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MASTER OF COMPUTER APPLICATIONS DEGREE EXAMINATION -JULY - 2022

THIRD SEMESTER

Paper - MCA 303 : WEB TECHNOLOGIES

(Under CBCS New Regulations w.e.f. 2020-2021)

(Common paper to University and all Affiliated Colleges)

Time : 3 Hours

Max. Marks : 70

PART - A

(Compulsory)

Answer any FIVE of the following questions. Each question carries 4 marks. (5×4=20)

1. a) Create a HTML form with five basic features.
- b) What are the various styles in CSS?
- c) How events are handled in JavaScript? Explain.
- d) Explain about JQuery objects.
- e) What is Script Manager in AJAX?
- f) What is synchronous request in AJAX?
- g) Explain features of PHP?
- h) Differentiate between 'Get' and 'Post' methods in PHP.
- i) Explain about Security Issues in Servlet.
- j) List the JSP implicit objects.

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(1)

[P.T.O.]

**PART - B**

Answer FIVE questions, choosing ONE question from each Unit. Each question carries 10 marks. (5×10=50)

**UNIT - I**

2. a) Describe about the Browser Architecture with diagram.  
b) Explain the classification of HTML tags with examples.

(OR)

3. a) Differentiate between Google and Google chrome.  
b) With the neat block diagram explain the CSS Box Model.

**UNIT - II**

4. a) Write about the various Objects used in Java script.  
b) Write a script that inputs several lines of text and a search character to determine the number of occurrences of the character in the text.

(OR)

5. Discuss about the control structures of Java Script with examples.

**UNIT - III**

6. What are the advantages and disadvantages of Ajax? What are all the technologies used by Ajax? Explain.

(OR)

7. a) Explain the step by step installation procedure of IIS webserver.  
b) Discuss how to run PHP using IIS webserver.

**UNIT - IV**

8. a) List and Explain PHP development framework.  
b) Explain about database connectivity with PHP with suitable examples.

(OR)

9. a) Write a PHP script to open, close, read and write into a file.  
b) Explain about cookies in PHP with example.

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(2)

**UNIT - V**

10. a) Explain lifecycle of a Servlet, illustrate with an example program.  
b) Explain JSP application design with suitable example?

(OR)

11. a) Build a Servlet program to illustrate parameter reading and parameter initializing.  
b) Explain the mechanism to include resources dynamically and to forward request to other JSPs?

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MASTER OF COMPUTER APPLICATIONS DEGREE EXAMINATION - JULY - 2022  
THIRD SEMESTER

PAPER MCA 304A : DATA WAREHOUSING AND DATA MINING

(Under C.B.C.S. New Regulations w.e.f. 2020-2021)  
(Common Paper to University and all Affiliated Colleges)

Time : 3 Hours

Max. Marks : 70

PART - A

(Compulsory)

Answer any FIVE questions. Each question carries 4 marks.

(5×4=20)

1. a) Summarize the features that distinguish OLAP from OLTP.
- b) What is a data cube? List the characteristics of DW?
- c) What are Predictive and Descriptive Data Mining Tasks?
- d) Describe the data mining applications in detail.
- e) Define the following with an example: Frequent Itemset, Closed Frequent Itemset, and Maximal Frequent Itemset.
- f) What is Correlation Analysis? What are the steps in Association Rule Mining?
- g) What are Bayesian Classifiers?
- h) Compare and Contrast classification with Prediction.
- i) Provide overview of major clustering methods.
- j) Brief about Outlier Detection methods.

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(1)

[P.T.O.]

PART - B

Answer ALL questions. Choosing ONE question from each Unit. Each question carries 10 marks. (5\*10=50)

UNIT-I

2. Construct and explain 3-tier Data Warehouse Architecture?  
(OR)
3. What are three kinds of Data Warehouse Applications. Briefly describe each of the following Data Warehouse Implementation techniques:  
ROLAP, MOLAP and HOLAP.

UNIT-II

4. What are the Major Challenges of mining huge amounts of data in comparison with mining small amount of data? Explain in detail the major issues in Data mining.  
(OR)
5. Why to preprocess the data? What are the methods used in performing data integration and data transformation to preprocess the data?

