Chhatrapati Shahu Ji Maharaj
University, Kanpur

Answer Script Details
Barcode 11918482

Roll No. 23071002365
Total Mark 60/75.00

Exam BCA-V_ODD_EXAM_NOV_2025
Subject BCA5001 - KNOWLEDGE MANAGEMENT

Question wise Mark Summary

Q.No	Mark	Q.No	Mark	Q.No	Mark	Q.No	Mark
1A	4/5	6A	0/7				
1B	4/5	6B	0/7				
1C	4/5	7A	7/7				
1D	3/5	7B	6/7				
1E	3/5	8A	0/7				
1F	3/5	8B	0/7				
1G	4/5	9A	0/7				
1H	4/5	9B	0/7				
1I	4/5						
2A	7/7						
2B	7/7						
3A	0/7						
3B	0/7						
4A	0/7						
4B	0/7						
5A	0/7						
5B	0/7						

Chhatrapati Shahu Ji Maharaj University
Kanpur, Uttar Pradesh

PART-I

Date of Exam : 15-11-25 Shift : Evening Room No. : 118

Paper Code : BCA5001 Subject : Knowledge Management Year/Sem. : V

Name of Candidate : Khyati Trivedi

Roll No. 2 3 0 7 1 0 0 2 3 6 5

Signature of Candidate: Khyati Trivedi

Signature of Invigilator

COE Facsimile

PART-II

MARKS OBTAINED										
Q.	1	2	3	4	5	6	7	8	9	10
(a)										
(b)										
(c)										
(d)										
(e)										
(f)										
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(h)										
(i)										
(j)										
Total										
Total Marks in Figures									Max. Marks	
Total Marks in Words										

BCA5001

Paper Code

Signature of Evaluator

PART-III

Course Bachelor of Computer Applicatio

Session 2025-2026 Year/Semester V

Subject Knowledge Management

Paper Code: B C A 5 0 0 1

Exam Date: 1 5 1 1 2 0 2 5

Name of Candidate: K H Y A T I T R I V E D I

Father's Name: S h a i l e n d r a K U M A R T R I V E D I

महाविद्यालय का कोड College Code: K N 1 6 2

परीक्षा केन्द्र का कोड Exam Centre Code: K N 1 6 2

परीक्षा का प्रकार Type of Exam: Regular ● Ex. Student ○ Private ○ Back paper Exam ○

ANSWER BOOKLET NO.

11918482

BCA5001

Paper Code

PART-IV

नामांकन संख्या Enrollment Number: C S J M A 2 3 0 0 0 1 2 9 5 1 7

परीक्षार्थी अनुक्रमांक संख्या Candidate's Roll Number: 2 3 0 7 1 0 0 2 3 6 5

पेपर कोड Paper Code: 5 0 0 1

Khyati Trivedi

Signature of Candidate

Signature of Invigilator

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नोट : 1. परीक्षार्थी को निर्देशित किया जाता है कि आवरण पत्रों के पृष्ठ भाग पर अंकित सभी निर्देशों को सावधानी पूर्वक पढ़ें।
2. बॉक्स में भरी जाने वाली प्रविष्टियाँ बायीं तरफ से शुरू की जायें। 3. गोलों को काले या नीले बॉलपेन से भरा जायें।

INSTRUCTIONS TO THE CANDIDATE FOR FILLING PART-I

1. Read the instructions carefully given on the answer script and admit card.
2. Write Date of Exam, Shift, Paper Code & Name of Subject Correctly.
3. Write Name & Roll No. Correctly.
4. Write Semester & Branch Correctly.

INSTRUCTIONS TO THE CANDIDATE FOR FILLING PART-III

1. Use blue or black ball point pen for writing alphabets & numerals in ☐ Boxes.
2. Carefully study the example before you start marking.
3. As shown in the example below blacken the circles completely.

