BHM-2ND SEM

SUB: MEDICAL RECORDS MANAGEMENT
PAPER CODE: BHM(N) 201

A. Describe the use of Medial Records for various users .Describe the medical records flow chart.

B. 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

C. Describe the staffing of Medical Records Department with its location, layout and equipment required.

D. Explain the process of filing & indexing.

E. Characteristics of Good Medical Record.

F. Write a short note about Consent.

G. Write a short note about ALS

H. Preservation of Medical Record.

SUB: BIO STATISTICS
PAPER CODE: BHM(N)-202

1. Three coins are tossed. Find the probabilities of i) 0 head; ii) 1 head, 2 heads, 3 heads; iii) more than 1 head; iii) at least 1 head.

2. Find the If there is a war every 15 years on the average, then find the probability that there will be no war in 25 years.

3. The monthly profits in rupees of 100 shops are distributed as follows:

Profits per shop	0-100	100-200	200-300	300-400	400-500	500-600
No. of shops	12	18	27	20	17	6

Draw the histogram to the data and hence find the modal value.

4. Prove that the standard deviation is independent of change of origin.

5. Show that $P(A \cap B) \le P(A)$ $P(A \cup B) \le P(A) + P(B)$

6. If x_1 and x_2 are two positive values of a variate, prove that their geometric mean is equal to the geometric mean of their arithmetic and harmonic means.

7. Construct a pie chart for the following data:

Principal Exporting Countries of Cotton

(1,000 bales)-1955-56

U.S.A	India	Brazil	Egypt	Argentina
6,367	2,999	1,688	650	202

8. 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.

SUB: MEDICAL TERMINOLOGY-II
PAPER CODE: BHM(N) 203

A. Write a short note on ECG

B. Concept of Lithotripsy

C. Why is Lungs function test?

D. State the different types of Cardiology test ,write down these manes(Any five)

E.   What is Dermatitis? Discus it's risk factors & write a short note on Ecezema
F.   What is Vitiligo? Discuss it's causes & Symptoms.

SUB: MARKETING MANAGEMENT
PAPER CODE: BHM(N) 204

1. Write an exploratory note on the concept of product life cycle.
2. What do you mean by a new product? What are the steps involved in new product development?   Why does a new product fail?
3. What is the importance of analyzing consumer buying behavior? Describe the consumer buying process with an example of your own.
4. SWOT analysis of a hospital
5. Sales promotion.
6. What is a positioning strategy? What are the different parameters on the basis of which you would like to develop positioning strategy for an urban hospital?
7. What is the importance of analyzing consumer buying behavior? Describe the consumer buying process with an example of your own.

SUB: HEALTH INFORMATION SYSTEM
PAPER CODE: BHM(N)-205

A. Describe the limitations of MIS. What is the advantage of waterfall model? Describe prototyping model.
B. What is system analysis? What are its objectives? Discuss the various steps in a system analysis.
C. What is Hospital Information System? What are the basic management cycles of a hospital? Discuss the different types of Hospital Information System in a hospital .
D."Information-A quality product". Discuss.
E.   Write a short note on E- Health.
F.   Describe the limitations of MIS.
G.   Write a short note on Tele-Medicine.
H.   Write a short note on HIS?
I.   What are the direct and indirect health impacts of improper HIS in a Hospital?

BBA-2ND SEM

SUB: BUSSINESS COMMUNICATION
PAPER CODE: BBA(N)-201

i) " Variety is the spice of the desert" . The quoted sentence is an example of :- a) Simile b) Metaphor c) Climax d) Fable
ii) "Do that good mischief" – Find out appropriate figure of speech used here. a) Hyperbole b) personification c) Oxymoron d) Parable
iii) **Time and Tide** waits for none. What is the meaning of this idiom?   a) Course of time   b)Opportunity c) Calendar   d) Flow of river
iv) Write the synonyms of " ephemeral" – a) short-lived b) beautiful c) expressive d) Incessant
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. Differentiate between verbal and non-verbal communication.
3. What is communication? Discuss the importance of 7Cs for effective communication.
4. There have been constant complaints from your customers about late delivery of goods and shortage in the goods supplied. As head of the dispatch section you have been asked to look into the matter and draft a report with recommendation.

5. What are the essentials of good business writing?
6. How does language act as a barrier to effective communication?
7. Briefly discuss about the types of communication.
8. Define any one model of communication.
9. Suppose your class has decided to go for a picnic. Now write a later to the owner of the bus service making enquiries.
10. Write a sales letter to promote the sales of: - Computer programming course. Prospect: college students.

SUB:- ADVANCED MATHEMATICS
PAPER CODE:- BBA(N)-202

1. Verify Euler's theorem for the function $x^n log \frac{y}{x}$

2. Prove that $\begin{vmatrix} \frac{a^2+b^2}{c} & c & c \\ a & \frac{b^2+c^2}{c} & a \\ b & b & \frac{a^2+c^2}{c} \end{vmatrix} = 4abc$.

3. Find A^{-1} if $A = \begin{pmatrix} 2 & -2 \\ 4 & 1 \end{pmatrix}$.

4. Evaluate $\int secx \sqrt{\frac{(1-sinx)^2}{1-sin^2 x}} \, dx$.

5. Evaluate $\lim_{x \to 0} \frac{1-cosx}{x^2}$.

6. If $ax^2 + 2hxy + by^2 = 1$ prove that $\frac{d^2 y}{dx^2} = \frac{h^2 - ab}{(hx+by)^3}$.

7. If f(x) = kx + 3, x ≥ 1
       = $x^2 + k^2$, x < 1
If f(x) is continuous at x = 1 find the value of k.

8. If $u = \frac{y}{z} + \frac{z}{x} + \frac{x}{y}$ then prove that $\frac{\partial u}{\partial x} + \frac{\partial u}{\partial y} + \frac{\partial u}{\partial z} = 0$.