UNIT-III

6. State Apriori property. Explain Apriori algorithm for discovering frequent itemsets for mining Boolean association rules.  
(OR)
7. What is strength and weakness of FP in comparison with Apriori? Explain FP growth algorithm for discovering frequent itemsets without candidate generation.

UNIT-IV

8. Define classification? How classification is performed using decision tree induction? Explain with an example.  
(OR)
9. "Support vector machines (SVMs), a method for the classification of both linear and nonlinear data" Justify.

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UNIT-V

10. What is 'Cluster Analysis'? Explain PAM, a k-medoids algorithm for partitioning based on medoid or central objects.  
(OR)

(OR)

11. Which steps are important in the process of Constraint -Based Cluster Analysis? Compare and Contrast Agglomerative Hierarchical Clustering with Divisive Hierarchical Clustering.

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(3)

P. Sandhya Ravi

3<sup>rd</sup> Sem

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MASTER OF COMPUTER APPLICATIONS DEGREE EXAMINATION- JULY - 2022

THIRD SEMESTER

PAPER MCA 301 : SOFTWARE ENGINEERING

(Under C.B.C.S. New Regulations w.e.f. 2020-2021)

(Common Paper to University and All Affiliated Colleges)

Time : 3 Hours

Max. Marks : 70

PART - A

(Compulsory)

Answer any FIVE of the following questions. Each question carries 4 marks. (5×4=20)

1. a) Define Software, Software Engineering and Legacy Software.
- b) Write a brief note on Fourth generation techniques.
- c) Define System simulation and list out few system simulation tools.
- d) Describe the elements of Analysis model.
- e) What are the characteristics of good design.
- f) What is Software architecture? Why is architecture important?
- g) Define Validation and Verification.
- h) List out the guidelines to a successful testing strategy.
- i) Differentiate between black box and white box testing.
- j) Describe the McCalls Software Quality factors.

PART - B

Answer FIVE questions, choosing ONE question from each Unit. Each question carries 10 marks. (5×10=50)

UNIT - I

2. Describe in detail about Prototyping process model.  
(OR)

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(1)

[P.T.O.]

3. i) Describe the Principles of Agility.  
ii) What is meant by Deployment? Explain the key principle of Deployment.

**UNIT - II**

4. Write a detailed note on System Engineering Hierarchy.  
(OR)  
5. Explain the steps in the creation of behavioural model.

**UNIT - III**

6. Write a detailed note on Design concepts.  
(OR)  
7. Describe about User Interface Design.

**UNIT - IV**

8. Elaborate on Validation Testing and System Testing.  
(OR)  
9. Write a detailed note on Basic path testing.

**UNIT - V**

10. i) Describe the Management Spectrum with four P's.  
ii) Explain the Estimation for Object-oriented projects along with other estimation techniques.  
(OR)  
11. What is meant by Project scheduling? Explain in detail.

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[Total No. of Pages : 2

**MASTER OF COMPUTER APPLICATIONS DEGREE EXAMINATION-JULY - 2022**  
**THIRD SEMESTER**

**PAPER - 316 : DIGITAL MARKETING (OPEN ELECTIVE)**

*(Under CBCS New Regulations w.e.f. 2016-2017)*

*(Common Paper to University and All Affiliated Colleges)*

**Time : 3 Hours**

**Max. Marks : 70**

**PART - A**

Descriptive type questions. Each question carries 10 marks. **(5×10=50)**

1. a) What are the drivers of Digital Marketing? How do you integrate E-Business to an existing Business Model?

**(OR)**

- b) Define Digital Marketing? State the need and significance of Digital Marketing in the Modern Economy?

2. a) Explain the concept of SEO? Discuss various forms of Search Engines?

**(OR)**

- b) Discuss the role of website design and website content in promoting Online Business?

3. a) What factors influence online pricing? Discuss few online Pricing Strategies?

**(OR)**

- b) Write about Time-based online pricing and Personalized Pricing?

4. a) Write about the role of Online intermediaries in Personalisation of Products and Services?

**(OR)**

- b) How do you design and develop an online Channel for B2C Marketing?

