

Printed Pages: University Roll No.....

Mid-Term Examination, Even Semester 2020-21

B.Tech (CSE), III Year, VI Semester

Code: BCSE 0154 Subject Name Information Retrieval System

Time : 2 Hours

Maximum Marks: 30

Section- A

Note: Attempt All Three Questions.

3 x 2 = 6 Marks

1. Explain why IR techniques are essentially heuristics?
Differentiate between exact match and best match?
2. Define tf and Idf in IR system with suitable example along with their respective representation for calculation?
3. Explain Federated search? Discuss the steps for building inverted index?

Section- B

Note: Attempt All Three Questions.

3 x 3 = 9 Marks

1. Draw the inverted index that would be built for the following document collection

D1: new home sales top forecasts
D2: home sales rise in july
D3: increase in home sales in july
D4: july new home sales rise
2. Design the term-document incidence matrix for this document collection.

Doc 1 breakthrough drug for schizophrenia
Doc 2 new schizophrenia drug
Doc 3 new approach for treatment of schizophrenia
Doc 4 new hopes for schizophrenia patients

What are the returned results for this query?
a) schizophrenia AND drug b) for AND NOT(drug OR approach)

3. Differentiate between information retrieval and data retrieval?

Compute cosine similarity between vectors (3,8,7,5,2,9) & (10,8,6,6,4,5)

Section - C

Note: Attempt Any Three Questions.

3 x 5 = 15 Marks

1. Here are two short texts to compare:

1. Julie loves me more than Linda loves me
2. Jane likes me more than Julie loves me

Explain how one can know how similar these texts are, purely in terms of word counts (and ignoring word order).

2. Consider a case insensitive query and document collection with a query Q and a document collection consisting of the following three documents

Q : " truck silver gold "

D1: " shipment of gold damaged in a fire"

D2: " delivery of silver arrived in a silver truck"

D3: "shipment of gold arrived in a truck"

Calculate the similarity coefficient between query Q and Document

D1,D2&D3

3. Consider a document collection C that consists in the following three documents:

D1: "new york times"

D2: "new york post"

D3: "los angeles times"

Given the query (Q) : "**new new times**", Compute the cosine similarity for query Q to above three documents and rank order.

4. Differentiate between Boolean model and Vector space model with a suitable example. Consider a document containing 100 words wherein the word **apple** appears 3 times. Compute the term frequency for **apple** and assume we have 10 million documents and the word **apple** appears in one thousand of these. Compute the inverse document frequency and then finally compute the Tf-idf weight?

Printed Pages:

University Roll No.....

Mid-Term Examination, Even Semester 2020-21

B. Tech. (CSE), III/IV, VI/VIII

Subject Code: Digital Image Processing (BCSE0101)

Time: 2 Hours

Maximum Marks: 30

Section-A

Note: Attempt All Three Questions.

$3 \times 2 = 6$ Marks

I. Why we need digitization? Explain.

II. Define Histogram. Draw the histogram of low and high contrast image.

III. Consider the image segment shown below. Let $V = \{1, 2\}$ and compute the length of the shortest 4-, 8-, and m-path between p and q. If a particular path does not exist between these two points, explain why.

	3	1	2	1	(q)
	2	2	0	2	
	1	2	1	1	
(p)	1	0	1	2	

Section-B

Note: Attempt All Three Questions.

$3 \times 3 = 9$ Marks

I. Extract the different possible bit planes for the given 4x4 image?

4	5	6	7
3	2	3	4
0	1	2	5
0	4	3	0

- II. Explain the role of rods and cones of Human Visual System.
- III. If we want to resize a 1024×768 image to one that is 700 pixels wide with the same aspect ratio as the original image, what should be the height of the resized image?

Section - C

Note: Attempt Any Three Questions.

$3 \times 5 = 15$ Marks

- I. What is histogram equalization? Equalize the following histogram and draw the histogram before and after equalization.

Gray Level(r_k)	0	1	2	3	4	5	6	7
No. of pixels (n_k)	50	100	100	300	200	200	50	0

- II. Perform the histogram specification (Matching) on 8×8 image. The gray level distribution of the image is given below:

Histogram-1

Gray Level(r_k)	0	1	2	3	4	5	6	7
No. of pixels (n_k)	8	10	10	2	12	16	4	2

Histogram-2

Gray Level(r_k)	0	1	2	3	4	5	6	7
No. of pixels (n_k)	0	0	0	0	20	20	16	8

- III. What are the three important applications of Digital Image Processing? Also explain the steps of DIP in detail.

- IV. Explain the steps of filtering in the frequency domain? Also differentiate between low pass and high pass filter.

Printed Pages: 1

University Roll No.....

Mid-Term Examination, Even Semester 2020-21

B.Tech. (CS), 3rd Year, 6th Semester

BCSE0252: Full Stack Using Node

Time : 2 Hours

Maximum Marks: 30

Section - A

Note: Attempt All Three Questions.

$3 \times 2 = 6$ Marks

- I. What is MongoDB? What are different data types available in MongoDB. Explain with the help of examples.
- II. What are the different ways to create your First React App.
- III. What are props? How props can be access in a Class Component.

Section - B

Note: Attempt Any Three Questions.

$3 \times 3 = 9$ Marks

- I. Write a query in MongoDB to display the name and age of the students whose age is greater than 18 in descending order.
- II. What are the different life cycle methods of a component in React.
- III. What is Mongoose? Write steps to connect with the MongoDB database.

Section – C

Note: Attempt All Three Questions.

$3 \times 5 = 15$ Marks

- I. What is MongoDB Aggregation? Explain stages, expressions and accumulators with the help of an example.
- II. What is React Fragment. What's its purpose? Explain with the help of an example.
- III. How the data in MongoDB can be Back-up and restore? Write a query for backup and restore a single collection.
- IV. What are React Hooks? Write a React Hook, that will increment the counter on Button Clicked.

Printed Pages: 2

University Roll No.....

Mid-Term Examination, Even Semester 2020-21

B. Tech. (CS), 3rd Year, 6th Semester

BCSE0254: PHP Scripting Language

Time: 2 Hours

Maximum Marks: 30

Section-A

Note: Attempt All Three Questions.

3 x 2 = 6 Marks

Q1. Illustrate the differences between echo and print functions.

Q2. What will be the output of the following code? Explain with justification.

```
<?php  
$a=0;  
$a= 5>2 ? print ("4") : 3;  
print($a);  
?>
```

Q3. Write a PHP script to check whether a string contains a specific String?

Sample string: 'The quick brown fox jumps over the lazy dog.'

Check whether the said string contains the string 'jumps'.

Section-B

Note: Attempt All Three Questions.

3 x 3 = 9 Marks

Q1. Describe the working and symbol of null coalescing Operator in PHP. Explain With an example.

Q2. Explain the rules to initialize a constant in PHP. Give a suitable example.

Q3. a) Write a PHP script to get the PHP version and configuration information.

b) Write a PHP script to get the name of the owner of the current PHP script.

Section - C

Note: Attempt Any Three Questions. $-3 \times 5 = 15$ Marks

- Q1. Write a PHP script to create chess board in PHP using for loop and HTML table tag.
- Q2. Explain the role of various comparison operators supported in PHP 7 with suitable examples.
- Q3. a) Write a PHP script to generate random 11 characters string of letters and numbers.
b) Write a short note on foreach loop.
- Q4. a) What is the difference between if- else statement and ternary operator. Write a PHP script to find the greatest among 3 numbers using ternary operator.
b) Write a PHP script to calculate the factorial of a number.

Printed Pages:1

University Roll No.....

Mid-Term Examination, Even Semester 2020-21

BTech (CSE), IIIrd, VIth

BCSE0053: AGILE SOFTWARE DEVELOPMENT

Maximum Marks: 30

Time : 2 Hours

Section- A

$3 \times 2 = 6$ Marks

Note: Attempt All Three Questions.

- I. During an iteration planning session, three team members could not agree on the estimate for a story after several rounds. One of them is the Product owner, who is most aware about the business impact. Another one is the lead for the development team, who has worked on several similar stories in the past. Another one is a junior team member, who has been assigned to work on the story. Whose estimate should be used during Sprint planning?
- II. Who all are chickens and pigs in daily stand up meeting?
- III. What is the maximum number of weeks a sprint can elongated? What if team decided to finish one sprint after a maximum limit?