SUB:- ADVANCED STATISTICS
PAPER CODE:- BBA(N)-203

1. If A and B are independent events, then show that

     i) $\bar{A}$ and $\bar{B}$ ii) $A = \bar{B}$ and   iii) $\bar{A} = B$.

2. The probability function of a random variable X is f(x) = k (x-1) (2-x) for $1 \le x \le 2$. Determine i) the value of k ii) the distribution function F(x). iii) P (5/4 ≤ X ≤ 3/2)

3. 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. multiplied together. Find the probability that the product is 12.

4. The chance that a doctor will diagnose a certain disease correctly is 60%. The chance that a patient will die by his treatment after correct diagnosis is 40% and the chance of death by wrong diagnosis is 70%. A patient of the doctor who had the disease dies. What is the probability that the disease was diagnosed correctly?

5. If x_1 , x_2, …, x_n is a random sample from an infinite population with variance σ^2 , and $\bar{x}$ is the sample mean, show that $\sum_{i=1}^{n} \frac{(x_i - \bar{x})^2}{n}$ is a biased estimator of σ^2 , but the bias becomes negligible for large n. Give an unbiased estimator of σ^2 here.

6. Find the If there is a war every 15 years on the average, then find the probability that there will be no war in 25 years.

7. From the urn containing 3 white and 5 black balls, 4 balls are transferred into an empty urn. From the second urn 2 balls are drawn and they happened to be white. What is the probability that the third ball drawn from the same urn will be white?

8. A sample of 6500 crews is taken from large consignment and 75 are found to be defective. Estimate the percentage of defects of consignment and assign limits within which the percentage lies.

9. A manufacturer claimed that at least 90% of the components which he supplied confirm to specifications. A random sample of 200 components showed that only 164 are up to standard. Test his claim at 1% level of significance.

SUB:- ECONOMICS(MACRO)
PAPER CODE:- BBA(N)-204

1. Define Fiscal Policy. Explain the various methods of Fiscal Policies. State the limitations of Fiscal Policies.

2. Explain the concept of public finance. State the scope of public finance. What is the significance of it?

3. Define National Income. Give two difficulties in the measurement of National Income. 'National Income is the sum total of the value added in all economic enterprises belonging to the country' - explain.

4. Define International Trade. Mention any four advantages of International Trade. Do you feel that International Trade is the basic need of modern world? Justify your view point in the context of India

5. Give a short note on:
   a) The Merchant
   b) Different types of deficit
   c) Exchange Bank

SUB:- INDIAN SOCIAL STRUCTURE AND BEHAVIOURAL SCIENCE
PAPER CODE:- BBA(N)-205

1. Explain the fundamental concepts of Psychoanalytical theory.
2. Define personality. Discuss the major determinants of personality. Difference between Type A and Type B personality.
3. Briefly explain Classical and Operant Conditioning theory of Learning.
4. Discuss the importance of family and peer groups as the agencies of socialization.
5. State the characteristics of Juvenile Delinquency in India.
6. What do you mean by society? Briefly mention the characteristics of a society. What are the types of society? What are the features of Industrial Society?
7. Social implications of age sex in India.

BCA- 2ND SEM

SUB: COMPUTER ARCHITECHTURE
PAPER CODE: BCA(N)-201

1. Discuss about Flynn's classification of parallel computers.
2. Define systolic array for parallel processing.
3. What is the function of reservation table in pipeline architecture system?
4. Define speed up. What is pipeline?
5. Suppose the time delays of the four stages of a pipeline are t1=60 ns , t2=50 ns , t3= 90 ns , t4= 80 ns respectively and the interface latch has a delay t1= 10 ns , then
   a) What would be maximum clock frequency of the above pipeline?
   b) What is the maximum speed up of this pipeline over that of its non-pipeline counterpart?
6. Difference between WAR and RAW hazards.
7. Use 8bit 2's complement integer to perform
      -43 + (-13)
8. What is meant by pipeline stall?

SUB: SOFTWARE ENGINEERING
PAPER CODE: BCA(N)-202

1. Describe Classical Waterfall Model.
2. Describe Iterative Waterfall Model.
3. Describe Prototyping model.
4. Describe Spiral model.
5. Describe Basic COCOMO Model.
6. Short note: Complete COCONO model.
7. Describe PERT Chart.
8. Describe Risk management.
9. Short note: Software Configuration management.
10. Write the software requirements specification.

SUB: DATA STRUCTURE WITH C
PAPER CODE: BCA(N)-203

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** *two* of the followings:
   a. Breadth first search
   b. De queue
   c. BST
   d. 2-D Array

SUB: ADVANCED MATHEMATICAL COMPUTATION
PAPER CODE: BMN 201

1. Solve: $y + e^x + x\frac{dy}{dx} = 0$.

2. Solve: $\frac{dy}{dx} + \frac{sin\ 2y}{x} = x^3(cos\ y)^2$

3. Show that $W = \{(x, y, z)\epsilon R^3 : x + 2y - z = 0, 2x - y + 3z = 0\}$ is a subspace of R^3. Find a basis of W and its dimension.