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(1)

[P.T.O.]

5. a) Discuss few strategies to promote the products or services online?

(OR)

- b) Write a note on Online Advertising and Viral Marketing?

**PART-B**

(Case Analysis)

(20)

6. It's one of those typical mornings. You try to use your hair dryer and its shorts out. And then you find your coffee maker is on the fritz. And, of course, you threw out the boxes a long time ago and you don't know where the warranty information is. Then, wouldn't you know it, you try to do a load of laundry and the dryer is on the blink. So who do you call?

Sears wants you to call local Sears store. Sears repairs all brands of appliances, regardless of who made or who sold them. The challenge Sears handed to its agency, Young & Rubicam, was to build awareness of this newly branded Sears Home Central appliance repair service and get customers to call sears when their appliances break.

Sears research found that there is a need for such a service. When appliance breaks, customers go back to the retailer, call the manufacturer, or call an independent repair shop. Most of these options do not deliver real customer service: they don't answer the phone or call customers back, they don't work after hours, and they often aren't equipped to fix the problem right the first time.

Contrast that reality with what Sears offered: One call to one central repair source for any appliance brand high-quality repair service whenever you need it by someone you know and trust. The advertising message communicated how Sears could help customers avoid frustration and obtain professional appliance repair service.

The advertising leveraged the powerful trust of the Sears brand and provided a solution to very real problem, but it had to reach the right audience, at the right time, and in the right manner to build awareness. Because of these concerns, Young & Rubicam had to make tough decisions about which media to use to deliver Sears' message.

**Question(s):**

- a) If you were in the Sears Home Central account at young & Rubicam, what kind of advertising media would you suggest and why?
- b) How does the message affect the media choice?

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MASTER OF COMPUTER APPLICATIONS DEGREE EXAMINATION - JULY - 2022  
THIRD SEMESTER  
PAPER MCA 305A : CRYPTOGRAPHY AND NETWORK SECURITY  
(Under CBCS New Regulations w.e.f. 2020-2021)  
(Common paper to University and all Affiliated Colleges)

Max. Marks : 70

Time : 3 Hours

PART - A

(Compulsory)

Answer any FIVE of the following questions. Each question carries 4 marks. (5×4=20)

1. a) What is OSI security architecture? Explain.
- b) Differentiate between Passive attacks and Active attacks.
- c) Define diffusion and confusion.
- d) Why is it important to study the Feistel cipher?
- e) State Eulers Theorems and list out its applications.
- f) What are the attacks that are possible on RSA?
- g) Explain about Kerberos version 4.
- h) What is web security?
- i) What is Mobile security?
- j) Discuss about cloud security challenges.

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(1)

[P.T.O.]

**PART - B**

Answer FIVE questions, choosing ONE question from each Unit. Each question carries 10 marks. (5×10=50)

**UNIT - I**

2. Explain Data Encryption standard in detail.  
(OR)

3. Discuss about substitution techniques in detail.

**UNIT - II**

4. Explain the generation sub key and S Box from the given 32-bit key by Blowfish.  
(OR)

5. Discuss about differential and linear cryptanalysis.

**UNIT - III**

6. Describe the key management of public key encryption in detail.  
(OR)

7. a) Explain the Chinese remainder theorem with an example?  
b) What are the requirements of cryptographic hash functions?

**UNIT - IV**

8. Summarize the message generation process with suitable diagram.  
(OR)
9. Illustrate the three common types of firewalls with diagrams.

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**UNIT - V**

10. a) Discuss Mobile App Risks in detail.  
b) Discuss about security at service layers.

(OR)

11. In detail discuss about Bit Coin security and working with example.

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(3)

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MASTER OF COMPUTER APPLICATIONS DEGREE EXAMINATION — JANUARY 2020

THIRD SEMESTER

Paper 316 – DIGITAL MARKETING (OPEN ELECTIVE)

(Under CBCS New Regulations w.e.f 2016-2017)

(Common Paper to University & Affiliated Colleges)

Time : 3 hours

Max. Marks : 70

**PART – A**

(Descriptive Type Questions)

Each question carries 10 marks.