Section- B

$3 \times 2 = 6$ Marks

Note: Attempt All Three Questions.

- I. In a program some situations are known as code smell. Define the term code smell and such type of situations.
- II. In scrum projects how a team tracks its progress against a release plan. Differentiate Sprint and Product backlog.

- I. As a Scrum master of a team, you observe that during the daily Scrum, two team members start discussing technical details. What should you do?
- II. During an iteration demo, the Product owner rejects the implementation of a story even after the testers have completed and passed all the tests. The product owner maintains that the story is not developed as specified. What are the LEAST likely causes of this situation?
- III. Lean is based upon some basic principles. What are the fundamental tenets of Lean? How Test driven development reduces bugs in the code?
- IV. Classify spiral, prototype and agile model on the basis of various parameters.

Printed Pages: 3

University Roll No.....

Mid-Term Examination, Even Semester 2020-21

B.Tech (CSE), III, VI

BCSE0106: Machine Learning and its Applications

Time: 2 Hours

Maximum Marks: 30

Section- A

Note: Attempt All Three Questions.

3 x 2 = 6 Marks

- I. Write the hypothesis, parameters and cost function of linear regression with multiple variables.
- II. Compute the weighted sum of Gini Index for 'Past Trend' using the following dataset for Decision Tree:

Past Trend	Open Interest	Trading Volume	Return
Positive	Low	High	Up
Negative	High	Low	Down
Positive	Low	High	Up
Positive	High	High	Up
Negative	Low	High	Down
Positive	Low	Low	Down
Negative	High	High	Down
Negative	Low	High	Down
Positive	Low	Low	Down
Positive	High	High	Up

- III. What is 'Overfitting' in Machine learning? how can you avoid overfitting?

Section- B

Note: Attempt All Three Questions.

3 x 3 = 9 Marks

- I. What is Gradient Descent? Write the pseudo code of Gradient Descent algorithm. How does learning rate affect Gradient Descent algorithm?
- II. What is One Hot Encoding? Consider the following data where fruits and their corresponding value and price are given.

Fruit	Value of Fruit	Price
Apple	1	5
Mango	2	10
Apple	1	15
Orange	3	10

Write the one hot encoding of the dataset.

- III. Suppose, you have given the following data where x and y are the 2 input variables and Class is the dependent variable.

X	Y	Class
-1	1	-
0	1	+
0	2	-
1	-1	-
1	0	+
1	2	+
2	2	-
2	3	-

- a) Draw the scatter plot which shows the above data in 2D space.
- b) Suppose, you want to predict the class of new data point $x=1$ and $y=1$ using Euclidean distance in 3-NN. In which class this data point belongs to?
- c) Suppose, you want to predict the class of new data point $x=1$ and $y=1$ using Euclidean distance in 5-NN. In which class this data point belongs to?

Section - C

Note: Attempt Any Three Questions.

$3 \times 5 = 15$ Marks

- I. How does a machine learning system works? Explain each phase in detail.
- II. Write the steps of Find-S algorithm in concept learning. Apply the Find-S algorithm and find out the most specific hypothesis on the following dataset:
The concept of the problem will be on what days does a person likes to go on walk.

Time	Weather	Temperature	Company	Humidity	Wind	Goes
Morning	Sunny	Warm	Yes	Mild	Strong	Yes
Evening	Rainy	Cold	No	Mild	Normal	No
Morning	Sunny	Moderate	Yes	Normal	Normal	Yes
Evening	Sunny	Cold	Yes	High	Strong	Yes

- III. What do you understand by a confusion matrix? Consider a two-class classification problem and the following values for the parameters:

$$TP = 30, TN = 930, FP = 30, FN = 10$$

Find out accuracy, precision, recall and F1 score.

- IV. The heights and weights of a sample of 11 students are:

Height (m)h	1.36	1.47	1.54	1.56	1.59	1.63	1.66	1.67	1.69	1.74	1.81
Weight (kg) w	52	50	67	62	69	74	59	87	77	73	67

- a) Compute the regression line.
- b) Use the regression line to estimate the weight of someone whose height is 1.6m.

Printed Pages: University Roll No.....

Mid-Term Examination, Even Semester 2020-21

B.Tech (CSE), III Year, VI Semester

Cloud Computing and Virtualization (BCSE0208)

Time : 2 Hours

Maximum Marks: 30

Section- A

Note: Attempt All Three Questions.

3 x 2 = 6 Marks

- I. A company interested in cloud computing is looking for a provider who offers a set of basic services such as virtual server provisioning and on demand storage that can be combined into a platform for deploying and running customized applications. What type of cloud computing delivery model fits these requirements? What are the different billing options available with end users while using services of public cloud?
- II. Can community cloud be formed using public cloud? Justify.
- III. Four different companies provide Storage as a Service capabilities:
 - a. Company A stores user data in its primary data center in New York and replicates the data to a backup data center also in New York.
 - b. Company B stores user data in its primary data center in Chicago and replicates it to a data center in Atlanta.
 - c. Company C stores user data in its primary data center in Los Angeles and stores replicas in the same data center.
 - d. Company D stores user data in its primary data center in St Louis and does not replicate the data.

Which company is likely to provide the highest availability?
Justify your answer.

Section- B

Note: Attempt All Three Questions.

$3 \times 3 = 9$ Marks

- I. What is the impact of virtualization on cost? How many Virtual Machines can run on one physical machine? Justify your answer.
- II. You are a system administrator of the organization ABC. The organization wants to implement virtualization to help its team working offshore. What kind of virtualization will you consider? What will be the challenges that as a system administrator you have to consider?
- III. What is VM migration? Differentiate between
 - a. Pre-copy and Post Copy Migration.
 - b. Hot and cold Migration.

Section – C

Note: Attempt Any Three Questions.

$3 \times 5 = 15$ Marks

- I. You are a member of a 4 - member project team. During the Covid-19 time, all the members are stuck in their native places. With no means of physical meeting, your project has come to a halt. Give the solution how cloud services can help you and your team in this pandemic time.
- II. Define SOA. Are web services and SOA the same? In SOA do we need to build a system from scratch?
- III. What are the different factors impacting the performance of VM Migration? Discuss any five.
- IV. Discuss the following Terms:
 - a. Virtual Private Cloud
 - b. Cloud Bursting
 - c. XaaS
 - d. Elasticity and Scalability
 - e. Privileged instructions

Printed Pages: 2

University Roll No.....

Mid-Term Examination, Even Semester 2020-21

B.Tech (CSE), IIIrd Year, VIth Semester

&

MCA, IInd Year, IVth Semester

Big Data and Analytics (BCSE-0158/MCAE0304)

Time : 2 Hours

Maximum Marks: 30

Section- A

Note: Attempt All Three Questions.

3 x 2 = 6 Marks

Q1. Explain how data can be called as Big and small data? Enlist six sources of big data?

Q2. Differentiate between types of digital data listing their specific sources as one of the parameters?

Q3. Explain Issue with Unstructured Data in detail. And also compare minimum/maximum block size of Hadoop and commodity hardware Hard disk.

Section- B

Note: Attempt All Three Questions.

3 x 3 = 9 Marks

Q1. You are new to Big Data Analytics, what challenges you might face when you deal with Big Data?

Q2. Discuss difference between Traditional BI and Big Data; justify this with any real time examples?

Q3. Describe various types of Analytics and also discuss as per your understanding when one should prefer which type of analytics?

Section - C

Note: Attempt Any Three(BUT first question is compulsory) $3 \times 5 = 15$ Marks

Q1. Assume a chocolate marketing company which has installed Automatic Chocolate Vending Machine (ACVM) in a city; consider this scenario and state how big data and services can be used using analytics?

Q2. Consider two string S1= night and S2= fight Compute the Jaccard similarity between S1 and S2 using unigram and bigram model?

Q3. Represent CAP theorem and its use in big data domain? State the significance of shared nothing architecture for RDBMS and NOSQL databases in regard to distributed Computing?