Correct method	Incorrect method
① ● ③ ④	✓ ✗ ◉ ⓪

4. Make no Stray marks on this sheet.
5. **DO NOT WRITE OR MARK ON THE BAR CODE.**

परीक्षार्थी के लिए निर्देश

1. प्रवेश पत्र एवं उत्तर पुस्तिका पर दिये गये निर्देशों को ध्यान से पढ़ें।
2. कवर पृष्ठ के दूसरी तरफ कुछ न लिखें।
3. उत्तर पुस्तिका के पृष्ठों पर दोनों तरफ लिखें।
4. प्रश्न पत्र पर अपने अनुक्रमांक के अतिरिक्त कुछ न लिखें।
5. प्रश्न पत्र कोड एवं प्रश्न पत्र कोड सावधानी पूर्वक लिखें।
6. अपनी स्थिति स्पष्ट लिखें।
7. उत्तर पुस्तिका के पृष्ठों की संख्या देखें। अगर उत्तर पुस्तिका में पृष्ठ (1–24) से कम है या फटे हुए है, तो परीक्षा शुरू होने के पूर्व दूसरी उत्तर पुस्तिका ले लें।
8. प्रश्नपत्र को देख, यदि प्रश्नपत्र के विषय कोड, विषय का नाम तथा प्रश्न में कोई त्रुटि है तो उसके परीक्षा शुरू होने के 30 मिनट के अन्दर कक्ष निरीक्षक को तत्काल सूचित करें, उसके बाद विश्वविद्यालय द्वारा कोई कार्यवाही नहीं की जायेगी।
9. प्रश्नों के उत्तर लिखने के लिये पेंसिल का प्रयोग न करें।
10. B कोपी या अतिरिक्त ग्राफ नहीं दिया जायेगा।

IN ORDER TO AVOID UFM (UNFAIR MEANS) :

1. The Roll No. and Answer Book no. found elsewhere or any other symbol found in the answer book will be treated as unfair means.
2. Any tempering of Bar Code and Booklet no shall be treated as Unfair Means.
3. Do Not bring the materials like slip of paper/mobile/digital diaries/ study material/ revision notes in examination hall. Possession of the mobiles/ digital diaries/ electronic watch and any other electronic gadget except memory less scientific calculator shall be considered as UFM case.
4. Do not keep or paste currency note in answer script it shall be consider as UFM.

INSTRUCTIONS TO THE CANDIDATE

1. Read the instructions carefully given on the Question Paper Admit Card & Answer Script.
2. Do not write anything on back side of the cover page.
3. Write on both sides of pages of answer book.
4. Do not write anything on question paper except Roll Number.
5. Write Paper Code & Question Paper Id carefully.
6. CHECK the number of pages (1-32) or any other kind of damage in your answer script, if found than change the answer script immediately before the commencement of examination.
7. CHECK the Question Paper for any kind of discrepancy e.g. Subject Code, Subject Name and Question of the Question Paper during first THIRTY MINUTES of the commencement of the exam, so that it can be corrected in TIME. After that no corrections shall be entertained by the university.
8. Do not use pencil for answering the question.
9. Write status correctly e.g. those appearing in carry over paper should fill in status as Carry Over. Those appearing as Ex Students should fill in status as ex.
10. No supplementary answer book & graph paper will be provided.

अनुचित साधन से बचने हेतु:

1. उत्तर पुस्तिका के निर्दैशित स्थान को छोड़कर अनुक्रमांक एवं उत्तरपुस्तिका का क्रमांक कही और न लिखे तथा कोई भी चिन्ह न बनाये क्योंकि यह अनुचित साधन प्रयोग की परिधि में आता है।
2. उत्तर पुस्तिका के बारकोड अथवा उत्तर पुस्तिका संख्या पर छेड़ करने पर अनुचित साधन प्रयोग माना जायेगा।
3. परीक्षा कक्ष में निम्न वस्तुएं साथ न लाये, जैसे लिखे हुए कागज के टुकड़े, मोबाईल, डिजिटल डायरी, कोपी, पुस्तक यह सभी वस्तुएं जो अनुचित साधन के अन्तर्गत आती है। केवल संक्षेपित प्रश्नपत्र में ही मेमोरी लैस साइंटफिक कैल्कुलेटर ले जाने की अनुमन्यता होगी।
4. उत्तर पुस्तिकाओं में रूपये न रखें न ही उत्तर पुस्तिका में चिपकायें। ऐसा करना अनुचित साधन प्रयोग की परिधि में आता है।

INSTRUCTIONS TO THE CANDIDATE FOR FILLING PART-IV

1. Use blue or black ball point pen for writing alphabets & numberals in ☐ Boxes.
2. Use blue or black ball point pen for filling the circles.

