) Explain Deming's contribution on management guidelines.
- 7) Meta-analysis in Quality Assurance.

PAPER NAME : SUPPORT AND UTILITY SERVICES-II

PAPER CODE : BHM-502

1. Describe the location and space requirement for a mortuary. List the categories of staff and important equipment required in a mortuary.
2. Elaborate on the organization and function of pharmacy services in a hospital with special reference to physical facilities, location and problem areas.
3. What are the various kinds of reports generated by a hospital? Explain their uses.

4. Discuss about the basic elements in the fire safety programming. Discuss about the construction consideration to prevent fire in hospitals with special reference to the construction of stairs, elevators and ramps.

5. What do you mean by a disaster? Classify disaster. What do you mean by a disaster manual? Explain in brief the different sectors of a disaster manual.

PAPER NAME : LAW
PAPER CODE : BHM-503

1. What is contract? State the essentials requirement of contract.
2. What is acceptance? State the essentials of valid acceptance.
3. What is Bio-Medical Waste?
4. State the categories of Bio-Medical Waste.
5. Colour coding and type of container for disposal of Bio-Medical Wastes.
6. State the standard for deep burial.
7. State the difference between void agreement and void contract.
8. State the essential elements of a valid contract.
9. What is proposal or offer? Describe the essentials of a valid offer.

SUBJECT : FINANCIAL MANAGEMENT
SUBJECT CODE – BHM-504

1. (a) Define Internal Rate of Return of a project.

(b) The Mission Hospital desire to purchase a new ECG machine in order to increase its present level of activity. Two alternative machines viz. machine A and machine B are available in the market. The details of machines are as follows:

	Machine A	Machine B
Initial Outlay	Rs. 1,00,000	1,20,000
Cash flow after tax (CFAT)	Rs.	Rs.
Year 1	25,000	15,000
Year 2	35,000	35,000
Year 3	55,000	55,000
Year 4	30,000	45,000
Year 5	17,500	30,000

You are asked to ascertain the more profitable machine based on NPV method. Assume that the minimum market rate of return laid down by the management is 16% per annum.

End of year	1	2	3	4	5
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Discounting factor @ 16%	0.862	0.743	0.640	0.552	0.476
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2. Define Ratio. What are the objectives of ratio? Why ratio is an important tool for an organisation? Discuss various limitations of ratio.
3. Explain various scope, objectives and importance of Financial Management.
4. Give short note on: (a) Classification of working capital (b) Financial statement (c) Pay Back Period (d) Long term finance
5. Define Capital Budgeting. Explain the importance of Capital Budgeting. Discuss Capital Budgeting process in detail with the help of a diagram.

PAPER NAME :-HUMAN RESOURCE MANAGEMENT
PAPER CODE : BHM 505

1. What is Human Resource Planning? Describe the stages in Human Resource Planning Process.
2. State the objectives of Human Resource Planning.
3. Define selection. State the process of selection.
4. State the various methods of recruitment.
5. Design an induction training programme for management trainees.
6. Explain and illustrate, with the help of a flow chart, a typical model of a well-structured training process.
7. Discuss the traditional methods of Performance Appraisal.
8. Discussed the various HRD interventions for individual development through non-training programs.

BCA-5TH SEM

SUBJECT : DATA COMMUNICATION & COMPUTER NETWORKS

SUBJECT CODE – BCA-501

1. What is pure ALOHA & Slotted ALOHA? Define it with example.
2. Explain CSMA/CA & CSMA/CD.
3. Features of IPv6 in the context of advanced communication networks.
4. Given a 10 bit sequence of 1101110101 and a divisor of 1011. Find the CRC code.
5. Name the flow control mechanism of transport layer protocol. Explain leaky –bucket protocol.
6. Write down the difference between TCP and UDP.
7. Find NRZ-I, Manchester and Differential Manchester encoding for the binary data

111001000

8. a. How selective repeat ARQ will work for lost frame?
b. In GO BACK-N ARQ show why the window size should be $< 2^m$.
9. What is Bus topology? What is Mesh topology? Discuss the advantage of Mesh topology over Bus topology?
10. Briefly describe three types of network.

SUBJECT : UNIX & SHELL PROGRAMMING

SUBJECT CODE – BCA-502

1. Describe briefly the UNIX architecture explaining the role played by the kernel and shell in sharing the workload.
2. What do multiprogramming, multiuser and multitasking mean?
3. Why are many UNIX commands designed to perform simple rather than complex tasks?
4. How do you direct **man** to use a specific pager, say, **less**?
5. What is the default location of a user's mailbox on UNIX and Linux system?
6. When do you use **mailx** with and without an argument? If you find a message in \$HOME/mbox, what does that indicate?
7. How do you determine the erase, kill and eof characters on your system?
8. Which of these commands will work? Explain with reasons:
i) mkdir a/b/c ii) mkdir a /b iii) rmdir a/b/c iv) rmdir a /b v) mkdir /bin/foo
9. What is the sort order prescribed by the ASCII collating sequence?
10. What is the difference between cat foo and cat > foo? Why do you have to use [Ctrl-d] in one and not in the other?

PAPER NAME : WINDOWS PROGRAMMING

PAPER CODE :BCA-503

1. Distinguish between CFileDialog and CPrintDialog classes.
2. What are common Dialog boxes? List them.
3. Discuss the difference between Combo boxes and List boxes.
4. What are the parameters passed to Message Box () function and what do they signify?
5. Explain Message Loop with a diagram. Describe Application queue, message queue.
6. What is a DLL? How DLL's work?
7. Write a program to demonstrate a pop up window.
8. Write the structure of a window program.
9. Explain all parameters of Create Window() function.
10. What is clipboard function? Explain any four clipboard function.

PAPER NAME : MULTIMEDIA & E-COMMERCE

PAPER CODE : BCA E501C

- 1) What are the types of CRM?
- 2) Explain about Virtual Auction.
- 3) Explain different types of digital documents.

- 4) What do you mean by e-cash?
- 5) Explain the working principle of DES algorithm
- 6) Explain about Digital Signature.
- 7) Explain about Data Warehouse
- 8) What are the key characteristics of BPR?
- 9) Explain with example how an online banking system works.
- 10) Explain about E-governance.

PAPER NAME : VALUE AND ETHICS OF PROFESSION
PAPER CODE : HU501

1. What do you mean by the value spectrum of a good life? Write a note on the value crisis in the contemporary society.
2. Give an account of the problems relating to technology transfer process.
3. What are the risks of a whistle blower?
4. What is sustainable development? State the main objectives of sustainable development.
5. What is club of Rome? What are its objectives?
6. How does technology effect the environment?
7. Briefly discuss any five problems of man-machine interactions.
8. Discuss the ethical issues in Engineering Profession.
9. Write a short note on 'Maslow's Need Hierarchy'.