Q4. Draw and explain shared nothing architecture? Explain the Advantages of this architecture discussing how Hadoop system uses this model?

Printed Pages:

University Roll No.....

Mid-Term Examination, Even Semester 2020-21

B.Tech (CSE), III, VI

BCSE 0204: Internet of things and its application

Time : 2 Hours

Maximum Marks: 30

Section- A

Note: Attempt All Three Questions.

$3 \times 2 = 6$ Marks

- Q1. Write the name of any five IoT development board and IoT cloud.
Q2. How we categories the sensor, give clarification with example?
Q3. What are the basic characteristics of a sensor?

Section- B

Note: Attempt All Three Questions.

$3 \times 3 = 9$ Marks

- Q1. Explain the potential and benefits of an IoT oriented approach over M2M by considering a Health band as the real world use case example. Compare the Main characteristics of M2M and IoT.
Q2. Explain the design, development and security challenges for IoT application.
Q3. Justify the statement : **Internet of Things and Big Data - Better Together.**

Section -- C

Note: Attempt Any Three Questions.

$3 \times 5 = 15$ Marks

Q1. Write a code in embedded C/ Python using MQ3 sensor and buzzer to measure the intensity of alcohol. If its value crosses 1. 2 mg/L, generate a buzzer alarm for 2 seconds. Send the MQ3 values to the serial monitor also.

Q2. Write an Arduino sketch using a PIR sensor, and an LED. In case of moving object detection the LED should light up. If object become out of the range of the sensor, the LED should become off. Send a message to serial monitor in both the cases.

Q3. What are the basic differences in between Arduino Uno and Node MCU? Also write the steps involve: to add Node MCU in Arduino IDE and Node MCU connection with Blynk Cloud app.

Q4. Internet of Things (IoT) allows us to implement home automation system that can be controlled remotely through internet. The proposed system can monitor different parameters like gas, light, motion detection, temperature, etc. using the sensor data and also trigger a process according to the requirement. The data from the sensors are uploaded to a cloud server and this data can be used to analyze the parameters.

Draw a **layout** for above proposed system, also mentioning the name of devices, sensors and cloud server.

Printed Pages:

University Roll No.....

Mid-Term Examination, Even Semester 2020-21

Branch: B.Tech. CS/EC, Year: II/III, Semester: IV/VI

BCSE-0903, Data Sciences and Analytics

Time: 2 Hours

Maximum Marks: 30

Note: Attempt All Three Questions.

$60 \times 0.5 = 30$ Marks

1. To start Python from the command prompt, use the command _____

- a) Execute python
- b) Go python
- c) python
- d) run python

What will be the output of this function?

- a) 4
- b) 5
- c) 576
- d) 5

2. Which of the following functions is a built-in function in python language?

- a) val()
- b) print()
- c) printls()
- d) None of these

4. Study the following statement:

`>>>"a"+"bc"`

What will be the output of this statement?

- a) a+bc
- b) abc
- c) a bc
- d) a

3. Study the following function:

`>>> round(4.576)`

5. Choose the command for file system from following in Rpi system :

- a) ls-
- b) lst-s
- c) ls
- d) l-s

6. Which one of the following is not an HTTP Method:

- a) DELETE
- b) GET
- c) POST
- d) UNDO

7. ----- command displays the name of the present working directory:

- a) pwds
- b) pwd
- c) pdw.
- d) pw-d

8. You can use -----to create a new directory:

- a) makdir
- b) mkdir
- c) makedirs
- d) mkdirec

9. To remove directories, use

- a) rmdir
- b) rem-dir
- c) remdir
- d) rmkdir

10. Usingmakes a copy of a file and places it at the specified location:

- a) cpi
- b) cop
- c) cpy
- d) cp

11. Thecommand moves a file and places it at the specified location

- a) move
- b) mv
- c) mov
- d) mve

12. You can use to list the contents of file(s)

- a) cat
- b) ct
- c) cts
- d) cnt

13. The ----- command displays the beginning of a file.
- a) head
 - b) hds
 - c) hde
 - d) heads
14. ----- denotes the secure shell. Connect to another computer using an encrypted network connection.
- a) sshe
 - b) sshs
 - c) ssh
 - d) sess
15. The ----- command enables you to run a command as a superuser, or another user.
- a) suddo
 - b) su-do
 - c) sudo
 - d) sudos
16. ----- command is used to check that whether communication can be made with another host or not.
- a) pin-g
 - b) Ping
 - c) Pi-ng
17. -----command will tell you the network configuration details such as your IP address.
- a) ifconfig
 - b) ipconfig
 - c) ip-config
 - d) if-config
18. ---- command is used to install, upgrade and remove the packages.
- a) apt-get
 - b) aptget
 - c) aptgets
 - d) aptgets
19. ----- command will open the configuration settings menu.
- a) raspiconfig
 - b) raspi-config
 - c) ras-piconfig
 - d) raspicon-fig
20. -----: Upgrades all of the software packages you have installed.
- a) apt-gets upgrade
 - b) apts-get upgrade

- c) aptget upgrade
d) apt-get upgrade
21. -----Synchronizes the list of packages on your system to the list in the repositories.
- a) apt-gets update
b) appts-get update
c) aptget update
d) apt-get update
22. ----- To shut down immediately.
- a) poweroff
b) power-off
c) pwroff
d) shdwn
23. ----- Prints the current date.
- a) date
b) dt
c) date-
d) date-h
24. what is the processing speed of the Raspberry pi 3 model.
- a) 700 mhz
b) 850 mhz
c) 1.2 ghz
d) 1.4 ghz
25. python prompt is represented as
- a) >
b) >>
- c) >>>
d) \$
26. ----- is the example of Active RFID tag.
- a) Metro token
b) Fast-tag
c) MFRC522-Tag
d) MFRC599-Tag
27. REST stands in RESTful HTTP method:
- a) Representational State Transfer
b) Representational Status Transfer
c) Representational State Transmission
d) None of the above
28. -----Successful server response of HTTP protocol :
- a) 301
b) 400
c) 399
d) 200
29. Which out of below option is not a property parameters of Thing:
- a) Logged
b) Persistent
c) Read Only
d) TimeStamp
30. Name the service used to access historical data from database.

- a) QueryPropertyHistory
- b) QueryRequestHistory
- c) QuerySetProperty
- d) None of the above

31. Find the perfect match:

GPIO.setmode(GPIO.BCM)

Pin = 4

Here Pin = 4 will represent:

- a) GPIO PIN
- b) Physical Pin

32. How many analog pins are available in RPi.

- a) 1
- b) 2
- c) 3
- d) None of the above

33. Select the property used to fetch the data to Mashup widgets.

- a) GetProperties
- b) SetProperties
- c) GetsProperties
- d) Get-Properties

34. Thingworx is the product of ----- company.

- a) PTTC
- b) PTC
- c) DASSAULT
- d) RENOULT

35. 401 HTTP response stands for:

- a) Unauthorized access
- b) Page not found
- c) Method not allowed
- d) None of above

36. Select the right function to read humidity and Temperature using DHT11 in Rpi.

- a) read_dht11
- b) read_retry
- c) read_try
- d) None of above

37. If input to the Voltage Sensor is 22 V , what will be the appeared potential at the output terminal.

- a) 4.9v
- b) 4.4v
- c) 4.3v
- d) 4.88v

38. Voltage Sensitivity of LM35 is

- a) 100mV/ °C
- b) 10mV/°C
- c) 12mv/°C
- d) 160 mV/°C

39. Type of communication protocol supported by RFID

- a) UART
- b) UART and I2C
- c) UART, I2, and SPI
- d) None of the above

40. Select the function used to return the Timestamp of Rpi

- a) time.time()
- b) time_time()
- c) time as time()
- d) time.tm()

41. what does sudo reboot does

- a) Shut down
- b) File open
- c) Restart
- d) None of them

42. Which pins are used for SPI connection with RPi interfacing with RFID

- a) RX and TX
- b) MISO and MOSI
- c) SS, SCK, MISO and MOSI
- d) SDA and SCL

43. Is Python case sensitive when dealing with identifiers?

- a) yes
- b) no

44. Which of the following data types is not supported in python?

- a) String
- b) Numbers
- c) Slice
- d) List

45. Select the proper time delay given in the following line of code:

time.sleep(0.1)

- a) 100 mS
- b) 10 mS
- c) 1 mS
- d) 0.1 mS

46. Raspberry Pi3 is consists of an inbuilt Bluetooth system.

- a) True
- b) False

47. How many GPIO pins RPi 3B have?

- a) 24
- b) 18
- c) 28
- d) 22

48. Name the communication interface used in Raspberry Pi 3?

- a) UART
- b) SPI
- c) I2C
- d) All of them

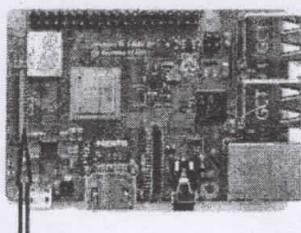
49. What is the Processor operating voltage of RPi3?

