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इन्दिरा गांधी राष्ट्रीय मुक्त विश्वविद्यालय
INDIRA GANDHI NATIONAL OPEN UNIVERSITY

3612920

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ग्रेड/ अंक
Grade/Marks

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परीक्षार्थी भरे
To be filled by the Examinee

अनुक्रमांक संख्या अंकों में
Enrolment No. in Figures

2	1	0	0	2	6	3	9	3	5

अनुक्रमांक संख्या शब्दों में
Enrolment No. in Words

Two	one	zero	zero	Two	six	three	nine	three	five

परीक्षा केन्द्र कोड
Examination Centre Code

2	9	0	4	7	D

दिन तथा दिनांक
Day & Date ___ Tuesday / 9-07-2024

कार्यक्रम कोड
Programme Code ___ BCA

पाठ्यक्रम कोड
Course Code ___ MCS-014

विषय
Course Title ___ SYSTEMS ANALYSIS And Design

माध्यम (हिन्दी/अंग्रेजी/अन्य)
Medium (Hindi/English/Other) ___ English

सम्पूर्ण ग्रेड/अंक
Overall Grade/Marks ___ 25

मूल्यांकनकर्ता के
Signature of the

मूल्यांकनकर्ता का
Name of the Eval

मूल्यांकनकर्ता कोड

Anurag
परीक्षार्थी के हस्ताक्षर
Signature of the Examinee

JAlok
Mrs. Indira Alok
Examination Superintendent
Manovikas Charitable Society
परीक्षा अधीक्षक की मोहर केन्द्र कोड के साथ
Seal of Centre Superintendent with Centre Code

निरीक्षक के हस्ताक्षर
Signature of the Invigilator
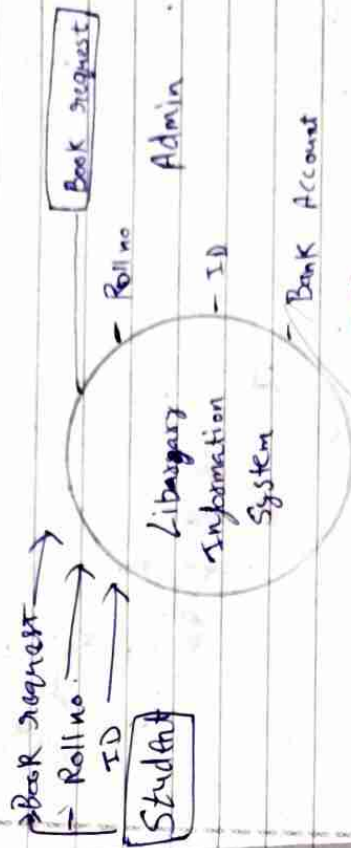
③
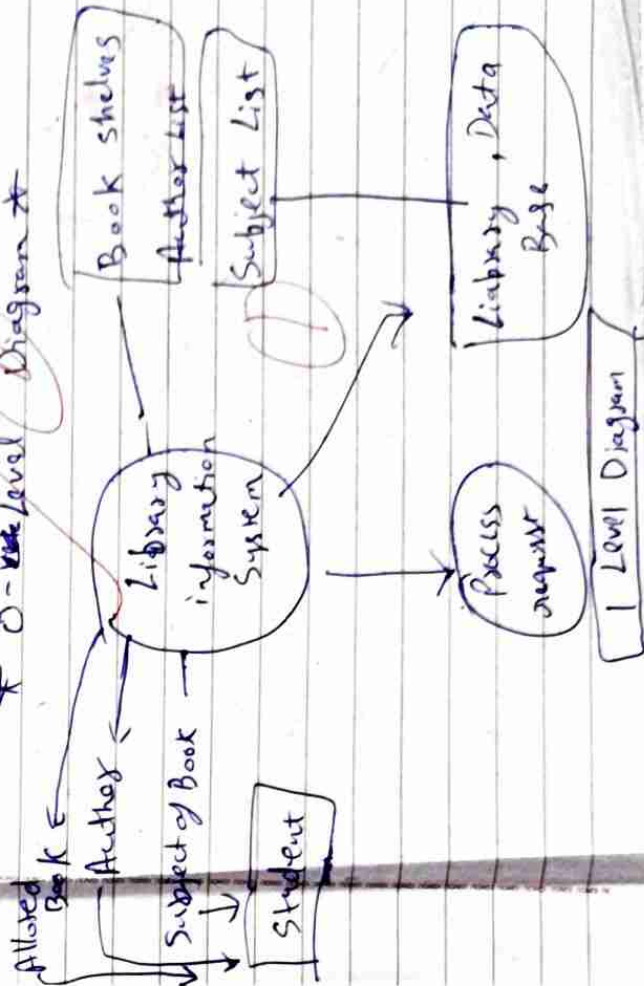
Q1:-