(Marks : 5 × 10 = 50)

- 16 24
1. (a) Differentiate the Traditional and Digital Marketing with suitable examples.  
Or  
(b) Explain the role of digital marketing in the success of business in the present era.
  2. (a) Explain the Purchase Behaviour of Consumers in Digital Marketing Format.  
Or  
(b) Explain Online B2C Buying process.
  3. (a) Explain the impact of internet pricing in reaching the customer.  
Or  
(b) Discuss the online pricing strategies in detail.
  4. (a) Explain the need and importance of E-Retailing.  
Or  
(b) Discuss Online Channel Design for B2C and B2B Marketing.
  5. (a) Explain IMC process in detail.  
Or  
(b) What are the ethical issues in Digital Marketing?

[P.T.O.]

**PART - B**  
Case Analysis  
(Marks : 20)

6. IBM's image has become fashionable to talk about the new economy; e.g. the modern day economy based on the transformational power of Information and Communications Technologies (ICT). In the UK, the second half of 1999 was characterised by the arrival of .com companies in a big way.

Investors rushed to put their money into companies like lastminute.com which uses the medium of the Internet to bring together last minute buyers and sellers of items as diverse as theatre tickets and package holidays.

By Spring 2000 the investing city's and the public's honeymoon with the .coms was over, as people realised that only a relatively small number of these companies would succeed in a competitive world. The real revolution was actually taking place in the old economy. Long-established companies like banks, insurance companies, car manufacturers and retailers were using e-business to develop new links with their customers.

Research carried out by IBM shows that Internet access in Europe will increasingly be via a range of devices and not limited to the PC. Mobile applications are becoming a major driver and enabler of e-business in Europe, which according to some observers is as much as two years ahead of the US on digital mobile technology. IBM customers in Europe are therefore seeking support in building the best possible links with their own customers drawing on IBM's extensive experience in this field.

**Question**

How can we best communicate and meet the requirements of our customers, employees, vendors and suppliers using the latest e-business technology?.

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MASTER OF COMPUTER APPLICATIONS DEGREE EXAMINATION — DECEMBER 2019  
THIRD SEMESTER

**MCA 303 — SOFTWARE ENGINEERING**  
(Under C.B.C.S. Revised New Regulations w.e.f. 2016-2017)  
(Common Paper to University and all Affiliated Colleges)

Max. Marks : 80

Time : 3 hours

**PART - A**

Answer any FIVE of the following questions. Each question carries 4 marks.  
(Marks :  $5 \times 4 = 20$ )

1. (a) Describe the Generic view of a process.
- (b) Describe the importance of customer communication.
- (c) Describe the concepts of modeling.
- (d) Explain about Business Process Engineering.
- (e) What is meant by black box testing?
- (f) What is meant by architectural styles and patterns?
- (g) Describe the fundamentals testing strategies.
- (h) Discuss about web application testing.
- (i) Explain the concepts of Service-oriented software engineering.
- (j) Explain the concepts of the W<sup>5</sup> HH principle.

**PART - B**

Answer ONE full question from each unit. Each question carries 12 marks.  
(Marks :  $5 \times 12 = 60$ )

**UNIT - I**

2. Describe the Agile process model and list its merits and limitations.

Or

3. Discuss about spiral model. Also list its merits over other process models.

[P.T.O.]

**UNIT - II**

4. Explain about system Engineering Hierarchy and system modeling.

Or

5. Describe the following in brief:  
(a) System modelling.  
(b) Web Engineering Process.

**UNIT - III**

6. (a) Describe the concepts and importance of Architectural Design.  
(b) Describe about Component-based software engineering

Or

7. Write a brief notes on the following:  
(a) User Interface design.  
(b) Web apps design and issues.

**UNIT - IV**

8. Write about white box testing methods.

Or

9. Write a brief notes on the following:  
(a) Object oriented Testing methods.  
(b) Validation testing.

**UNIT - V**

10. (a) Describe metrics for analysis.  
(b) Describe the metrics for software project scheduling.