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3	③	③	③	③	③	●	③	③	③	③
4	④	④	④	④	●	④	④	④	④	④
5	⑤	⑤	⑤	●	⑤	⑤	⑤	⑤	⑤	⑤
6	⑥	⑥	⑥	⑥	⑥	⑥	⑥	⑥	●	⑥
7	⑦	⑦	⑦	⑦	⑦	⑦	⑦	⑦	⑦	⑦
8	⑧	●	⑧	⑧	⑧	⑧	⑧	⑧	⑧	⑧
9	⑨	⑨	⑨	⑨	⑨	⑨	⑨	⑨	⑨	●

Note - If your Roll No. is of 10 digits. Please leave first three columns

Paper Code

01

Section-A

Question-1

a). The Primary goal of Business Intelligence in an organization is - improved decision making, problem solving and efficiency along with innovation and competitiveness.

1. Improved Decision Making -
Business Intelligence extracts and analyses data and presents it in a presentable format that helps organizations to take better decision because all the previous historic data is well presented & ready for use.

2. Improved Problem Solving -
BI enables organizations to have access to a organized & summarized data which give frequent insights and helps in problem solving because we don't need to do dup mining every time.

3. Increased Efficiency -
BI increases the efficiency of a organization because it relies on BI tools for data and summary so a lot of time is saved and effient & accurate decisions are made

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4. Increased Innovation.
BI saves a lot of time because the data need not be analyzed & summarized every single time it is used therefore it enables the saved time for new discoveries & innovations.

5. Competitiveness -
Since BI gives efficient insights to data & helps in decision making therefore it makes the organization more competitive & helps it stand out with more viable and reliable solutions to both internal and external problems.

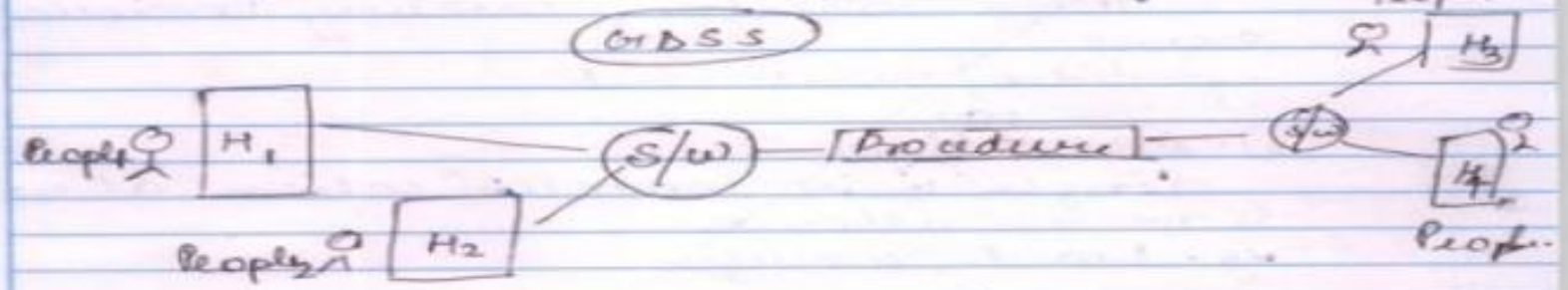
Overall through BI an organization can work more optimally with better & efficient solutions.

6). GDSS
(Group Decision Support System)

- Group Decision support system is a software tool that helps in the process of decision making in collaboration with continuous conferences & collaboration.
- It provides various collaboration tools like e-meeting, electronic

brainstorming tools etc.

- Components of GDSS include-
1. Hardware - Input / Output devices
2. Software -
3. Procedures - Collaboration Tools
4. People - Participating entities in Group Decision Support System



- GDSS provides various tools for the process of Decision Making. There are three types of tools used in GDSS.

1)- Communication Tools-
Used for communication b/w two or more entities in real time.
eg - E-mail, messages.

2). Conferencing Tools -
Used for live conferences & two way communication in real time.
eg - audio/video conference tools - Meet, Zoom

3). Collaboration Tools.
Used for working from remote areas on single thing
eg. Git / GitHub.

- Types of DBSS

a). Synchronous.
When real-time two way communicat. occurs.
eg. Video / Audio Chat

b). Asynchronous.
Single way communication at one time is allowed.
eg. Email, messages

c).
Common tools used in Business Intelligence are-

1). Data Representation Tools

- The BI tools that are used to analyze a large historic data set, curate it & organize it & present it in the form of easily understandable flow-charts, graphs, patterns etc.