(a) Draw 0-level and 1-level DFDs for a 'Library Information System' of a university. Make necessary assumptions.

Ans:=

→ Book request →
→ Roll no. →
→ ID →

[Student]

Book request

Roll no. → (Library Information System) ← ID

← Bank Account

Admin

* 0-level Diagram *

Allotted Book ←
← Author
↓ Subject of Book →

[Student]

(Library information System)

→ Book shelves
→ Author List
→ Subject List

→ (Process request)

← Library Data Base

1 Level Diagram

(i) Assumption :-

(a) Library Mangment System is a system that help initial universitis to maintain proper book or library databook and their distributs to the Students.

(ii) Data :- The data need to maintain properly

(iii) Book Allocation :- The System should allocates books to Student Efficiently.

(i) Record :- Record of student when Book is allocated should be managed properly.

(v) Maintance :- The System should be maintain.

Q1

(b) Draw ERD for 'Library information System' of a university. Make necessary assumptions.

Ans=

ERD is Entity Relationship Diagram.

ERD Show an Relation between the Entities of the System that help Software these days.

ERD for Library information System.

→ Entity

→ Student :- Name
: Roll no.
: Program
: Data of Birth

=> Library :- Book
:- Author
:- Data of allocation
:- Publisher

Q1=

(c) Write SRS outline for 'Library Information System' of a University. Make necessary assumptions.

A - SRS :- System requirment specification.

SRS help as to know what or which things required to build this System efficiency.

Specifications:-

① Requirment :- First specify the required System things for the System.

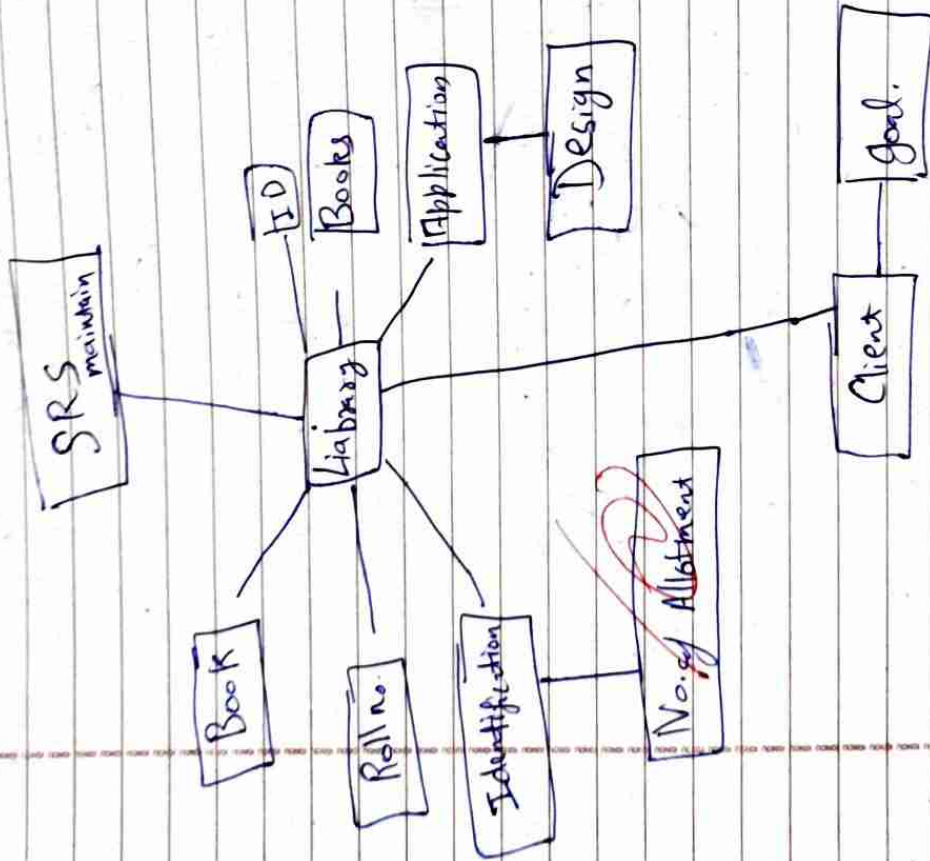Example:- These input program from client purpose design According to needs.