Or

11. Write a brief notes on the following:  
(a) Change management.  
(b) Risk management.

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MASTER OF COMPUTER APPLICATIONS DEGREE EXAMINATION -JULY - 2022

THIRD SEMESTER

Paper - MCA 303 : WEB TECHNOLOGIES

(Under CBCS New Regulations w.e.f. 2020-2021)

(Common paper to University and all Affiliated Colleges)

Time : 3 Hours

Max. Marks : 70

PART - A

(Compulsory)

Answer any FIVE of the following questions. Each question carries 4 marks. (5×4=20)

1. a) Create a HTML form with five basic features.
- b) What are the various styles in CSS?
- c) How events are handled in JavaScript? Explain.
- d) Explain about JQuery objects.
- e) What is Script Manager in AJAX?
- f) What is synchronous request in AJAX?
- g) Explain features of PHP?
- h) Differentiate between 'Get' and 'Post' methods in PHP.
- i) Explain about Security Issues in Servlet.
- j) List the JSP implicit objects.

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(1)

[P.T.O.]

**PART - B**

Answer FIVE questions, choosing ONE question from each Unit. Each question carries 10 marks. (5×10=50)

**UNIT - I**

2. a) Describe about the Browser Architecture with diagram.  
b) Explain the classification of HTML tags with examples.

(OR)

3. a) Differentiate between Google and Google chrome.  
b) With the neat block diagram explain the CSS Box Model.

**UNIT - II**

4. a) Write about the various Objects used in Java script.  
b) Write a script that inputs several lines of text and a search character to determine the number of occurrences of the character in the text.

(OR)

5. Discuss about the control structures of Java Script with examples.

**UNIT - III**

6. What are the advantages and disadvantages of Ajax? What are all the technologies used by Ajax? Explain.

(OR)

7. a) Explain the step by step installation procedure of IIS webserver.  
b) Discuss how to run PHP using IIS webserver.

**UNIT - IV**

8. a) List and Explain PHP development framework.  
b) Explain about database connectivity with PHP with suitable examples.

(OR)

9. a) Write a PHP script to open, close, read and write into a file.  
b) Explain about cookies in PHP with example.

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(2)

**UNIT - V**

10. a) Explain lifecycle of a Servlet, illustrate with an example program.  
b) Explain JSP application design with suitable example?

(OR)

11. a) Build a Servlet program to illustrate parameter reading and parameter initializing.  
b) Explain the mechanism to include resources dynamically and to forward request to other JSPs?

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MASTER OF COMPUTER APPLICATIONS DEGREE EXAMINATION - JULY - 2022  
THIRD SEMESTER

PAPER MCA 304A : DATA WAREHOUSING AND DATA MINING

(Under C.B.C.S. New Regulations w.e.f. 2020-2021)  
(Common Paper to University and all Affiliated Colleges)

Time : 3 Hours

Max. Marks : 70

PART - A

(Compulsory)

Answer any FIVE questions. Each question carries 4 marks. (5×4=20)

1. a) Summarize the features that distinguish OLAP from OLTP.
- b) What is a data cube? List the characteristics of DW?
- c) What are Predictive and Descriptive Data Mining Tasks?
- d) Describe the data mining applications in detail.
- e) Define the following with an example: Frequent Itemset, Closed Frequent Itemset, and Maximal Frequent Itemset.
- f) What is Correlation Analysis? What are the steps in Association Rule Mining?
- g) What are Bayesian Classifiers?
- h) Compare and Contrast classification with Prediction.
- i) Provide overview of major clustering methods.
- j) Brief about Outlier Detection methods.

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(1)

[P.T.O.]

PART - B

Answer ALL questions. Choosing ONE question from each Unit. Each question carries 10 marks. (5\*10=50)

UNIT-I

2. Construct and explain 3-tier Data Warehouse Architecture?  
(OR)
3. What are three kinds of Data Warehouse Applications. Briefly describe each of the following Data Warehouse Implementation techniques:  
ROLAP, MOLAP and HOLAP.

UNIT-II

4. What are the Major Challenges of mining huge amounts of data in comparison with mining small amount of data? Explain in detail the major issues in Data mining.  
(OR)
5. Why to preprocess the data? What are the methods used in performing data integration and data transformation to preprocess the data?

