

 VIT Vidyalankar Institute of Technology Accredited A+ by NAAC (Autonomous College Affiliated to University of Mumbai)		<i>End Semester Examination (R-2019 Scheme) -(2023-24)</i>	
Date: 22/05/2024	Branch: Computer Engineering		Time: 2 Hrs.
Semester: 8	Subject: SMA		Marks: 50
N.B.: All Questions are Compulsory		CO	
Q.1)	Attempt any Five (2 Marks Each)		
a)	List some measuring success in social media	CO5	
b)	Write down the steps of text analytics in detail.	CO3	
c)	Why social media important in public sector. Explain.	CO6	
d)	Explain the term Social Information Filtering.	CO5	
e)	State some KPI use in social media analytics.	CO5	
f)	Write any two tools used for search engine analytics and usage.	CO4	
g)	Explain degree centrality.	CO2	
h)	Define common network terms used in social media graph.	CO2	
Q. 2)	Attempt any One (10 Marks Each)		
a)	What is social media action analytics, and why is it important for understanding user behavior on social platforms?	CO3	
b)	Describe the different categories of location analytics and provide examples of each category.	CO5	
Q 3)	Attempt any two (10 Marks Each)		
a)	Compare and contrast automated recommendation systems with traditional recommendation systems, highlighting their key differences in functionality and effectiveness.	CO5	
b)	Explain Hyperlink Analytics and their type.	CO3	
Q 4)	Attempt any One (10 Marks Each)		
a)	Draw and explain Social Media Analytics life cycle.	CO3	
b)	Explain the concept of search engine analytics and how it helps organizations understand user search behavior.	CO4	
Q 5)	Attempt any One (10 Marks Each)		
a)	Provide a case study illustrating how a business effectively utilizes social media interaction and monitoring to achieve its marketing and customer engagement goals.	CO6	
b)	Explain social media risk with diagram.	CO5	

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	(Q-2)	<p>List of measuring success in SM.</p> <p>(Q) Measuring success in SM involve various matrix & perform KPI to understand how well SM Strategies are performed.</p> <ul style="list-style-type: none"> > Engagement Metrics > like, comment, share, engagnt ratio > Reach Metrics > traffic Metrics > conversion Metrics > Brand awareness metrics > customer service > Content performance
	b)	<p>Write down the steps of Text analysis.</p>
Ans		<p>Text analytics involve extracting meaningful information from unstructured text data through various steps.</p> <ol style="list-style-type: none"> 1) Data collection 2) Data Pre-processing 3) feature extraction 4) Text transformation 5) Text Mining & Analysis 6) Interpretation & visualization 7) Evaluation
	c)	<p>Why SM important in public sector</p> <ul style="list-style-type: none"> > SM is important in Public Sector because it enhance communication, increase transparency & foster engagement with community.

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		<ul style="list-style-type: none"> • It allows govt. agencies to disseminate info quickly, gather public feedback, & promote civic participation making govt. more responsive & accountable.
	d)	<p>Social information filtering: is a method used to recommend info-product or service to user based on behaviour. It relies on concept that user who has agreed on certain item in the past will continue to do so in future.</p>
	e)	<p>KPI in Social Media analytics are metric that help measure the effectiveness of Social Media Strategy:</p> <ul style="list-style-type: none"> ➢ Engagement Rate ➢ Reach ➢ Impressions ➢ Conversion Rate ➢ CTR
	f)	<p>Tools used for SEO:</p> <ul style="list-style-type: none"> • Google Analytics - Provides detailed statistics & analytics of web traffic & is widely used for tracking. • SEMrush - All-in-one marketing toolkit that provides insight into competitors' strategies, keyword research, SEO audit.

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	i) g)	Degree centrality - It is measured used in "net" analysis to determine the importance or influence of node within a N/w. It defines the no. of connections a node has.
	ii) h)	Common N/w term
		> Node
		> edge
		> graph
		> Path
		> cluster
		> Betweenness
		> Closeness
		> Density
		> loop
		> circuit.

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Q-2	(a)	<p>Social Media Action Analytics involve the collection, measurement & analysis of action taken by user on SM.</p> <p>Common actions are:</p> <ul style="list-style-type: none"> > Like > Comment > Subscribe > dislike > tweet > Retweet > Click > download > upvote <p>→ Important for understanding user behavior.</p> <ol style="list-style-type: none"> 1) Insight into engagement - By Analyzing action, organization can understand how user interact with content, which type of post generate the most engagement & why. 2) Content optimization → Identifies what content resonates best with audience, allowing for more effective content creation & marketing strategy. 3) User preference - Helps in understanding user preference & interest, which can be used to tailor content, & advertising more

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		<p>effectively</p> <p>4. Trend Analysis - Tracks how user behaviour changes over time. Helping to identify emerging trends & shift in user interest.</p> <p>5. Improved Targeting : enable more precise targeting of Adv. & promotion based on user action & interaction</p> <p>6. feedback loop - provide a feedback loop to refine strategies & improve user satisfaction & engage continuously</p> 	