② Design :- Specify the goal of System.

③ Independent :- Coke the System

④ Maintain :- Maintain the System

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⑤

Entity Relation:-

① Student name alloted Bank name.

② Student name alloted Father name.

③ Student name alloted allocation name

Ql=

(d) Discuss Real Time Systems and Distributed System.

A - Real Time Systems are the System that Contistant Collecting time Requirement to Calculate the Real Time.

① Real Time System has no delays.

② Real Time System are required the instant response System.

Like :- Stock market, Army weapons, medical facilities etc.

=) Distributed System :-

Distributed System are used in Public response System but it has Completion of Multiple System.

(Cordination of Multiple System in Real time)

- SRS maintain
- ID
- Books
- Application
- Design
- Book
- Library
- Roll no
- Identification
- No.of Allotment
- Client
- Goal.

Distribution system are used where the multiple time system are used.

Q2-
(a) Explain any five roles of a System Analyst.

Ans① Business process Analyst:- Identifying area of Improvement and optimizing Business process.

② Requirment gathering:- Collaborating the with the stake holders to understand business need and define System requirments.

① System Design:- Design and proposing solution that meet business needs, including hardware, Software and Network infrastructure.

① Independent Testing:- Overseeing System implmen, Testing and quality assurance.

② Troubleshooting and Prob Problem Solving:- Indentifying and resolving System issue and recommendies improvement

① Communication and Traning:- Communication technical information to non-technical stake holders and providing area traning in modern business System

Q3 =

(a) What are State Machine Diagrams and object Interaction Diagram ? Draw and explain.

Ans :- A State Machine diagram is a graphical presentation representation of the the sequence of state of an object, the events that cause a transition from one state to another, and the action that results from a change in table.

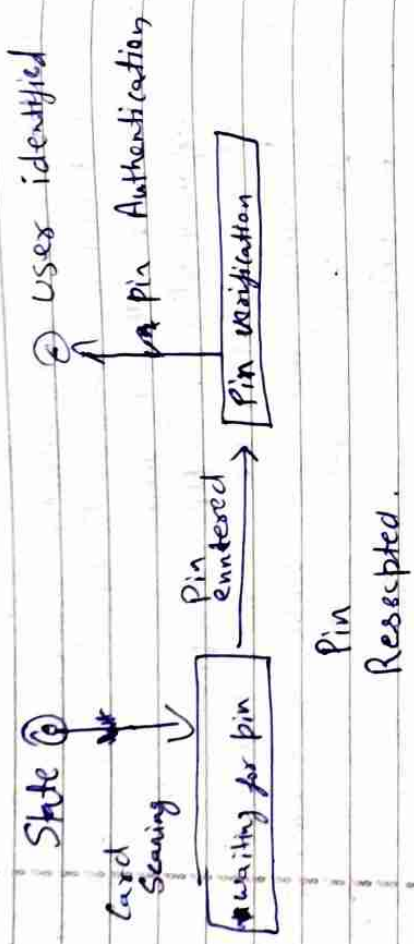Purpose :- ① To capture the ② dynamic behavios of system.