UNIT-III

6. State Apriori property. Explain Apriori algorithm for discovering frequent itemsets for mining Boolean association rules.  
(OR)
7. What is strength and weakness of FP in comparison with Apriori? Explain FP growth algorithm for discovering frequent itemsets without candidate generation.

UNIT-IV

8. Define classification? How classification is performed using decision tree induction? Explain with an example.  
(OR)
9. "Support vector machines (SVMs), a method for the classification of both linear and nonlinear data" Justify.

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(2)

UNIT-V

10. What is 'Cluster Analysis'? Explain PAM, a k-medoids algorithm for partitioning based on medoid or central objects.  
(OR)

(OR)

11. Which steps are important in the process of Constraint -Based Cluster Analysis? Compare and Contrast Agglomerative Hierarchical Clustering with Divisive Hierarchical Clustering.

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(3)

P. Sandhya Ravi

3<sup>rd</sup> Sem

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MASTER OF COMPUTER APPLICATIONS DEGREE EXAMINATION- JULY - 2022

THIRD SEMESTER

PAPER MCA 301 : SOFTWARE ENGINEERING

(Under C.B.C.S. New Regulations w.e.f. 2020-2021)

(Common Paper to University and All Affiliated Colleges)

Time : 3 Hours

Max. Marks : 70

PART - A

(Compulsory)

Answer any FIVE of the following questions. Each question carries 4 marks. (5×4=20)

1. a) Define Software, Software Engineering and Legacy Software.
- b) Write a brief note on Fourth generation techniques.
- c) Define System simulation and list out few system simulation tools.
- d) Describe the elements of Analysis model.
- e) What are the characteristics of good design.
- f) What is Software architecture? Why is architecture important?
- g) Define Validation and Verification.
- h) List out the guidelines to a successful testing strategy.
- i) Differentiate between black box and white box testing.
- j) Describe the McCalls Software Quality factors.

PART - B

Answer FIVE questions, choosing ONE question from each Unit. Each question carries 10 marks. (5×10=50)

UNIT - I

2. Describe in detail about Prototyping process model.

(OR)

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(1)

[P.T.O.]

3. i) Describe the Principles of Agility.  
ii) What is meant by Deployment? Explain the key principle of Deployment.

**UNIT - II**

4. Write a detailed note on System Engineering Hierarchy.  
(OR)  
5. Explain the steps in the creation of behavioural model.

**UNIT - III**

6. Write a detailed note on Design concepts.  
(OR)  
7. Describe about User Interface Design.

**UNIT - IV**

8. Elaborate on Validation Testing and System Testing.  
(OR)  
9. Write a detailed note on Basic path testing.

**UNIT - V**

10. i) Describe the Management Spectrum with four P's.  
ii) Explain the Estimation for Object-oriented projects along with other estimation techniques.  
(OR)  
11. What is meant by Project scheduling? Explain in detail.

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[Total No. of Pages : 2

**MASTER OF COMPUTER APPLICATIONS DEGREE EXAMINATION-JULY - 2022**  
**THIRD SEMESTER**

**PAPER - 316 : DIGITAL MARKETING (OPEN ELECTIVE)**

*(Under CBCS New Regulations w.e.f. 2016-2017)*

*(Common Paper to University and All Affiliated Colleges)*

**Time : 3 Hours**

**Max. Marks : 70**

**PART - A**

Descriptive type questions. Each question carries 10 marks. **(5×10=50)**

1. a) What are the drivers of Digital Marketing? How do you integrate E-Business to an existing Business Model?

**(OR)**

- b) Define Digital Marketing? State the need and significance of Digital Marketing in the Modern Economy?

2. a) Explain the concept of SEO? Discuss various forms of Search Engines?

**(OR)**

- b) Discuss the role of website design and website content in promoting Online Business?

3. a) What factors influence online pricing? Discuss few online Pricing Strategies?

**(OR)**

- b) Write about Time-based online pricing and Personalized Pricing?

4. a) Write about the role of Online intermediaries in Personalisation of Products and Services?

**(OR)**

- b) How do you design and develop an online Channel for B2C Marketing?

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(1)

[P.T.O.]