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(Q=2)	(b)	Location Analytics involve analyzing geographical or spatial data to gain insights into patterns & trends. It is used in various sectors to improve decision making & Strategic planning
		1. Crosspatial Analysis : It involves analyzing data related to physical location & geographic boundaries. ex - Retail chains analyzing customer foot traffic clusters to determine optimal store location
		2. GIS - . Uses software to analyze, & visualize spatial data through Maps & SD models ex - Urban planning department. Using GIS to map out new infrastructure project & assess environmental impact
		3. Proximity Analysis - Analyze the distance between different locations of point of interest. ex - Marketing teams targeting customer within a certain radius of a store with special promotion
		4. Network Analysis - Examine the connectivity & flow within network of

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<ul style="list-style-type: none">i) Location Such as transportation route, or Supply chain .. .			
<p>Ex Logistic Companies optimizing delivery route to reduce fuel cost & delivery time.</p>			
<ul style="list-style-type: none">ii. Heat Maps -			
<p>Visual representation of data points that show Intensity or frequency of events in geographical area</p>			
<p>Ex - police department using crime heat maps to identify high crime area & allocate resource accordingly.</p>			
<ul style="list-style-type: none">iii. Location Based Service			
<p>Service that use real time location data to provide information or service to users:</p>			
<p>Ex - Navigation apps offering route recommendation based on current traffic condition.</p>			

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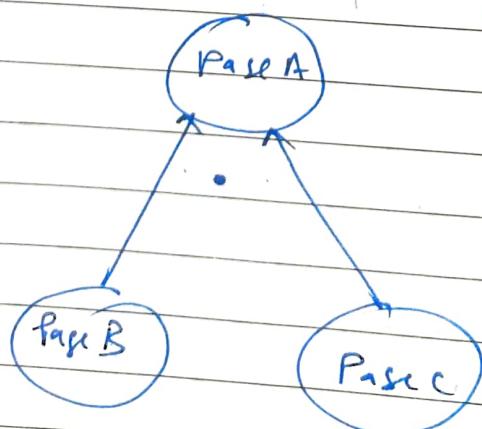
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(0-3)		Automated R.S	Traditional R.S
(a)		<ul style="list-style-type: none"> > It process vast amount of data, including user behaviour, preference & interaction to generate recommendation. 	<ul style="list-style-type: none"> a) It relies on predefine rule & heuristic created by Human experts.
	b)	<ul style="list-style-type: none"> It uses Complex ML Algorithm 	<ul style="list-style-type: none"> It uses basic rule base Method
		<ul style="list-style-type: none"> → It provides High level of personalization 	<ul style="list-style-type: none"> → It provides more generic recommendation
		<ul style="list-style-type: none"> > It adapted in real time 	<ul style="list-style-type: none"> → Traditional System provide more generic recommendation
		<ul style="list-style-type: none"> > It uses Engagement. It typically result in Higher level engagement 	<ul style="list-style-type: none"> > It may not engage user as effectively due to lack of personalization
		<ul style="list-style-type: none"> > It is more accurate due to ability to process & analyze large dataset 	<ul style="list-style-type: none"> > It May struggle to scale effectively with large user base or diverse profile

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Q-3 (b)		<p>Hyperlink Analytics :- Hyperlinks are referred to web resources that user can access by clicking on them.</p> <ul style="list-style-type: none"> - They can link resource within a document or among documents. - Hyperlinks can represent relationship such as trust, bonding & authority etc. organization. - They can also indicate content similarity bet' website

> Type of Hyperlink

1) Inlink :- Inlinks are the incoming hyperlink or link directed toward a website or originated in other website

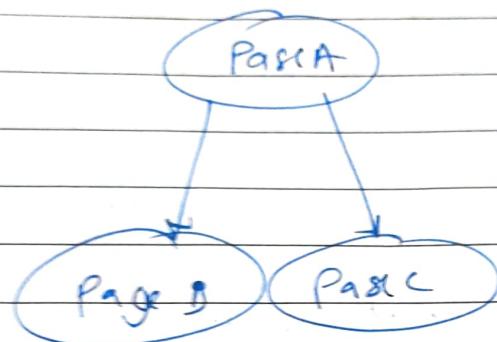


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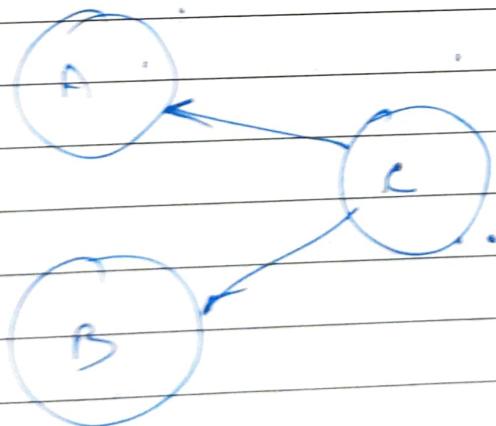
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- c) Outlink - outlink are hypolink generated out of a website.