- They help in frequent understanding of large datasets in a simple manner in the form of dashboards with relative & comparative presentation of data in an easy to understand pictorial graphs.

- Example of a Data Representation BI tool is Power BI.

2) Data Mining Tools

- Data Mining tools are the tools that help in understanding hidden patterns & hidden knowledge. In a vast data set.

- Data Mining tools can curate data and using algorithms it finds out hidden trends or patterns in the data that helps in summarizing the data in an efficient manner.

- Example of Data Mining Tool is MS Excel.

3. OLAP Tools

- These are the BI tools that sit b/w the database server & UI & these are used for multi-dimensional analysis of large datasets that help in dep

analysis of large database servers & data cubes & tables with dimensions are formed.

- Example - Microsoft SQL Server 200.

d). Executive Information System EIS

- EIS or executive Information system is a collection or advanced data that helps the high level management make critical decisions for the organization.

- EIS has the following categories-

1). Integrated
The EIS systems are integrated systems that provide high level of information after aggregation & summarizing the low-level datas.

2). Real-time access.
These systems provide real-time access to the data sets & acts as a interactive system with real time response system.

3). High-level-data
These systems include high level data which means lower atomic subsets of data are accurately

summarised & integrated to form high level data sets that help organisations take high level decision.

- ETS is not a normal decision support knowledge base that can be used at all levels sets. It is a very critical data store of high level information that can only be used by the upper level management like ceos, managers or owners.
- ETS stores requires high data security & integrity for unhindered flow & safety of the organization from external & internal treats.
- ETS is a very structured, summarized & aggregated data store for the accomplishment of organizational goal.

e) Groupware Technologies

- Groupware Technologies are a solutions that provide remote access to all the participants working on a single project.
- Groupware technologies provide a lot of collaborative & conferencing tools that help

In continuous communication of people in real time.

- Types of Groupware technologies.

Groupware

Asynchronous Groupware

Synchronous Groupware

- Asynchronous - It is a single way communication in a single time. No parallel communication takes place. eg - E-mail, socket messages.
- Synchronous - Two way communication of data happens in Synchronous Groupware technologies eg - Audio call / video call
- Groupware provides three types of tools for real time collaborations —

1. Communication Tools
   used for sharing of information in real time.
   eg - Messages, chatting. [SLACK]
2. Conference Tools
   Used for real time two way dedicated connection b/w the users.
   eg - Zoom, Google Meet.

2. Collaboration Tools.
Used when multiple people work on same project from remote locations-
eg - Git/GitHub, Jira.

f): 5 Benifits of Data Mining.

1) Data Mining helps in categorization of data which means that if we have a unorganized & scattered bundle of data. then it can be assigned to its category & can be specialized further.

2) Data Mining helps in drawing links b/w the data which can determine the probability of a occurence of a event if one event has occured.

3) Data Mining helps in drawing relationships b/w events which helps in forcasting how one dimension or event will be affected by other one dimension we can identify what event is directly proportional or inversely proportional to what event.

4) Data Mining helps in Anomaly/Outlier detection which can be useful in determining irregular patterns & undefined behaviours that can identify risks & we can take

precautions for it.

5). Data Mining also helps in "clustering of related data into single" units that breaks a large unorganized data into a categorical database.

9). 3 Goals of Artificial Intelligence.

1). Automation.

- The primary goal of Artificial intelligence is to perform human insentive tasks automatically & with same accuracy & tendency of a human.
- A good AI system should be able to automatically analyze & retrieve data & perform the suitable action with accuracy & human tendency.

2). Learning & Improving

- The whole AI system revolves around being better day by day & learn through previous & past experiences.
- Artificial Intelligence is based on