5. a) Discuss few strategies to promote the products or services online?

(OR)

- b) Write a note on Online Advertising and Viral Marketing?

**PART-B**

(Case Analysis)

(20)

6. It's one of those typical mornings. You try to use your hair dryer and its shorts out. And then you find your coffee maker is on the fritz. And, of course, you threw out the boxes a long time ago and you don't know where the warranty information is. Then, wouldn't you know it, you try to do a load of laundry and the dryer is on the blink. So who do you call?

Sears wants you to call local Sears store. Sears repairs all brands of appliances, regardless of who made or who sold them. The challenge Sears handed to its agency, Young & Rubicam, was to build awareness of this newly branded Sears Home Central appliance repair service and get customers to call sears when their appliances break.

Sears research found that there is a need for such a service. When appliance breaks, customers go back to the retailer, call the manufacturer, or call an independent repair shop. Most of these options do not deliver real customer service: they don't answer the phone or call customers back, they don't work after hours, and they often aren't equipped to fix the problem right the first time.

Contrast that reality with what Sears offered: One call to one central repair source for any appliance brand high-quality repair service whenever you need it by someone you know and trust. The advertising message communicated how Sears could help customers avoid frustration and obtain professional appliance repair service.

The advertising leveraged the powerful trust of the Sears brand and provided a solution to very real problem, but it had to reach the right audience, at the right time, and in the right manner to build awareness. Because of these concerns, Young & Rubicam had to make tough decisions about which media to use to deliver Sears' message.

**Question(s):**

- a) If you were in the Sears Home Central account at young & Rubicam, what kind of advertising media would you suggest and why?
- b) How does the message affect the media choice?

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MASTER OF COMPUTER APPLICATIONS DEGREE EXAMINATION - JULY - 2022  
THIRD SEMESTER  
PAPER MCA 305A : CRYPTOGRAPHY AND NETWORK SECURITY  
(Under CBCS New Regulations w.e.f. 2020-2021)  
(Common paper to University and all Affiliated Colleges)

Max. Marks : 70

Time : 3 Hours

PART - A

(Compulsory)

Answer any FIVE of the following questions. Each question carries 4 marks. (5×4=20)

1. a) What is OSI security architecture? Explain.
- b) Differentiate between Passive attacks and Active attacks.
- c) Define diffusion and confusion.
- d) Why is it important to study the Feistel cipher?
- e) State Eulers Theorems and list out its applications.
- f) What are the attacks that are possible on RSA?
- g) Explain about Kerberos version 4.
- h) What is web security?
- i) What is Mobile security?
- j) Discuss about cloud security challenges.

12-00-3-07R

(1)

[P.T.O.]

**PART - B**

Answer FIVE questions, choosing ONE question from each Unit. Each question carries 10 marks. (5×10=50)

**UNIT - I**

2. Explain Data Encryption standard in detail.  
(OR)

3. Discuss about substitution techniques in detail.

**UNIT - II**

4. Explain the generation sub key and S Box from the given 32-bit key by Blowfish.  
(OR)

5. Discuss about differential and linear cryptanalysis.

**UNIT - III**

6. Describe the key management of public key encryption in detail.  
(OR)

7. a) Explain the Chinese remainder theorem with an example?  
b) What are the requirements of cryptographic hash functions?

**UNIT - IV**

8. Summarize the message generation process with suitable diagram.  
(OR)

9. Illustrate the three common types of firewalls with diagrams.

12-00-3-07R

(2)

**UNIT - V**

10. a) Discuss Mobile App Risks in detail.  
b) Discuss about security at service layers.

(OR)

11. In detail discuss about Bit Coin security and working with example.

12-00-3-07R

(3)

4-75-316

MASTER OF COMPUTER APPLICATIONS DEGREE EXAMINATION — JANUARY 2020

THIRD SEMESTER

Paper 316 – DIGITAL MARKETING (OPEN ELECTIVE)

(Under CBCS New Regulations w.e.f 2016-2017)

(Common Paper to University & Affiliated Colleges)

Time : 3 hours

Max. Marks : 70

**PART – A**

(Descriptive Type Questions)

Each question carries 10 marks.