4. Show the sequence $\{S_n\}$ where $S_n = \frac{1}{1!} + \frac{1}{2!} + \frac{1}{3!} + \ ... + \frac{1}{n!}$ is convergent.

5. Solve $y(1 + xy^2)\frac{dy}{dx} = 1$.

6. Find the nature of the roots of $x^4 + qx^2 + rx - s = 0$ by Descarte's rule of signs (where q,r,s being positive).

7. Show that the set of rational numbers other than 1, Q' forms a group under the binary operation * defined by a*b = a + b -ab : a,b ∈ Q.

8. Show that the set of rational numbers other than 1, Q' forms a group under the binary operation * defined by a*b = a + b -ab : a,b ∈ Q.

SUB: ENGLISH LANGUAGE AND COMMUNICATION
PAPER CODE: HUN 201

1. Write down the difference between 'formal' and 'informal' communication.
2. What are meant by 'upward' and 'downward' communications? What are the limitations of 'upward' and 'downward' communications?
3. What is a 'memo'? Write some of its features.
4. Suppose you are the Purchase Manager of COMPUTECH Ltd. The company has opened a new branch which requires a number of personal computers & laptops. Write a letter to another company asking for supplying computers & laptops within a week.
5. You are the HR Manager of IBM Kolkata. Write an advertisement for the situation vacant column of local newspaper describing the person you want to operate as a supervisor.
6. Make a comparison between E-mail & Voice mail.
7. Your club has arranged for a free eye operation camp in your locality. Write a notice about it mentioning everything.
8. You are the Sales Manager of Apex Mattresses Ltd, New Delhi. Your company has purchased 200 mattresses from Steel co Furniture, Kolkata, but out of 200 mattresses 165 are damaged. Now write a letter to Steel co Furniture.
9. The SYMBIOSIS POLYTECHNIC at 46, N.S.C. Bose , Kolkata – 4 requires a Programme Designer for the institute. Write to the Director, applying for the post. Give your detailed resume.
10. " Business letter is a silent ambassador of goodwill". Explain the statement.

MCA- 2ND SEM

SUB: DATA COMMUNICATION AND COMPUTER NETWORKS
PAPER CODE: MCA 201

1. Compare between Optical fiber and Coaxial Cable?
2. Compare between Guided and Unguided media.
3. Write the function of Data Link Layer and Transport Layer?
4. Distinguish between Bus topology and Mesh topology.
5. Differentiate between Router and Switch.
6. Write short notes on FTP.
7. Describe CSMA/CA protocol.
8. Write short notes on Token Bus.
9. Write short notes on cyclic redundancy check.
10. Write short notes onOSI model

SUB: INFORMATION SYSTEMS AND ANALYSIS AND DESIGN
PAPER CODE: MCA 202

1. What is System? System concepts: A foundation.
2. Components of an Information system. Describe with diagram.
3. What is prototype? Explain the different phase of the software development model in prototype is used?
4. What are the Information system resources?
5. Write down the data Resources.
6. Short note: Data flow with diagram.
7. Describe shortly about Information system activity.
8. Describe Categories of networks. (LAN, MAN and WAN)
9. Describe shortly about Software resources.
10. Short note: Data communication components.

SUB: DATA STRUCTURES WITH C
PAPER CODE: MCA 203

1. Insert the following keys into a AVL tree.
     64, 1, 44, 26, 13,110,89,85,20
   Then delete the following keys. 85, 1
2. Explain DFS with suitable example
3. Define the following: Connected graph, Tree, linked list.
4. Write the algorithm for binary search.
5. Convert the following infix to postfix expression using Stack
         $4+3*10/6+7-4/2+5^3$
6. Construct a tree from following
      INORDER: D B F E A G C L J H K
      POSTORDER: D F E B G L J K H C A
7. Explain the tower of Hanoi problem of recursion of 3 peg and 3 disks
8. 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.

9. What is asymptotic notation? Define different notation associated with complexity.
10. Write the algorithm for Merge Sort.

SUB: DATABASE MANAGEMENT SYSTEM I
PAPER CODE: MCA 204

1. List the advantages of DBMS.
2. Draw and explain with diagram the DBMS architecture.
3. Difference between candidate key and alternate key.
4. Draw an ER diagram for a library management system.
5. Difference between primary key and secondary key.
6. What is DBA? How it is work?
7. With proper example explain – i) Generalization & ii) Aggregation.
8. Discuss the usefulness of ACID properties to ensure integrity during transaction process.
9. Briefly describe the 3-layer architecture of DBMS.
10. Consider a BANK database having customer, loan, account, employee and branch as entity types. Each banks of branch allows customers to open accounts and borrow loans. A customer can open more than one account and one account may also belong to one or more customers (joint account). Design an E-R diagram for the BANK database.

SUB: OBJECT ORIENTED PROGRAMMING WITH C++
PAPER CODE: MCA 205

1. Write a C++ program to check any character is vowel or consonant.
2. Write a C++ program to print the greater number among three numbers.
3. Write a C++ program to check any number is Palindrome number or not.
4. Write a C++ program to print the reverse number of any number. (e.g. reverse no. of 123 = 321).
5. Write a C++ program to print the pattern bellow
```
       *
     * * *
    * * * * *
   * * * * * * *
```
6. Write a C++ program to add two-dimensional matrix.
7. Write a C++ program to multiply two-dimensional matrix.
8. Write a C++ program to check any number is palindrome or not.
9. Write a C++ program to sort array in ascending order.
10. Write a C++ program to print the Fibonacci series.