- a) 3.3V
- b) 4.1V
- c) 5.2V
- d) 3.2V

50. What is the raw voltage input given to RPi3?

- a) 5V,2A
- b) 5V,3A
- c) 2V,5A
- d) 4V,4A

51. The Arrow pointing Part of the RPi stands for?



- a) Ethernet controller
- b) DSI Display port
- c) Video Port
- d) Dual band WIFI

52. DNS stands for

- a) determine name system
- b) domain name system
- c) device name system
- d) development name system

53. RISC stands for

- a) reduced instruction set architecture
- b) rare information set architecture

- c) reduce information set architecture
- d) rare instruction set architecture

54. API stands for

- a) application programming interface
- b) Android programming interface
- c) Arduino protocol information
- d) application protocol interface

55. Why requests library is used?

Select that applies:

- a) Standard for making HTTP requests in Python
- b) Provides a clear and concise framework to work with HTTP requests.
- c) Abstracts the complicated parts of HTTP protocol.
- d) None of the above

56. 404 response code for a HTTP request stands for:

- a) Page not found
- b) Unauthorized Access
- c) Method not allowed
- d) None of the above.

57. "requests.put() function is used to:

- a) Receive a data
- b) Send a data
- c) Both of the above

d) None of the above.

58. Select the temperature range measured by LM35:

- a) -20 °C to 100 °C
- b) -55 °C to 150 °C
- c) -10 °C to 150 °C
- d) -20 °C to 150 °C

59. Select the voltage range that can be measured by Voltage sensor:

- a) 0 V – 10 V
- b) 0 V – 25 V
- c) 0 V – 12 V
- d) 0 V – 9 V

60. Select the correct formula for voltage divider Circuit:

- a) $V_{out} = V_{in} (R_2 / (R_1 + R_2))$
- b) $V_{out} = V_{in} ((R_1 + R_2) / R_2)$
- c) $V_{out} = V_{in} (R_1 / R_2)$
- d) None of the above

Printed Pages:

University Roll No.....

Mid-Term Examination, Even Semester 2020-21

Branch: B.Tech. CS/EC, Year: II/III, Semester: IV/VI

BCSE-0902, Smart Industrial Connectivity

Time: 2 Hours

Maximum Marks: 30

Note: Attempt All Three Questions.

$60 \times 0.5 = 30$ Marks

1. ----- command is used to check that whether communication can be made with another host or not.

- a) pin-g
- b) Ping
- c) Pi-ng
- d) pings

2. ----- command will tell you the network configuration details such as your IP address.

- a) ifconfig
- b) ipconfig
- c) ip-config
- d) if-config

3. ----- command is used to install, upgrade and remove the packages.

- a) apt-get
- b) aptget
- c) aptgets

d) aptgets

4. ----- command will open the configuration settings menu.

- a) raspiconfig
- b) raspi-config
- c) ras-piconfig
- d) raspicon-fig

5. ----- Upgrades all of the software packages you have installed.

- a) apt-gets upgrade
- b) appts-get upgrade
- c) aptget upgrade
- d) apt-get upgrade

6. ----- Synchronizes the list of packages on your system to the list in the repositories.

- a) apt-gets update
- b) appts-get update

- c) aptget update
- d) apt-get update

7. ----- To shut down immediately.

- a) poweroff
- b) power-off
- c) pwroff
- d) shdwn

8. ----- Prints the current date.

- a) date
- b) dt
- c) date-
- d) date-h

9. what is the processing speed of the Raspberry pi 3 model.

- a) 700 mhz
- b) 850 mhz
- c) 1.2 ghz
- d) 1.4 ghz

10. python prompt is represented as

- a) >
- b) >>
- c) >>>
- d) \$

11. ----- is the example of Active RFID tag.

- a) Metro token
- b) Fast-tag
- c) MFRC522-Tag

- d) MFRC599-Tag

12. REST stands in RESTful HTTP method:

- a) Representational State Transfer
- b) Representational Status Transfer
- c) Representational State Transmission
- d) None of the above

13. -----Successful server response of HTTP protocol :

- a) 301
- b) 400
- c) 399
- d) 200

14. Which out of below option is not a property parameters of Thing:

- a) Logged
- b) Persistent
- c) Read Only
- d) TimeStamp

15. Name the service used to access historical data from database.

- a) QueryPropertyHistory
- b) QueryRequestHistory
- c) QuerySetProperty
- d) None of the above

16. Find the perfect match:

GPIO.setmode(GPIO.BCM)

Pin = 4

Here Pin = 4 will represent:

- a) GPIO PIN
- b) Physical Pin

17. How many analog pins are available in RPi.

- a) 1
- b) 2
- c) 3
- d) None of the above

18. Select the property used to fetch the data to Mashup widgets.

- a) GetProperties
- b) SetProperties
- c) GetsProperties
- d) Get-Properties

19. Thingworx is the product of ----- company.

- a) PTTC
- b) PTC
- c) DASSAULT
- d) RENOULT

20. 401 HTTP response stands for:

- a) Unauthorized access
- b) Page not found
- c) Method not allowed
- d) None of above

21. Select the right function to read humidity and Temperature using DHT11 in Rpi.

- a) read_dht11
- b) read_retry
- c) read_try
- d) None of above

22. If input to the Voltage Sensor is 22V , what will be the appeared potential at the output terminal.

- a) 4.9v
- b) 4.4v
- c) 4.3v
- d) 4.88v

23. Voltage Sensitivity of LM35 is

- a) 100mV/ °C
- b) 10mV/°C
- c) 12mv/°C
- d) 160 mV/°C

24. Type of communication protocol supported by RFID

- a) UART
- b) UART and I2C
- c) UART, I2, and SPI
- d) None of the above

25. Select the function used to return the Timestamp of Rpi

- a) time.time()
- b) time_time()
- c) time as time()

d) time.tm()

26. what does sudo reboot does

- a) Shut down
- b) File open
- c) Restart
- d) None of them

27. Which pins are used for SPI connection with RPi interfacing with RFID

- a) RX and TX
- b) MISO and MOSI
- c) SS, SCK, MISO and MOSI
- d) SDA and SCL

28. Is Python case sensitive when dealing with identifiers?

- a) yes
- b) no

29. Which of the following data types is not supported in python?

- a) String
- b) Numbers
- c) Slice
- d) List

30. Select the proper time delay given in the following line of code:

time.sleep(0.1)

- a) 100 mS
- b) 10 mS
- c) 1 mS

d) 0.1 mS

31. Raspberry Pi3 is consists of an inbuilt Bluetooth system.

- a) True
- b) False

32. How many GPIO pins RPi 3B have?

- a) 24
- b) 18
- c) 28
- d) 22

33. Name the communication interface used in Raspberry Pi 3?

- a) UART
- b) SPI
- c) I2C
- d) All of them

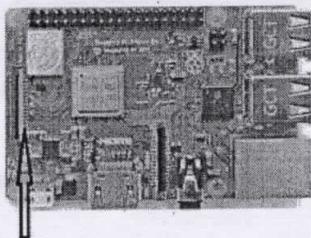
34. What is the Processor operating voltage of RPi3?