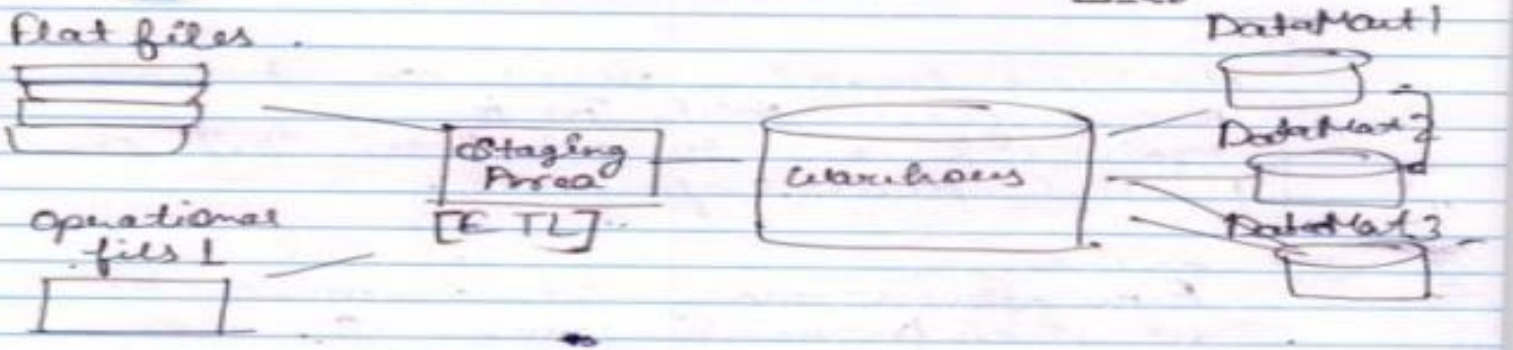
Machine learning which are trained models that perform task in the way they are trained & try to get better by learning through past experiences.

3) Accuracy.

- Even after so many advancements AI systems are still prone to errors. So now its goal is to perform all the tasks with accuracy & reliability.
- Various backtracking & learning algorithms are introduced so that AI mechanisms can be made deeply reliable & can perform accurate operations without errors.

b) (1) Data Mart

- "A Data Mart is a subset of a Data Warehouse where a comparatively categorical data is stored"
- A data mart is a optimized version of a data warehouse. where a more classified & clustered data is stored which makes the process of data mining and regression more easy b/w data but is not in raw or atomic form but it is structured.



- In a DataMart a more curated data is stored because the data has passed through the staging area where it has gone through [E T L]
  Extract - Pulling data from various sources
  Transform - Organizing & curating data.
  Load - Load or update & upload the data into store
- A DataMart aids in analysis of data and gives faster results than datawarehouse because data is already categorized so the process of clustering can be made easy.
- Data Marts may be interconnected and therefore there can be relations b/w one or more dataMarts that optimizes the Mapping & coherion.

Multidimensional Analysis	Traditional Analysis
1). Here the data in data stores is more organized & it stored in forms of cubes	Here the data is stored in traditional semi-structured or structured stores.
2). There the analysis is made easier because cubes & molap services provide a wide range of analysis ~~functions~~.	Here analysis process is difficult because comparative study tools are minimal
3). Here Multidimensional cubes can stories various dimensions in one table so we can do comparison easily.	Here mostly we need to form new tables / structures for new dimension which is not memory & time efficient.
4). Multidimensional Analysis is space efficient because one cube can have many dimensions & measures.	In traditional Analysis If we want to compare 2 or more dimensions we have to make new table or structure for comparison.

5. In Multidimensional Analysis we have various operations like Drill down Drill Up Slice Dice Pivot	Traditional Analysis required complex query processing for many of the operation also pivoting or rearranging is quite tough in traditional analysis
6. It becomes easy with its operation & tools	It is complex without third party tools.

Section-B

Question-2

a). How BI helps to transform raw data to meaningful insights & support strategic & operational decision making ??

- BI i.e Business Intelligence is a tool or process that curate or take data from various sources, analyze it & present it in a visualized format so that it can be used for decision making.

- BI tools take raw or unorganized data and ~~into~~ with its visualization tools (like Power BI) it converts that data into a more summarized & presentable format.

- Now when we have a visualized data and which can be easily understood so we can draw meaning insights from it in a faster way because we do not have to invest time in understanding atomic data from beginning.

- BI helps in visualizing various trends, patterns or graphs that help in representation of discrete numeric data into easily understandable format.

eg - By using this companies identify future upcoming trends like in fashion industries the curve for clothes fashion is repeated in every 10 years so companies can take a future insight using BI tools.

- BI also helps in strategic decision making in a way that there are various strategies relating to marketing, finance, healthcare and banking that require all the past data so

Strategies can be made in efficient way for these sectors by understanding & analyzing stored historic data of an organization.

- eg:- When an organization wants to launch a new product it gains insights from past data that what all region require what kind of advertisement & promotion of product & which region is suitable at which price point.
- Various operational decisions related to the organization, its employees or internal culture are made using BI OLAP tools because it optimizes the way data analysis is done.
- OLAP servers can perform multidimensional analysis so BI tools used OLAP functionalities that automate the operation & the flow in a optimal manner.