MHA- 2ND SEM
SUB: HOSPITAL SUPPORT SERVICES
PAPER CODE: MHA-201

A. Discuss the organizational and operational planning of a hospital radiology service.
B. What if significance of blood bank? Describe the function of blood bank.
C. Give an overview about the importance of security services. Discuss about the methods of control.
D. Discuss the organizational and operational planning of a hospital diet services.

E. Define nursing services. Outline the function of nursing services. Describe the concept of ward management in relation of nursing care.

F. Discuss the objective, organization, equipment's, and using department of CS.S.D.

SUB: MATERIAL MANAGEMENT

PAPER CODE: MHA-202

A. What is budgetary control? State the objectives of budgetary control.

B. State the advantages of budgetary control.

C. State the importance of purchasing.

D. Stores management is an integral part of materials management". Explain the statement with requisite examples from hospital industry.

E. Short note:-

       i) EOQ

       ii) VED

F. What is vendor rating? On what parameters are vendors rated?

G. Discuss 'Gantt Chart'. State the types of 'Gantt Chart'.

SUB: HUMAN RESOURCE MANAGEMENT

PAPER CODE: MHA-203

1. Compare recruitment with selection.

2. "H. R. Managers are not born but made". Do you agree?

3. State the various sources of recruitment.

4. Discuss the various HRD interventions for individual development through non- training programs.

5. Short note:-

       i) Performance Appraisal

       ii) 360 degree appraisal

       iii) Collective Bargaining

6. State briefly the method of fixing the wage and salaries in an organization.

7. Discuss the problems of trade union in India.

8. Briefly state the approaches of IR.

9. What is HR core card? State the methods of developing HR score card.

SUB: BIO MEDICAL WASTE MANAGEMENT

PAPER CODE: MHA-204

A. What are autoclaving and Microwaving? Explain the different types of biomedical waste. Mention the color coding and type of container to dispose such wastes.

B. Define bio-medical waste. Give examination. Discuss the classification, treatment and disposal of biomedical wastes according to bio-medical waste rules, 1998?

C. What are biomedical wastes and an occupier according to the bio-medical wastes management and handling rules, 1998? Give the different categories of bio-medical wastes, their treatment and disposal.

D. Discuss the classification of biomedical wastes and record keeping in health care units.

E. Discuss the training and awareness about biomedical wastes of Doctors, Nurse, lab technician, and Ward boys in healthcare unit.

F. Discuss the Occupational safety and health issues of bio-medical wastes.

SUB: FINANCIAL MANAGEMENT I
PAPER CODE: MHA-205

1. What are the two objectives of Financial Management? State the difference between these two objectives.
2. Differentiate Fund flow and Cash Flow statement.
3. Explain various financial ratios in details.
4. Give a short note on:
   (a) GAAP
   (b) Business Plan
   (c) Ledger
5. Discuss various methods of Accounting.

SUB: FINANCIAL MANAGEMENT II
PAPER CODE: MHA-206

1. Differentiate Marginal costing and Absorption costing.
2. Explain various instruments of capital market.
3. Differentiate Marginal Costing and Standard Costing.
4. Give a short note on:
   (d) ZBB
   (e) Activity based costing
   (f) Capital Market
5. Define Marginal Costing. What are the assumptions of Marginal Costing?

SUB: HEALTH MANAGEMENT INFORMATION SYSTEM
PAPER CODE: MHA-207

A. What is HIS? Describe briefly about physical facilities and operational planning of HIS Department. How can HIS be used in evaluating quality of care?
B. What is the Medical Audit? Describe the various methods of health care.
C. Discuss the Advanced computer applications in the field of Health care.
D. What are the different types of records of reports generated by MRD? Explain their uses. Why do you think hospital statistics are essential?
E. Explain the qualification and job responsibility of medical record officer.
F. What is hospital information system? What are the basic management cycles of a hospital? Discuss the different types of hospital information system in any hospital.
G. What is Census? Describe the components of a comprehensive health information system.

SUB: MARKETING MANAGEMENT I
PAPER CODE: MHA-208

1. Explain with examples from health management industry point of view, the concept of "Social Aspect" of marketing function.
2. What do you mean by advertising media? Explain the main factors to be kept in mind while selecting advertising media for an awareness campaign on "breast feeding" by the Ministry of Women Empowerment.

3. What do you understand by social marketing? Provide suitable example. Why is the knowledge of social marketing necessary for a manager in healthcare providing organization?

4.   GAP model.

5. What is 'Service Blueprint'? what are its components?-------Explain. Discuss briefly the   steps involved in building a service blueprint.

6. Goods-Service Continuum.

7. Briefly explain the importance of Word of Mouth communication in healthcare industry.

BHM- 4TH SEM

SUB:- EPIDEMIOLOGY & ANALYSIS OF HEALTH INFORMATION DATA
PAPER CODE: BHM-401

A. Define and classify vaccines.

B. Describe the ways of control communicable disease.

C. Disease spectrum.

D.   Describe the "Chort study".

E. Write a short note about Immunization hazards.

F.   Describe the "Levels of prevention".

SUB:- SUPPORT & UTILITY SERVICES -I
PAPER CODE:-BHM 402

A. Describe the Transport services in hospital.

B. What are the functions of nursing services department?

C. Write a short note on CSSD.

D. Write a short note on biomedical waste department.

E. Describe the function of Blood Bank.

F. Describe the Importance of Linen & Laundry department.

SUB:- ENVIRONMENTAL ECOLOGY
PAPER CODE: BHM-403

1. "Wood is a major renewable resource"------Elucidate.