- a) 3.3V
- b) 4.1V
- c) 5.2V
- d) 3.2V

35. What is the raw voltage input given to RPi3?

- a) 5V,2A
- b) 5V,3A
- c) 2V,5A
- d) 4V,4A

36. The Arrow pointing Part of the RPi stands for?



- a) Ethernet controller
- b) DSI Display port
- c) Video Port
- d) Dual band WIFI

37. DNS stands for

- a) determine name system
- b) domain name system
- c) device name system
- d) development name system

38. RISC stands for

- a) reduced instruction set architecture
- b) rare information set architecture
- c) reduce information set architecture
- d) rare instruction set architecture
- d) None of the above.

39. Select the temperature range measured by LM35:

40. API stands for

- a) application programming interface
- b) Android programming interface
- c) Arduino protocol information
- d) application protocol interface

41. Why requests library is used?

Select that applies:

- a) Standard for making HTTP requests in Python
- b) Provides a clear and concise framework to work with HTTP requests.
- c) Abstracts the complicated parts of HTTP protocol.
- d) None of the above

42. 404 response code for a HTTP request stands for:

- a) Page not found
- b) Unauthorized Access
- c) Method not allowed
- d) None of the above.

43. "requests.put()" function is used to:

- a) Receive a data
- b) Send a data
- c) Both of the above
- a) -20 °C to 100 °C
- b) -55 °C to 150 °C
- c) -10 °C to 150 °C
- d) -20 °C to 150 °C

44. Select the voltage range that can be measured by Voltage sensor:

- a) 0 V - 10 V
- b) 0 V - 25 V
- c) 0 V - 12 V
- d) 0 V - 9 V

45. Select the correct formula for voltage divider Circuit:

- a) $V_{out} = V_{in} (R_2 / (R_1 + R_2))$
- b) $V_{out} = V_{in} ((R_1 + R_2) / R_2)$
- c) $V_{out} = V_{in} (R_1 / R_2)$
- d) None of the above

46. To start Python from the command prompt, use the command

-
- a) Execute python
 - b) Go python
 - c) python
 - d) run python

47. Which of the following functions is a built-in function in python language?

- a) val()
- b) print()
- c) printls()
- d) None of these

48. Study the following function:

```
>>> round(4.576)
```

What will be the output of this function?

- a) 4
- b) 5
- c) 576
- d) 5

49. Study the following statement:

```
>>>"a"+"bc"
```

What will be the output of this statement?

- a) a+bc
- b) abc
- c) a bc
- d) a

50. Choose the command for file system from following in Rpi system :

- a) ls-
- b) lst-s
- c) ls
- d) l-s

51. Which one of the following is not an HTTP Method:

- a) DELETE
- b) GET
- c) POST
- d) UNDO

52. ----- command displays the name of the present working directory:

- a) pwds
- b) pwd
- c) pdw

d) pw-d

53. You can use -----to create a new directory:

- a) makdir
- b) mkdir
- c) makedirs
- d) mkdirec

54. To remove directories, use

- a) rmdir
- b) rem-dir
- c) remdir
- d) rmkdir

55. Usingmakes a copy of a file and places it at the specified location:

- a) cpi
- b) cop
- c) cpy
- d) cp

56. Thecommand moves a file and places it at the specified location

- a) move
- b) mv
- c) mov
- d) mve

57. You can use to list the contents of file(s)

- a) cat
- b) ct
- c) cts
- d) cnt

58. The ---- command displays the beginning of a file.

- a) head
- b) hds
- c) hde
- d) heads

59. ----- denotes the secure shell. Connect to another computer using an encrypted network connection.

- a) sshe
- b) sshs
- c) ssh
- d) sessh

60. The ----- command enables you to run a command as a superuser, or another user.

- a) suddo
- b) su-do
- c) sudo
- d) sudos

Soft Skills

Mid Term, Even Sem Examination (2020-21)

Course- B.Tech/MCA

Year- III/II

Branch- All

Time : 120 Min.

M.M-30

Instructions :

1. Attempt all questions.
2. There will be no negative marking. Also, no marks will be awarded if more than one answer is marked.
3. The OMR form is printed on a special paper and the information given by the candidates will be scanned. Thus, the candidates are required to fill the forms carefully. Mutilated and damaged forms will be rejected by the scanner.
4. The candidates should ensure that the form is not folded, crumpled or mutilated in any manner. The candidates should not mark anything anywhere except wherever required. The black marks on the margin of the OMR form are important. The candidates should not tamper it with marker.
5. Only black& blue pen should be used to fill forms.
6. Each branch is identified with a specific subject code which should be written in subject column of OMR sheet
7. Write your University roll number in the roll no column of OMR sheet.

Name of Student:-.....

Branch:-.....

Section:-.....

Uni. Roll No:.....

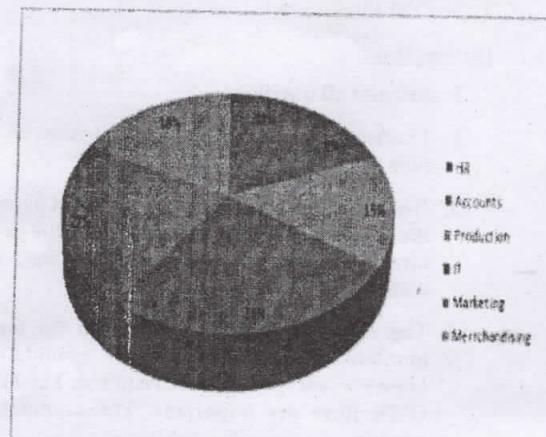
All The Best

(Aptitude)-No of question-40,

Directions of Question (1-5):

Study the pie-chart and table carefully to answer the questions that follow
Number of Employees Working in Various Departments of an Organization and the Ratio of Men to Women in the same.

Total Number of Employees = 4600



HR= 11%, Accounts = 8% ,Production=15% , IT=20%,
Marketing= 22%, Merchandising= 18%

Ratio Of Men and Women		
Departments	Men	Women
HR	1	1
Accounts	3	1
Production	3	2
IT	1	3
Marketing	1	1
Merchandising	5	1

Q1. What is the number of women in the Accounts department?
(A) 86 (B) 102 (C) 80 (D) 92 (E) None of these

Q2. What is the total number of employees working in the IT department and HR department together?
(A) 1628 (B) 1742 (C) 1766 (D) 1646 (E) None of these

Q3. What is the respective ratio of total number of men to the total number of women working in all the departments together?
(A) 63 : 41 (B) 41 : 27 (C) 53 : 47 (D) 27 : 19 (E) None of these

Q4. Number of women in the Merchandising department form what per cent of the total number of employees in the organization?
(A) 3 (B) 6 (C) 1 (D) 12 (E) None of these

Q5. What is the respective ratio of number of men in the Production department to the number of men in the Marketing department?
(A) 7 : 13 (B) 9 : 11 (C) 13 : 7 (D) 11 : 9 (E) None of these

Directions (6-10): In each of these questions the symbols @, #, \$, % and * are used with different meanings as follows.

- I. 'P @ Q' means 'P is not smaller than Q'.
- II. 'P # Q' means 'P is not greater than Q'.
- III. 'P \$ Q' means 'P is neither smaller than nor greater than Q'.
- IV. 'P % Q' means 'P is neither smaller than nor equal to Q'.
- V. 'P * Q' means 'P is neither greater than nor equal to Q'.

In each question, four statements showing relationships have been given, which are followed by four conclusions I, II, III and IV. Assuming that the given statements are true, find out which conclusion(s) is/are definitely true.