(Marks : 5 × 10 = 50)

- 16 24
1. (a) Differentiate the Traditional and Digital Marketing with suitable examples.  
Or  
(b) Explain the role of digital marketing in the success of business in the present era.
  2. (a) Explain the Purchase Behaviour of Consumers in Digital Marketing Format.  
Or  
(b) Explain Online B2C Buying process.
  3. (a) Explain the impact of internet pricing in reaching the customer.  
Or  
(b) Discuss the online pricing strategies in detail.
  4. (a) Explain the need and importance of E-Retailing.  
Or  
(b) Discuss Online Channel Design for B2C and B2B Marketing.
  5. (a) Explain IMC process in detail.  
Or  
(b) What are the ethical issues in Digital Marketing?

[P.T.O.]

**PART - B**  
Case Analysis  
(Marks : 20)

6. IBM's Image It has become fashionable to talk about the new economy; e.g. the modern day economy based on the transformational power of Information and Communications Technologies (ICT). In the UK, the second half of 1999 was characterised by the arrival of .com companies in a big way.

Investors rushed to put their money into companies like lastminute.com which uses the medium of the Internet to bring together last minute buyers and sellers of items as diverse as theatre tickets and package holidays.

By Spring 2000 the investing city's and the public's honeymoon with the .coms was over, as people realised that only a relatively small number of these companies would succeed in a competitive world. The real revolution was actually taking place in the old economy. Long-established companies like banks, insurance companies, car manufacturers and retailers were using e-business to develop new links with their customers.

Research carried out by IBM shows that Internet access in Europe will increasingly be via a range of devices and not limited to the PC. Mobile applications are becoming a major driver and enabler of e-business in Europe, which according to some observers is as much as two years ahead of the US on digital mobile technology. IBM customers in Europe are therefore seeking support in building the best possible links with their own customers drawing on IBM's extensive experience in this field.

**Question**

How can we best communicate and meet the requirements of our customers, employees, vendors and suppliers using the latest e-business technology?.

12-00-3-03

MASTER OF COMPUTER APPLICATIONS DEGREE EXAMINATION — DECEMBER 2019  
THIRD SEMESTER

**MCA 303 — SOFTWARE ENGINEERING**  
(Under C.B.C.S. Revised New Regulations w.e.f. 2016-2017)  
(Common Paper to University and all Affiliated Colleges)

Max. Marks : 80

Time : 3 hours

**PART - A**

Answer any FIVE of the following questions. Each question carries 4 marks.  
(Marks :  $5 \times 4 = 20$ )

1. (a) Describe the Generic view of a process.
- (b) Describe the importance of customer communication.
- (c) Describe the concepts of modeling.
- (d) Explain about Business Process Engineering.
- (e) What is meant by black box testing?
- (f) What is meant by architectural styles and patterns?
- (g) Describe the fundamentals testing strategies.
- (h) Discuss about web application testing.
- (i) Explain the concepts of Service-oriented software engineering.
- (j) Explain the concepts of the W<sup>5</sup> HH principle.

**PART - B**

Answer ONE full question from each unit. Each question carries 12 marks.  
(Marks :  $5 \times 12 = 60$ )

**UNIT - I**

2. Describe the Agile process model and list its merits and limitations.

Or

3. Discuss about spiral model. Also list its merits over other process models.

[P.T.O.]

**UNIT - II**

4. Explain about system Engineering Hierarchy and system modeling.

Or

5. Describe the following in brief:  
(a) System modelling.  
(b) Web Engineering Process.

**UNIT - III**

6. (a) Describe the concepts and importance of Architectural Design.  
(b) Describe about Component-based software engineering

Or

7. Write a brief notes on the following:  
(a) User Interface design.  
(b) Web apps design and issues.

**UNIT - IV**

8. Write about white box testing methods.

Or

9. Write a brief notes on the following:  
(a) Object oriented Testing methods.  
(b) Validation testing.

**UNIT - V**

10. (a) Describe metrics for analysis.  
(b) Describe the metrics for software project scheduling.

Or

11. Write a brief notes on the following:  
(a) Change management.  
(b) Risk management.