2. Sanitary landfill method for waste disposal.

3. Define ecology. Explain the ecological balance and its consequences of changes. Describe domestic waste water treatment with proper flow diagram.

4. Define biomedical waste. Describe different methods of management of biomedical wastes. Describe in brief the different types of biomedical waste categories.

5. Categorization and classification of wastes in healthcare facilities.

6. Greenhouse Effect.

7. Describe the sources of noise pollution. State the causes of environment destruction. What do you know about financial implication of water pollution control?

SUB:- MEDICAL RECORD SCIENCE –II
PAPER CODE:-BHM 404

A. Describe the Audit Cycle in Medical Record.

B. Responsibilities of Medical Record Officer.

C. Describe the Indian Factories Act, 1948.

D. Describe the Legal aspects of Medical Records.
E.   Organize a medical record department of a 100 bedded Hospital.
Describe the Consumer Protection Act, 1986.

SUB:- MANAGEMENT INFORMATION SYSTEM
PAPER CODE: BHM-405

1. What is System? Define: open system & close system
2. Describe components of an Information system with diagram.
3. Write Ring, BUS, STAR topologies with diagram.
4. Describe source of Health Information System.
5. Explain SIMON model for decision making.
6. Short note: SPIRAL MODEL. Why it is called meta model?
7. Describe Prototyping model with its advantage & disadvantage.
8. Describe Categories of networks. (LAN, MAN and WAN)
9. Describe classification of Information System.
10. What is ERP? Write down its advantages & disadvantages.

BCA- 4TH SEM

SUB: DATABASE MANAGEMENT SYSTEM
PAPER CODE: BCA 401

1. List the advantages of DBMS.
2. Draw and explain with diagram the DBMS architecture.
3. Difference between candidate key and alternate key.
4. Draw an ER diagram for a library management system.
5. Difference between primary key and secondary key.
6. What is DBA? How it is work?
7. With proper example explain – i) Generalization & ii) Aggregation.
8. Discuss the usefulness of ACID properties to ensure integrity during transaction process.
9. Briefly describe the 3-layer architecture of DBMS.
10. Consider a BANK database having customer, loan, account, employee and branch as entity
    types. Each banks of branch allows customers to open accounts and borrow loans. A customer
    can open more than one account and one account may also belong to one or more customers
    (joint account). Design an E-R diagram for the BANK database.

SUB: OBJECT ORIENTED PROGRAMMING WITH C++
PAPER CODE: BCA 402

1. Write a C++ program to check any character is vowel or consonant.
2. Write a C++ program to print the greater number among three numbers.
3. Write a C++ program to check any number is Palindrome number or not.
4. Write a C++ program to print the reverse number of any number. (e.g. reverse no. of 123 = 321).
5. Write a C++ program to print the pattern bellow

```
      *
    * * *
  * * * * *
* * * * * * *
```

6. Write a C++ program to add two-dimensional matrix.
7. Write a C++ program to multiply two-dimensional matrix.

8. Write a C++ program to check any number is palindrome or not.
9. Write a C++ program to sort array in ascending order.
10. Write a C++ program to print the Fibonacci series.

SUB: SOFTWARE PROJECT MANAGEMENT & QUALITY ASSURANCE
PAPER CODE: BCA 403

1. What is DFD? Draw a DFD for Hospital management system
2. What is McCall's quality model? Explain the different factor associated with this model?
3. What is the difference between Cohesion and coupling? With proper example explain why a good system requires high cohesion low coupling?
4. What is testing? What is the importance of testing? What are terms related to testing?
5. What is use case diagram? Draw a use case diagram for ATM system.
6. What is 4Ps of software project management?
7. What is iterative waterfall model? What are the advantages of iterative waterfall model over classical waterfall model?
8. What is prototype? Explain the model which use prototype.
9. What are the features of good software? What are the Top-down, Bottom-up approach?
10. What is software maintenance? What are the different types of software maintenance?

SUB: STATISTICS,NUMERICAL METHODS & ALGORITHMS
PAPER CODE: BM 401

1. Write down the Newton's backward Interpolation Formula.
2. Solve the system of equations, by Gauss – elimination method
$$3x_1 + 9x_2 - 2x_3 = 11$$
$$4x_1 + 2x_2 + 13x_3 = 24$$
$$4x_1 - 2x_2 + x_3 = -8$$
Correct up to two decimal places.
3. Discuss the Bisection method for finding a root.
4. Obtain an approximate value of $\int_0^1 \frac{dx}{1+x^2}$ by Simpson's One-third rule taking four equal intervals.
5) Given $\frac{dy}{dx} = x^3 + y$, $y(0) = 1,$ compute $y(0.02),$ by Euler's method correct up to four decimal places, taking step length h = 0.01.
6.Construct the diagonal difference table of given data.

X	0	1	2	3	4	5
f (x)	12	15	20	27	39	52

Hence write down the values of $\Delta f(1), \Delta^2 f(3), \Delta^3 f(2), \ \Delta^4 f(0)$
7. Derived the Newton-Raphson Method. Using this formula to find the roots of the equation $x^2 - 5x + 2 = 0$ correct up to three places of decimals.
8. Use Runge-Kutta Method of forth order to compute the numerical values of the differential equation $\frac{dy}{dx} = x^2 + y^2$; y(1)=0, find y at x = 1.3.