Q6. Statements: K # N * O @ P \$ Q

Conclusions:

- | | | | |
|-----------------------|------------------------|------------------------|------------|
| I. Q * O | II. Q # O | III. K * O | IV. Q \$ K |
| A) I and III are true | B) II and III are true | C) III and IV are true | |
| D) I and II are true | E) None of the above | | |

Q7. Statements: A \$ B @ F @ C, R * F % J * E

Conclusions:

- | | | | |
|---------------------------|----------------------|------------------------|-----------|
| I. J @ C | II. E # F | III. B % J | IV. A % J |
| A) None is true | B) I and II are true | C) III and IV are true | |
| D) I, II and III are true | E) All are true | | |

Q8. Statements: K @ M \$ N * Q * P # D, D % F

Conclusions:

- | | | | |
|---|-----------|----------------------------|-----------------|
| I. M % F | II. Q @ K | III. N # F | IV. K * P |
| A) Either I or III is true | | B) Either II or IV is true | |
| C) II and III are true | | | |
| D) Either I or III and either II or IV are true | | | E) None is true |

Q9. Statements: G % B # C, C @ D \$ E

Conclusions:

- | | | | |
|-----------------------------|----------------------|--------------------|------------|
| I. C % E | II. G @ C | III. G * C | IV. B \$ D |
| A) Either II or III is true | B) Only I is true | C) Only IV is true | |
| D) I and II are true | E) None of the above | | |

Q10. Statements: C # T % U, U @ V \$ Y, V * Z, Z # X

Conclusions:

- | | | | |
|-----------------------|------------------------|---------------|-----------|
| I. T @ V | II. C % V | III. X @ C | IV. Z % Y |
| A) I and III are true | B) II and III are true | C) IV is true | |
| D) All are true | E) None Follows | | |

Q11. Statements:

Some School are College.

Some College are Lecture.

All Class is College.

Conclusions:

- | | | |
|-------------------------------|--------------------|---------------------|
| I. Some Lecture is not Class. | | |
| II. Some School is Class. | | |
| III. Some School is not Class | | |
| A) Only I follows | B) Only II follows | C) Only III follows |
| D) None follows | E) None of these | |

Q12. Statements:

- All Manager are Clerk.
All Clerk are Assistant.
No Executive are Clerk.

Conclusions

- I. Some Clerk are Executive.
II. Some Assistant are Manager.
III. Some Assistant are Executive.
A) Only I follows B) Only II follows C) Only III follows
D) Only II and III follow E) None of these

Q13. Find the last two digit of $788^{782} \times 976^{588}$?

- A) 54 B) 36 C) 84 D) 64 E) None of these

Q14. Find the remainder when $3^{41} + 7^{82}$ is divided by 52?

- A) 21 B) 51 C) 1 D) 0 E) None of these

Q15. What is the remainder when $2! + 3! + \dots + 100!$ is divided by 6?

- A) 5 B) 4 C) 3 D) 2 E) None of these

Q16. There is a family of six persons A, B, C, D, E and F. They are Lawyer, Doctor, Teacher, Salesman, Engineer and Accountant. There are two married couples in the family. D, the Salesman is married to the Lady Teacher. The Doctor is married to the Lawyer. F, the Accountant is the son of B and brother of E. C, the Lawyer is the daughter-in-law of A. E is the unmarried Engineer. A is the grandmother of F. How is E related to F?

- A) Brother B) Sister C) Cousin D) Cannot be determined
E) None of these

Q17. Pointing to a gentleman, Deepak said, "His only brother is the father of my daughter's father." How the gentleman related to Deepak ?

- A) Grandfather B) Father C) Brother-in-law D) Uncle
E) None of these

Q18. I. A, B, C, D, E and F are six members of a family.
II. One couple has parents and their children in the family.
III. A is the son of C and E is the daughter of A.
IV. D is the daughter of F who is the mother of E.
Which of the following pairs is the parents of the couple ?
A) AB B) BC C) AF D) CF E) None of these

Q19. If 'sti nro kti' stands for 'clouds pour down', 'nro bsi mit' stands for 'down he goes' and 'bsi nro zpi' stands for 'died down he', which would mean 'goes'?
A) nro B) mit C) kti D) bsi E) None of these

Q20. In a certain code, ROME is coded as SUNI and BOMBAY as CUNCEZ. Then ASIA is coded as?
A) BIJB B) ETOE C) ESOE D) ATIA E) None of these

Q21. 9 men and 12 boys finish a job in 12 days, 12 men and 12 boys finish it in 10 days. 10 men and 10 boys shall finish it in how many days ?
A) 15 days B) 11 days C) 14 days D) 12 days E) None of these

Q22. Two pipes can fill a tank in 20 and 24 minutes respectively and a waste pipe can empty 3 gallons per minute. All the three pipes working together can fill the tank in 15 minutes. Find the capacity of the tank in gallons.
A) 100 B) 110 C) 120 D) 140 E) None of these

Q23. A can do a piece of work in 80 days. He works at it for 10 days & then B alone finishes the remaining work in 42 days. In how much time will A and B, working together, finish the work?
A) 30 days B) 20 days C) 25 days D) 35 days E) None of these

Q24. 15 men take 21 days of 8 hours each to do a piece of work. How many days of 6 hours each would 21 women take, if 3 women do as much work as 2 men?
A) 30days B) 40days C) 41days D) None E) None

Q25. Abhishek starts to paint a fence on one day. On the second day, two more friends of Abhishek join him. On the third day 3 more friends of him join him and so on. If the fence is completely painted this way in exactly 20 days, then find the number of days in which 10 girls painting together can paint the fence completely, given that every girl can paint twice as fast as Abhishek and his friends(Boys)? (Assume that the friends of Abhishek are all boys).

- A) 20 B) 40 C) 45 D) 77 E) None of these

Q26. Find the principal, if the rate of interest is 9.09% and the compound interest for second year is 24 Rs.

- (A) 121 Rs. (B) 240 Rs. (C) 242 Rs. (D) None of these

Q27. The difference between simple interest and compound on Rs. 1200 for one year at 10% per annum reckoned half-yearly is:

- A. Rs. 2.50 B. Rs. 3 C. Rs. 3.75 D. Rs. 4 E) None of these

Q28. The students present in an auditorium arranged in the row. If there were 4 students extra in each row there would be 4 less rows. However, if there are 2 students less in each row, then there would be 4 more rows.

Find the number of student present in the auditorium

- A. 80 B. 96 C. 100 D. 128 E) None of these

Q29. By selling 45 lemons for Rs 40, a man loses 20%. How many should he sell for Rs 24 to gain 20% in the transaction?

- A. 16 B. 18 C. 20 D. 22 E) None of these

Q30. Arun got 30% of the maximum marks in an examination and failed by 10 marks. However, Sujith who took the same examination got 40% of the total marks and got 15 marks more than the passing marks. What were the passing marks in the examination?

- A. 90 B. 250 C. 75 D. 85 E) None of these

Q31. 40% of the employees in a factory are workers. All the remaining employees are executive. The annual income of each worker is Rs.390. The annual income of each executive is Rs.420.What is the average annual

income of all the employees in the factory together?
A. 480 B. 580 C. 408 D. 690 E) None of these

Q32. In an examination, the average marks of all the students calculated to be 58 marks. It was later found that marks of 60 students were wrongly written as 70 instead of 50. If the corrected average is 55, find the total number of students who took the exam?
A. 500 B. 450 C. 400 D. 420 E) None of these

Q33. A cricketer has completed 10 innings and his average is 21.5 runs. How many runs must he make in his next innings so as to raise his average to 24?
A. 50 B. 24 C. 49 D. 52 E) None of these

Q34. If the price of article is decreased by 10%, then increased by 10%, the net effect on the price of the item is?
A. 1% B. -1% C. 0% D. 1.5% E) None of these

Q35. A is twice B and B is 200% more than C. By what percent is A more than C?
A. 50% B. 30% C. 500% D. 600% E) None of these

Q36. Find the number of factors of 300
A) 18 B) 9 C) 10 D) None of these E) None of these

Direction for Q37 to Q40:

Each question contains six statements, followed by options of combinations of any three of the given sentences. Choose the option in which the combinations are logically related. Consider first two as statements and and the third as conclusions:

- Q37. A. Some snakes are poisonous.
B. All snakes are nocturnal.
C. All poisonous creatures are snakes.
D. All poisonous creatures are nocturnal.
E. Some snakes are nocturnal creatures.