Overall BI helps to create raw and atomic data in the data stores & deply analyze

it from all perspectives & present it in a form that can be easily understood this helps in continuous flow of organizations strategic & operational decision making in an optimal way.

b). BI tools & technologies in improving Business performance:

- It is simplified that BI and its tools give a simpler and a representative view of vast and complex data stores.
- Now, Since because of BI the organization saves a lot of time that would have wasted in just analyzing raw data, it invests this time in innovation & achieving the organizational goal.
- Since Identifying of future trends or patterns is simplified by BI, businesses do not need to invest their time in forecasting it only needs to make strategies that can help it in outstanding from the rest of the world and also to perform operations that can optimally help it in achieving its goal.

Example ——

eg- Suppose an organization wants to launch its new mobile phone. with its previous data & feedback it can identify the prior drawbacks or faults in last model so this time after identifying & interpreting from BI tools it can rectify only those functionalities which were loved by the audience. now the time it has saved it can invest in upcoming those faults & drawbacks.

This would give competition to all the organizations that are manually collecting feedback & investing thousands of hours in analyzing their feedbacks.

- BI is a tool that improves the performance of an organization by giving it a view of the good & bad outcomes of its decisions which the organizations can use in the upcoming levels & overcome them & stand out from its competitors.

- BI plays a vital role in improving business performance & bring competitive

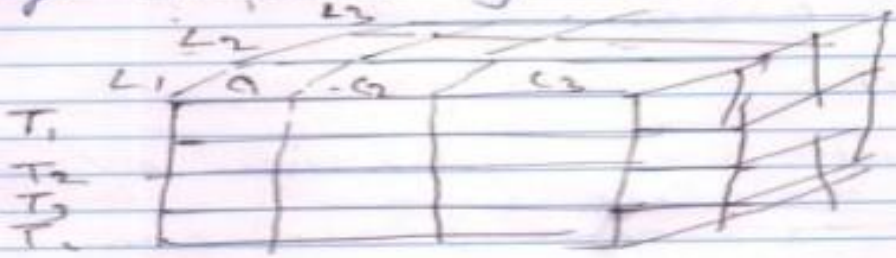
Section-C

Answer-7.

a). Multidimensional Data Analysis.

Multidimensional Data —

- Multidimensional Data is a form of Data that uses Star Schemas.
- In Multidimensional Data the information is stored in the form of cubes. Cube contains various dimensions & and their values that help them store a large amount of data into single unit



- For Multidimensional Data Analysis various operations are provided —

1). Slice —
Slice is the process of getting value of a single dimension at a single time.

2). Dice.

- It is a operation in which you can get the values of a more than one dimension at a single time.
- The result of Dice operation is again cube.

3. Roll up / Roll Down.

- These are the practises of diving in & Diving out of the data.
- To Roll up we go from discrete data values of an aggregate data. while in Roll Down the dive into data from Top to the Bottom.

4). Pivot:

- Pivot is the operation of arranging the complete cube.
- Here all rows are converted to columns & columns are converted back to rows along the pivot element.

These operations Make the process of analysis of Data quick effective & efficient.

- Cubes can store multidimensional data in a single storage location in multidimensional array like structures, which can be easily used to compare values of various dimensions times & regions. in efficient manner.
- The significance of Multidimensional data analysis in BI applications is that it can help all the visualization tools and OLAP tools gain deep insights of data & present the data of various dimensions in a easily understandable format.
- Large Data sets can be simplified & presented in easier manner like in Excel 10000 lengths of tables can be presented into graphs that help in quick decision making.

6)
i) (Classifying)

- Classifying is the process of assigning values to its category class.
- It helps in specialization of data & helps in forming structures from a raw or discrete data set.

- The algorithm used for classifying is -

0. KNN algorithm
2). Random forest
3). Decision Trees.

(2). Clustering :-

- Clustering is the process of grouping elements with similar characteristics in a single cluster.
- It makes the data structured.
- Algorithm used for clustering

1). K-Means clustering
2) DBSCAN Clustering :- [Density Based Spatial Clustering of Application with Noise].
3) Hierarchical clustering

(3). Association :-

- Association is the process of drawing links b/w events or data.
- Association is based on if-then relation
- Association is used to find out the

probability of the occurrence of an event.

Paper Code

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