SUB: ENVIRONMENT & ECOLOGY
PAPER CODE: HU 401

1. Write a short note on E I A.
2. Define environment. What do you understand by environmental pollution? Give an example.
3. Define ecosystem. What are its six structural components?
4. Define food chain. State the principal types of food chain. Write an example of each.

5. Distinguish between entropic lake and oligotrophic lake. How does dissolved oxygen vary with depth in these lakes?

6. What is activated sludge? Describe the activated sludge treatment process of sewage with a neat flow diagram.

7. What is hard water? Describe various techniques of converting hard water into soft water.

8. What are the various causes and effects of global warming?

9. What is noise? How can noise be classified? How can noise be controlled?

BBA- 4TH SEM

SUB: PRODUCTION MANAGEMENT
PAPER CODE: BBA 401

1. Define cost of quality. Enumerate the three categories of cost of quality. Write a short note on ISO 9000 series of standard on quality management systems.

2. What is make or buy decision? What are the elements of PPC? Discuss various objectives of PPC.

3. Define plant layout. State its objectives. Briefly discuss various types of Plant Layout with example.

4. Give a short note on:

   (g) Statistical Quality Control

   (h) Performance Rating

   (i) Work Measurement

5. What is production system? Explain various types of production system with example.

SUB: MATERIALS MANAGEMENT
PAPER CODE: BBA 402

1. Define purchasing cycle. Explain purchasing cycle process in detail.

2. Define MRP. Highlight the inputs of MRP. Discuss the steps involved in MRP.

3. Explain various steps involved in conducting motion study.

4. Give a short note on:

   A. Material budget   B. ABC analysis   C. Make or Buy decision

5. Define Material handling. What are the equipments of material handling? Explain the benefits of material handling procedure?

SUB: FINANCIAL MANAGEMENT-I
PAPER CODE: BBA 403

Answer the following Questions

1. The following two projects S and R require an investment of Rs. 2,00,000 each. The cost of capital is 10%. The earnings after tax (EAT) 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)

2. What are the differences between Profit maximisation and Wealth Maximisation?

3. Give a short note on:

    (j) Zero Based Budgeting (ZBB)

    (k) Future Value

    (l) Present Value of Interest Factor Annuity (PVIFA)

4. What is Budgetary Control? What are the advantages and disadvantages of budgetary control?

5. Explain various advantages and disadvantages of different Capital Budgeting methods with their accept and reject criteria.

SUB: MARKETING MANAGEMENT-I
PAPER CODE: BBA 404

1. "Competition can take up to four levels to include all the actual and potential rival offerings and substitutes that a buyer might consider." Discuss about the four levels of competition giving examples from the real market.
2. Discuss the importance of PEST analysis in the context of marketing environment   elements.
3. What do you mean by new product? Illustrate the stages involved in New Product Development (NPD) with an example.
4. Define the concept of Consumer Behavior. What are factors of consumer buying behavior? Explain Consumer Buying Process in details
5. Discuss the different stages of a 'Product Life Cycle', giving implications of the changes in strategy for each stage. Name and define the different types of consumer products, explaining marketing conditions and giving examples of each. Elucidate the STPD concept of marketing.
6. What is SWOT analysis? What is its importance?
7. Tele shopping and Mail shopping.

SUB: HUMAN RESOURCE MANAGEMENT-I
PAPER CODE: BBA 405

1. What is Human Resource Management? State the functions of HR department.
2. What are the major principles of wages and salary administration?
3. State the various methods of recruitment.
4. What is HRP? Explain the steps of HRP process.
5. What do you understand by HR supply forecasting? What is man power inventory?
6. Explain different methods of HRD needs.
7. What are the different methods to settle the industrial disputes? What is simulation?
8. Discuss the traditional and modern methods of Performance Appraisal.

SUB: MANAGEMENT INFORMATION SYSTEMS
PAPER CODE: BBA 406

  1. Define SDLC.
  2. Describe the steps of waterfall model with the help of a neat diagram
  3. Write a short note on CASE tools
  4. What do you mean by hospital information system? Describe the basic management cycle in

hospitals.
5. What are the sources of health information?
6. Discuss the need of information in hospital
7. Define Transaction Processing System.
8. Describe the functions and limitations of Transaction processing system.
9. What is ERP?
10. What are the difference between real time processing and batch processing?
11. What is executive information system? Explain its basic features.
12. **Write short notes on any three the followings:**
   a) Discuss the role of a manager in business organization.
   b) Prototyping model
   c) SCM
   d) Objectives of MIS
   e) Classification of information system

MCA- 4TH SEM

SUB: SOFTWARE ENGINEERING & TQM
PAPER CODE: MCA 401

1. What is DFD? Draw a DFD for Hospital management system
2. What is McCall's quality model? Explain the different factor associated with this model?
3. What is the difference between Cohesion and coupling? With proper example explain why a good system requires high cohesion low coupling?
4. What is testing? What is the importance of testing? What are terms related to testing?
5. What is use case diagram? Draw a use case diagram for ATM system.
6. What is 4Ps of software project management?
7. What is iterative waterfall model? What are the advantages of iterative waterfall model over classical waterfall model?
8. What is prototype? Explain the model which use prototype.
9. What are the features of good software? What are the Top-down, Bottom-up approach?
10. What is software maintenance? What are the different types of software maintenance?