F. Some nocturnal creatures are poisonous.
A. AFE B. BCF C. BDA D. BCE E) None of these

Q38. A. Some excessive drinkers are managers.
B. All excessive drinkers are debtors.
C. No debtor is a manager.
D. All debtors are excessive drinkers.
E. No manager is an excessive drinker.
F. Some managers are debtors.
A. AFB B. CEB C. BCE D. ADF E) None of these

Q39. A. Every Christmas is festival.
B. Some enjoyable are not feasible.
C. Every festivals are enjoyable.
D. All Christmas are feasible.
E. None festival is feasible.
F. Some feasible are not festival.
A.BCF B.BFE C.ADE D. ADF E. CEB

Q40. A. Some scents are smell.
B. All perfumes are scent.
C. Many stink are not scents.
D. All scent are smell.
E. smell are perfumes.
F. Many stink are not perfumes.
A.BCF B.BDE C.CFA D.AEB E.None of these.

(Verbal Aptitude)-No of question-40,

Directions for Questions 41 to 48: Find the best possible replacement for the underlined part of the sentence in the question.

Q41. What authorities doesn't get is that people ply private vehicles because public transport isn't adequate for their needs.
A)don't get is that people D)didn't get is that peoples
B)doesn't get is that people E) No correction required.
C)don't got is which people

Q42. While the visas for Uyghur activists may be a step in this regard, New Delhi should also step up institutional cooperation with Taiwan.

- | | |
|----------------------------|------------------------------|
| A) might be a step in this | D) might be the step in this |
| B) may not a step in this | E) No correction required. |
| C) may be an step in this | |

Q43. Beijing cannot expect New Delhi to doing all the heavy lift to enhance India-China ties without taking any steps of its own.

- | | |
|--------------------------------|----------------------------------|
| A) does all the heavy lifts | D) do the all heavy liftings for |
| B) do the all heavy lifting to | E) No correction required. |
| C) do all the heavy lifting to | |

Q44. Leaning on the Pakistani establishment to shut off their terror tap will serve not just India's but China's security interests as well.

- | | |
|---|------------------------------------|
| A) to shut to its terrors tap would | D) to shut off its terror tap will |
| B) to shut for their terror tap will be | E) No correction required. |
| C) to shut of its terror tap shall | |

Q45. Parliament remains stalled for two successive day in the Uttarakhand crisis.

- | | |
|-------------------------------|-------------------------------|
| A) to two successive days in | D) for two successive days on |
| B) of two successive day on | E) No correction required |
| C) for successive two days at | |

Q46. Both Centre and opposition refusing to yield from hardened stances is a matter for grave concern for all.

- | | |
|---------------------------|---------------------------|
| A) is matter for grave | D) is a matter of grave |
| B) an matter of graves | E) No correction required |
| C) are a matter to graved | |

Q47. To suppress moves for a discussion, BJP issued a whip yesterday asking all the party's MPs to be present in Parliament for the whole week.

- | | |
|--|----------------------------------|
| A) all party MPs to be present in | D) all party MPs to presented on |
| B) all part's the MPs to be present in | E) No correction required |
| C) all party MPs being present in | |

Q48. But to argue that debate on such an important constitutional matter is the court's prerogative alone and parliamentarians should not entertain it, as BJP had done, is weak and unconvincing.

- A) as BJP had done, was weak D) as the BJP has to be done, is weak
B) as BJP has done, is weak E) No correction required
C) as BJP have done, are weak

FILL IN THE BLANK (49 TO 56)

Direction for questions 49 to 56: Choose the correct option to be filled in the blank out of the given four alternatives.

Q49. The thieves quarrelled among them _____ the division of booty.

- A) about B) in C) above D) on

Q50. The thunder was accompanied _____ heavy rains.

- A) with B) by C) up D) into

Q51. Under heavy load the bridge may give _____.

- A) away B) way C) out D) in

Q52. He brought him _____ with great difficulty.

- A) in B) about C) up D) over

Q53. Raja turned _____ the proposal without thinking.

- A) up B) out C) in D) down

Q54. He resembles _____ his mother.

- A) with B) at C) in D) None of these

Q55. He is used _____ such hardships.

- A) at B) in C) to D) for

Q56. You must be back _____ four o'clock.

- A) to B) by C) in D) for

CHOOSE THE BEST ALTERNATIVE (57 to 60)

Q57. The Gorton-Dodd bill requires that a bank disclose to their customers how long they will delay access to funds from deposited checks.

- (A) that a bank disclose to their customers how long they will delay access to funds from deposited checks
- (B) a bank to disclose to their customers how long they will delay access to funds from a deposited check
- (C) that a bank disclose to its customers how long it will delay access to funds from deposited checks
- (D) a bank that it should disclose to its customers how long it will delay access to funds from a deposited check
- (E) that banks disclose to customers how long access to funds from their deposited check is to be delayed

Q58. The financial crash of October 1987 demonstrated that the world's capital markets are integrated more closely than never before and events in one part of the global village may be transmitted to the rest of the village-almost instantaneously.

- (A) integrated more closely than never before and
- (B) closely integrated more than ever before so
- (C) more closely integrated as never before while
- (D) more closely integrated than ever before and that
- (E) more than ever before closely integrated as

Q59. In developing new facilities for the incineration of solid wastes, we must avoid the danger of shifting environmental problems from landfills polluting the water to polluting the air with incinerators.

- (A) landfills polluting the water to polluting the air with incinerators
- (B) landfills polluting the water to the air being polluted with incinerators
- (C) the pollution of water by landfills to the pollution of air by incinerators
- (D) pollution of the water by landfills to incinerators that pollute the air
- (E) water that is polluted by landfills to incinerators that pollute the air

Q60. Lawmakers are examining measures that would require banks to disclose all fees and account requirements in writing, provide free cashing of government checks, and to create basic savings accounts to carry minimal fees and require minimal initial deposits.

- (A) provide free cashing of government checks, and to create basic savings accounts to carry
- (B) provide free cashing of government checks, and creating basic savings accounts carrying
- (C) to provide free cashing of government checks, and creating basic savings accounts that carry
- (D) to provide free cashing of government checks, creating basic savings accounts to carry
- (E) to provide free cashing of government checks, and to create basic savings accounts that carry

JUMBLES SENTENCES (61 TO 65)

Q61. 1 : Religion has been used

P : both as a weapon of isolation

Q : to dull awareness

R : about real problems and as morphia

S : like education, health and employment.

- (a) P Q R S (b) P S Q R
- (c) Q P S R (d) R P Q S

Q62. 1: When all the members were seated

P: during the previous year

Q: the secretary came to the dias

R: and read out the report

S: detailing the activities of the organisation

6: and plans for the coming year.

- (a) P Q R S (b) S P Q R
- (c) R S P Q (d) Q R S P

Q63. Inspite of an unprecedeted boom in the market

P: and had to remain content

Q: the paper-dealer could not

R: push up his sales

S: with a volume of sale lower than

6: what he had sold the previous year.

- (a) Q R P S (b) S P R Q
- (c) P R Q S (d) R P S Q

- Q64. 1. Ashoka was successful
P: by the cruelty and horrors of war
Q: he was so disgusted
R: in his military operations
S: and alone among conquerors
6: that he renounced it.
(a) R S Q P (b) P S Q R
(c) S Q P R (d) Q P R S

- Q65. 1 : As his hunting skill increased
P : till at last it was as impossible for him
Q : so did his love for the hunt
R : as it is for the opium eater
S : to pass a day without it
6 : to forgo his daily potion.
(a) R S Q P (b) P Q R S
(c) P S Q R (d) Q P S R

ANALOGIES (66 TO 80)

- Q66. REFEREE : FIELD ::
(A) Experimenter : Result
(B) Arbitrator : Deadlock
(C) Gladiator : Fight
(D) Professor : Classroom
(E) Judge : Courtroom

- Q67. COMPREHEND : UNINTELLIGIBLE :
(A) Swallow : Edible
(B) Circumvent : Risky
(C) Accumulate : Insignificant
(D) Control : Ungovernable
(E) Suspect : Untrustworthy

- Q68. MERCHANTISE : SHOPLIFT :
(A) Conversation : Eavesdrop
(B) Property : Trespass

- (C) Debate : Slander
- (D) Suspect : Apprehend
- (E) Onlooker : Subpoena

Q69. SWELL : BURST ::