- 3) CoLink - (o link have 2 dimension, first if 2 website gain a link from a third website. They are considered to be connected indirectly. For example A link to both Page B & C therefore B & C are consider to be co-link & connected indirectly)



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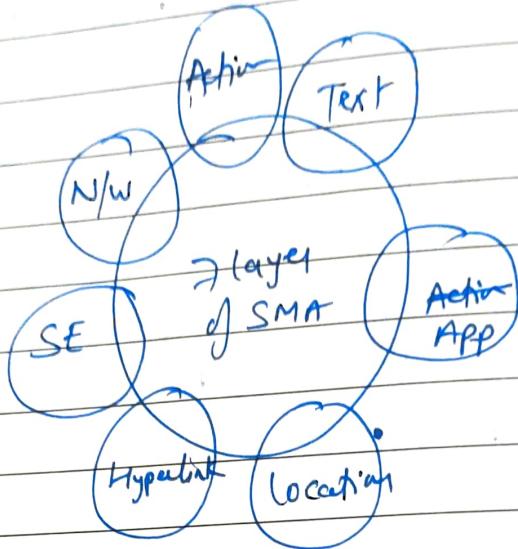
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(a)

7 layer of SMA



- 1) Text - This includes the content of SM post such as comment, struct, blog, post & Facebook status update. It is used to understand user sentiment & identify emerging theme & topic.
- 2) Network - This includes the connection b/w users & relationship b/w them such as follower & friends on SM. It is used to identify influential nodes & their position in N/w.
- 3) Action - This includes the action taken by users on SM such as like, comment, share, & other interaction. It is used to measure popularity,

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		influence & prediction in SM.
		4. Mobile - This include data related to the use of SM on Mobile device such as type of device used, the OS, & location of user. It is used to measure & optimize user engagement with mobile application.
1)		Hypertext - This include the link betw SM Post & other websites as well as content of those linked website. It is used to reveal internet traffic pattern.
6)		Location - This include data on the geographical location of user & the location specific content they engage with SM. It is used to mine & map the location of SM user & data.
7)		Search Engine - This include data on how users find & access SM Content through search engine as well as keyword they use in their search. It is used to analyze historical search data for trend analysis, keyword monitoring & ad history.

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4(b)			<p>Search Engine Analytics involve analyzing & interpreting data from Search engine. It help website owner understand & improve their website performance in search result.</p> <ul style="list-style-type: none"> > It can involve analyzing various data point such as no. of visitor, keyword used, page visited, & website position in search result. > There are 2 Type of Search engn Analyt <ul style="list-style-type: none"> 1) Search engine optimization 2) Trend analysis. 1) Search engine optimization or (SEO) is the improving a website ranking on a search engine result page. 2) SEO has both organic & nonorganic result. with organic result being based on relevance to the user query nonorganic result being paid adver. 2) Search engine & Trendy Analysis <ul style="list-style-type: none"> > How people search for your Brand? > When does intent spike in your

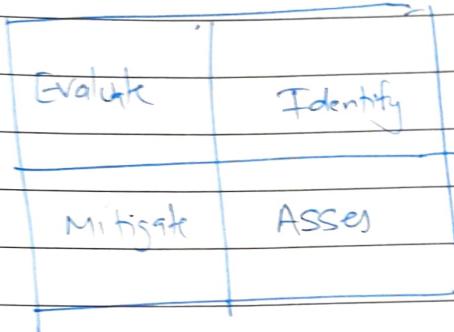
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	(Q=5)	<p>Case study on Blendtec, A manufacturer of high end blenders.</p> <p>- Blendtec, a manufacturer of high end blenders has had a highly successful SM campaign through their 'Will it Blend?' session on YouTube. In which the company founder demonstrates the power of their blenders by blending unusual & sometimes absurd objects.</p> <ul style="list-style-type: none"> > This humorous approach has gained the company a significant following & helped to increase sales. > Their top video viewers have well over 10 million views each. & their collected of video all together have 200 million views. <p>The Company's YT channel has over 40,000 subscribers.</p>
	(a)	

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(a)		SM Risk Management framework
(b)		



- 1) Risk identification - identify potential SM risk such as hacking information ~~realy~~, phishing & imperson.
- 2) Risk assessment - Determine the likelihood & Impact of identified risk prioritize & rank risk based on probability & Impact
- 3) Risk mitigation - Implement strategies to manage, eliminate or reduce identified risk. They may include physical, technical, procedural, measure
- 4) Risk monitoring - Continuously monitor & assess risk to ensure that risk mitigate measure are effective & updated as needed.