SUB: GRAPHICS & MULTIMEDIA
PAPER CODE: MCA 402

1. Write two techniques for producing color displays with a CRT.
2. Explain Mid-point circle drawing algorithm.
3. Draw a circle with radius=10 cm. using Mid-point circle drawing algorithm.
4. Briefly explain the raster scan display with a neat diagram.
5. Distinguish between Raster Scan and Random Scan Display
6. Discuss DDA line drawing algorithm with the help of an example.
7. Difference between DDA and Breshenham's line drawing algorithm
8. What is polygon?
9. What are the types of polygon?
10. Explain boundary fill and flood fill algorithm.

SUB: DATABASE MANAGEMENT SYSTEM-II

PAPER CODE: MCA-403

1. Describe 3-layer architecture od DBMS with diagram.
2. Short notes on Data models.
3. What are entity, primary key and candidate key?
4. What is normalization? What are the anomalies?
5. Draw an E-R diagram on banking system?
6. Compare 1NF, 2NF and 3NF.
7. What is BCNF.
8. What is functional dependency?
9. What is Data dictionary? What do you mean by unary operations in Relational algebra? Give example.
10. Discuss the usefulness of ACID properties to ensure integrity during transaction process.

SUB: OPERATION RESEARCH & OPTIMIZATION TECHNIQUES
PAPER CODE: MM 401

1. Use two-phase simplex method to solve the following LPP problem
Maximize $z = 3x_1 + 2x_2 + 2x_3$
Subject to $5x_1 + 7x_2 + 4x_3 \leq 7$
$\qquad -4x_1 + 7x_2 + 5x_3 \geq -2$
$\qquad 3x_1 + 4x_2 - 6x_3 \geq 29/7$, x_1 , x_2 , $x_3 \geq 0$.

2. A company that operates for 50 weeks in a year is concerned about its stocks of copper cable. This costs Rs 240 a meter and there is a demand for 8,000 meters a week. Each replenishment costs Rs 1,050 for administration and Rs 1,650 for delivery, while holding costs are estimated at 25 per cent of value held a year. Assuming no shortages are allowed, what is the optimal inventory policy for the company ?
How would this analysis differ if the company wanted to maximize its profits rather than minimize cost? What is the gross profit if the company sells the cable for Rs 360 a meter.

3. Use dynamic programming to solve the following problem
Minimize $Z = y_1^2 + y_2^2 + y_3^2$
$\qquad$ Subject to the constraint $y_1 + y_2 + y_3 \geq 15$,
$$y_1, y_2, y_3 \geq 0.$$

4. Write down the differences between PERT and CPM.

5. A television requirement finds that the time spent on his jobs an exponential distribution with mean of 30 mins. If he repairs the sets in the order in which they come in, and if the arrival of sets follows a Poisson distribution with an approximate average of a 10 per 8-hour day, what is the requirements of expected idle time each day? How many jobs are ahead of the average set just brought in?

6.. Use the simplex method to solve the following LPP:
Maximize $z = 3x_1 + 5x_2 + 4x_3$
Subject to $2x_1 + 3x_2 \leq 8$
$\qquad 2x_2 + 5x_3 \leq 10$
$\qquad 3x_1 + 2x_2 + 4x_3 \leq 15$, x_1 , x_2 , $x_3 \geq 0$.

SUB: ENVIRONMENT & ECOLOGY
PAPER CODE: HU 401

1. Define the term environment. What is Biome? What is biodiversity?
2. What is greenhouse effect? Name major greenhouse gases. What are the effects of greenhouse gases on the global climate?
3. What is acid rain and how does it develop? What are the effects of acid rain?

4. What is Ozone hole? How does it happen chemically in the stratosphere?
5. What is noise pollution? What are the sources of noise pollution? How is human system affected with noise pollution?
6. What are different types of solid wastes? Discuss the modes of municipal waste disposal.
7. What is BOD? Describe the BOD_5 test.
8. Discuss the working principle of trickling filters used in the secondary treatment of waste water.
9. Write short notes:
a. Catalytic Converter   b. Nitrogen Cycle
c. Earth's Albedo   d. Chemical Oxygen demand

BHM- 6TH SEM

SUB: PUBLIC RELATIONS
PAPER CODE: BHM 601

1. "Vox populi Vox die."
2. "Advertising is a tool of Public Relations but PR is not a tool of advertising." ----Explain.
3. Discuss the emerging trends in PR relate ethics to PR.
4. Describe the basic principles that govern the practice of public relations. As a PR manager of a government sponsored hospital, write to your management on concentrating to ensure improvement in two specific areas of your hospital.
5. Write a short note on RNI.
6. PR agencies.
7. As a PR person how will you establish good relation with the patients in your hospital?

SUB. : MEDICAL ETHICS
PAPER CODE: BHM-602

   A. State the difference between law and Ethics?
   B. Define professional misconduct.
   C. Define the Euthanasia.
   D. Basic ethical Principle.
   E. Medical Termination of Pregnancy Act.
   F. Discuss in details the Clinical Establishment ACT.

SUB: ORGANIZATIONAL BEHAVIOR
PAPER CODE: BHM 603

1. Compare and contrast the Trait and Behavioural Theory of Leadership.
2. Group Decision Making has its own merits and demerits. Elucidate.
3. What are the contributing fields of OB?
4. What do you understand by the term 'Social Perception'? Discuss in details the factors taken into consideration while forming impressions of the other people.
5. Discuss briefly the force field analysis model to explain how the change process works.
6. Identify and explain the major sources of personality differences.
7. Describe Herzberg's Motivation-Hygiene Theory.