② To describe the message flow in the system.

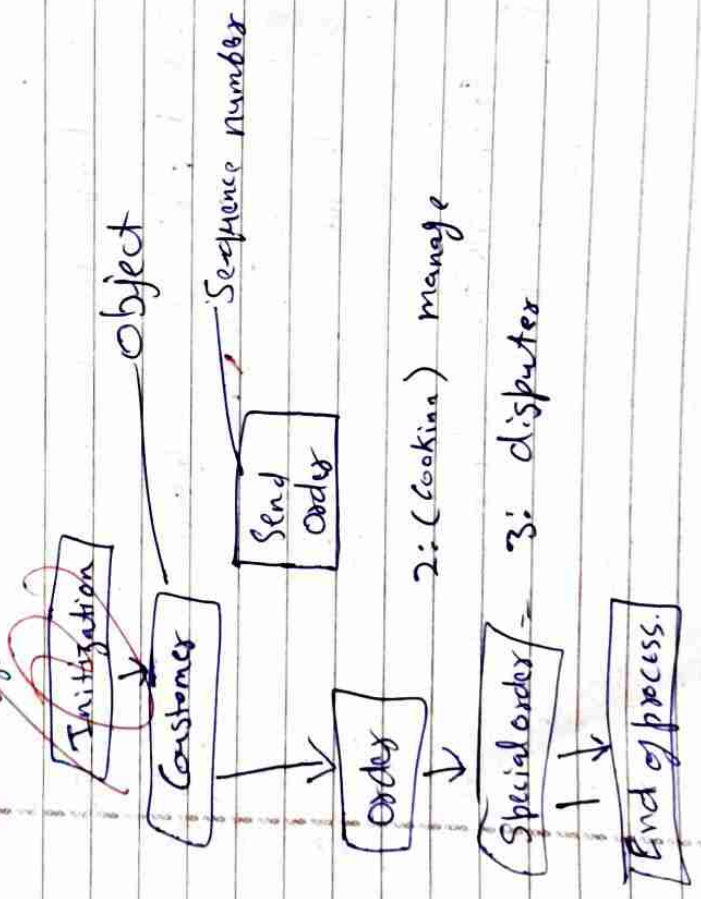③ To describe the structure organization of the objects.

④ To describe the interaction among objects.

State Machine diagram for uses verification.

QS=
(b)
Ans:-

① UPPER Case Tools

• Purpose :- Support early stages of software development, including requirement analysis and System design.

• Example: Diagram tot Tests Tools, modeling Tools

② Lower Case & Tools

• Purpose: Assits in the latter stage of software development, such as implementation testing and Maintenance.

• Example: Code generators, testing Tools.

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② Uses identified

Pin Authentication

Card Swiping → Pin entered → Pin verification

Waiting for pin

Pin Accepted.

Collaboration diagram of an order Management System.

Initiation
Customer — object
Send Order — Sequence Number
Order

2: (Looking) manage

Special order — 3: disputes

End of process.

⑤ Process CASE Tools

ⓐ Purpose:- Focus on managing and automating the software development process itself.

ⓑ Example:- Project management Tools ④
Workflow management System.

①

③ Integrated CASE Tools

ⓐ Purpose:- Provide comprehensive support across multiple stages of the software development life cycle.

ⓑ Example :- IDEs (Integrated Development Environments) with modeling, coding, and testing Capabilities.

④ Cross Stage Case Tools

ⓐ Purpose:- Facilitate Activities that Span across different Stage of development.

ⓑ Example:- Configuration management tools, version Control System.