SUB:- OCCUPATIONAL HEALTH

A. What do you mean by Sickness Absenteeism?
B. What is the ESI act?
C. Radiation protection.
D. Heat stress and its effect.
E. What do you mean by Occupational Environment?
F. Write a short note about Indian Factory Act.1948.

BCA- 6TH SEM

SUB: ADVANCED NETWORKING AND COMMUNICATION
PAPER CODE: BCAE 601A

1. Name the four basic network topologies and cite an advantage of each type.
2. Draw a hybrid topology with a star backbone and four ring networks.
3. What are the responsibilities of data link layer in the internet model?
4. How are OSI ad ISO related to each other?
5. List the layer of internet model.
6. What is the difference between a port address a logical address and a physical address?
7. Distinguish between baseband transmission and broadband transmission.
8. Name the advantages of optical fiber over twisted pair and coaxial cable.

SUB: OBJECT ORIENTED PROGRAMMING WITH JAVA
PAPER CODE: BCAE 602B

1. Write a JAVA program to check any character is vowel or consonant.
2. Write a JAVA program to print the greater number among three numbers.
3. Write a JAVA program to check any number is Palindrome number or not.
4. Write a JAVA program to print the reverse number of any number. (e.g. reverse no. of 123 = 321).
5. Write a JAVA program to print the pattern bellow

```
      *
    * * *
  * * * * *
* * * * * * *
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6. Write a JAVA program to add two-dimensional matrix.
7. Write a JAVA program to multiply two-dimensional matrix.
8. Write a JAVA program to check any number is palindrome or not.
9. Write a JAVA program to sort array in ascending order.
10. Write a JAVA program to print the Fibonacci series.

BBA- 6TH SEM

SUB:- FINANCIAL MANAGEMENT III
PAPER CODE: BBA 601

1. From the following particulars prepare separate statement of Cost and Profit for the month of September 2017.   15

Particulars	Amount	Particulars	Amount
Stock on 1.9.2017		Direct wages	3,25,000
Raw Materials	50,000	Factory expenses	2,15,000
Work-in-progress	1,22,000	Office & administration expenses	1,0,5000
Finished Goods	36,000	Selling & distribution expenses	74,000
Stock on 31.9.2017		Sale of scrap	3,500
Raw materials	70,000	Sale of finished goods	15,50,000
Work-in-progress	1,35,000		
Finished Goods	32,000		
Purchase of Raw materials	2,75,000		

2. Discuss in details the functions of management accounting. Explain the nature and scope of management accounting.

3. What is financial analysis? What are the types of financial analysis? What are the limitations of financial analysis statement?

4. The following details on the cash flows of two projects X and Y.

Year	Project X cash flows (Rs.)	Project Y cash flows (Rs.)
0	4,00,000	5,00,000
1	2,00,000	1,00,000
2	1,75,000	2,00,000
3	3 25,000	3,00,000
4	2,00,000	4,00,000
5	1,50,000	2,00,000

Compute PBP, NPV and PI for X and Y and suggest which project should be accepted and why.

5. What is the relationship between management cost and financial accounting?

SUB:- MARKETING MANAGEMENT III
PAPER CODE: BBA 602

1. Write a note on the Hierarchy of effects model propounded by Lavidge & Steiner.

2. Discuss the '5 M theory' of advertising in brief.

3. Explain the various economic and social aspects of advertising. Write a short note on advertising standard of India (ASCI).

4. What is creativity? Briefly discuss about the creative process. Write a short note on USP theory of creativity. What are the different types of advertising appeals used in advertising themes?

5. Trade fair & exhibition as a sales promotion tool.

6. What are the steps involved in the preparation of advertising budget?
7. Differentiate between pull and push strategies.

SUB:- HUMAN RESOURCE MANAGEMENT III
PAPER CODE: BBA 603

1. What are the causes and effects of grievances?
2. How the grievances handled in an organization? Explain the model grievance procedure.
3. State the concept of natural justice. Discuss the steps involved in disciplinary procedure.
4. What are the approaches of counseling? Discuss the skills required of a good counselor.
5. Discuss the procedures of taking disciplinary action for misconduct under the Act.
6. What are the objectives of industrial employment?
7. Write short notes:-
   a. Democratic Enquiry
   b. Negative discipline
   c. Quality of work life

SUB:- HEALTH CARE MANAGEMENT
PAPER CODE: BBA 604

1. Discuss the functions and limitations of Non-Government Health Organizations.
2. Define health care financing. Mention the sources of health services financing. Discuss the various mechanisms of health financing and expenditure with special reference to India.
3. What are the problems in PERT & CPM? What are the limitations of decision making? What are the types of decision in hospital?
4. Indian Red Cross Society
5. Explain the weaknesses of primary health care system of India and also give suggestion for improvement.
6. Explain briefly the job of UNICEF.
7. Health Planning Cycle.

SUB:- SOCIAL REASERCH METHODS
PAPER CODE: BBA 605

1. What are the steps in research design?
2. Explain the difference between exploratory, descriptive and causal research.
3. What is an interview? Discuss the interview technique used in research methodology.
4. Briefly explain the different components of research report.
5. What are scales classification bases? What are the different scaling techniques?
6. What points may be observed by a researcher in selecting the subject of the research?
7. Write short notes:-
   a. Case study analysis
   b. Survey method
   c. Action research