- (A) Assimilate : Weaken
- (B) Pollute : Heal
- (C) Promote : Conceive
- (D) Thaw : freeze
- (E) Stumble : fall

Q70. RETICENT : TALK ::

- (A) Abstemious : Devour
- (B) Tasteless : Savor
- (C) Likely : Conjecture
- (D) Cranky : Conjecture
- (E) Contumacious : Revolt

Q71. RECTANGLE : SQUARE ::

- (A) Sphere : Circle
- (B) Tub : Shower
- (C) Sonnet : Poem
- (D) Hypotenuse : Triangle
- (E) Magazine : Article

Q72. SEMINARY : THEOLOGIAN ::

- (A) Academy : Cadet
- (B) Courtroom : Witness
- (C) Sanitarium : Patient
- (D) Conservatory : Artist
- (E) Laboratory : Researcher

Q73. SHARD : POTTERY ::

- | | |
|------------------|---------------------|
| (A) Hill : Cliff | (D) Canal : River |
| (B) Ash : fire | (E) Splinter : Wood |
| (C) Hair : Wig | |

Q74. OBTRUSIVE : IGNORE ::

- (A) Autocratic : Govern
- (B) Inconsequential : Denigrate
- (C) Elusive : capture
- (D) Auspicious : forecast
- (E) Appropriated : usurp

Q75. CARAT : GOLD ::

- (A) Proof : Alcohol
- (B) Liter : Beer
- (C) Pound : sugar
- (D) Meter : Rope
- (E) Ream : Paper

Q76. LOGO : COMPANY ::

- (A) Fabric : Weaver
- (B) Catalogue : Stockiest
- (C) Trademark : Manufacturer
- (D) Landmark : Surveyor
- (E) Painting : artist

Q77. SHRINE : PILGRIM ::

- (A) Peak : Climber
- (B) Voting : Pollster
- (C) Debacle : Loser
- (D) Highway : Driver
- (E) Dive : Swimmer

Q78. HATCH : HOLD ::

- (A) Rudder : Anchor
- (B) Boat : Barge
- (C) Courtyard : Terrace
- (D) Door : Room
- (E) Cellar : Attic

Q79. CHANT : SPEAK ::

- (A) March : Walk
- (B) Heed : Hear
- (C) Wince : dodge
- (D) Squeeze : Touch
- (E) Blink : view

Q80. INCUMBENT : OFFICE ::

- (A) Monarch : Throne
- (B) President : Company
- (C) Supervisor : Employee
- (D) Captain : Army
- (E) Owner : Equity

Printed Pages: 02

University Roll No.....

Mid-Term Examination, Even Semester 2020-21

Program: B. Tech. (CSE-CCV)

Year: III Semester: VI

Subject Code: BCSE0510 (Container Orchestration & Infrastructure Automation)

Time: 2 Hours

Maximum Marks: 30

Section- A

Note: Attempt All Three Questions.

$3 \times 2 = 6$ Marks

Q.1 What is Docker image? And write any two commands to pull the image from docker hub..

Q.2 What command should you run to see all running container in Docker?

Q. 3 How to login into Docker repository? How do you create a Docker container from an image?

Section- B

Note: Attempt All Three Questions.

$3 \times 3 = 9$ Marks

Q.1 Containers provide an isolated environment for running the application. Differentiate between virtualization and containerization.

Q.2 Will the Docker Container's Registries and Repositories be used?
Get them differentiated.

Q.3 How to build a Dockerfile? And also explain what is it with an appropriate example?

Section – C

Note: Attempt Any Three Questions.

$3 \times 5 = 15$ Marks

Q.1 What is the lifecycle of a Docker Container? Explain the steps with the help of commands.

Q.2 Explain Docker Architecture with the proper diagrammatic presentation. And also explain the term Docker Daemon.

Q.3 What is the basic idea behind Docker Compose? What can it be used for? Explain in detail.

Q.4 Can you use a Container, edit it, and update it? Also, how do you make it new and store it on the local system? Give the procedure for the above.

Printed Pages:

University Roll No.....

Mid-Term Examination, Even Semester 2020-21

B.Tech - CSE (CSF), III Year, VI Semester

BCSE 0605: IT Business Continuity & Disaster Recovery

Time : 2 Hours

Maximum Marks: 30

Section- A

Note: Attempt All Three Questions.

$3 \times 2 = 6$ Marks

Three questions of 2 marks each (with no internal choice).

Q1. State the business challenges in Business Continuity Management and Disaster Recovery?

Q2. Comment on “Technology used in an organization can be a Business enabler for Business Continuity”.

Q3. How we can embed BCM into an Organization’s culture?

Section- B

Note: Attempt All Three Questions.

$3 \times 3 = 9$ Marks

Q1. What are the different phases in the Policy layer of the BCM and DR plan? Is policy layer part of Business Continuity Planning?

Q2. While performing evaluation of decision and associated benefits as per cost, What are the different factors that are taken into account for the calculation of Total Cost of Ownership?

Q3. Define the following terms:

- (i) Maximum Acceptable Outage
- (ii) Minimum Business Continuity Objective
- (iii) Maximum Tolerable Period of Disruption

Section - C

Note: Attempt Any Three Questions.

3 x 5 = 15 Marks

- Q1. How does Business Continuity being disruptive for sudden disruption differs from Business Continuity being disruptive for gradual disruption? Explain by means of a figure.
- Q2. Explain BC/DR project life cycle by taking an example of Alibaba (an Ecommerce website)?
- Q3. Why Risk Management is so important in BCM? Further explain the Risk Management SDLC model?
- Q4. Illustrate the role of a “Process” in case of a Disaster event by means of a flowchart? Take a scenario of an organization’s ERP (Enterprise Resource Planning) system.

Printed Pages: 2

University Roll No.....

Mid-Term Examination, Even Semester 2020-21

B.Tech (CSE-Data Analytics), IIIrd Year, VIth Semester

Business Intelligence (BCSE-0555)

Time : 2 Hours

Maximum Marks: 30

Section- A

Note: Attempt All Three Questions.

$3 \times 2 = 6$ Marks

Q1. What do you understand By Business Intelligence ? Justify that Why do you Need it.

Q2. Explain Digital Data and its Types in detail.

Q3. Explain characteristics of Data WareHouse in detail.

Section- B

Note: Attempt All Three Questions.

$3 \times 3 = 9$ Marks

Q1. There are many Business Intelligence Roles in any organization , Explain any three roles with suitable scenario where there role is applicable.

Q2. Explain Challenges of unstructured and structured Data and also explain which of the Cloud Service is used in Business Intelligence and Why?

Q3. Draw Detailed Business Intelligence Architecture and also explain disadvantages of Star Schema.

Section – C

Note: Attempt Any Three Questions.

$3 \times 5 = 15$ Marks

Q1. Design Data warehouse for any furniture company . The WareHouse has to analyze the company situation at least with respect to the Furniture, Customer and Time

Furniture with respect to its type (chair, table, wardrobe..), category(kitchen, living ...) and material (wood , marble....), You can take any schema for the same.

Q2. What do you understand by Multi Dimensional Model and also explain Measure , KPI in detail with Example.

Q3.Explain Dimensional Modeling with hierarchy and also compare ROLAP with MOLAP.

Q4.Samrat would like to manage all Business efficiently that's why consider he hired you as business intelligence expert, Now what could be possible decisions you would like to take as business intelligence expert so that profit can be maximized.

Printed Pages: 02

University Roll No.....

Mid-Term Examination, Even Semester 2020-21

B. Tech (CCV), Year: III, Semester: VI

BCSC0511: DevOps

Time: 2 Hours

Maximum Marks: 30

Section- A

Note: Attempt All Three Questions.

$3 \times 2 = 6$ Marks

- I. Enlist any two DevOps tools used as Source Control Version Tools and Containerization Tools each.
- II. Explain the term Agile Methodology. How is it advantageous to traditional Waterfall model?
- III. Define the terms User story. Explain the impact of using DevOps on the developers of an organization.

Section- B

Note: Attempt All Three Questions.

$3 \times 3 = 9$ Marks

- I. Differentiate between Monolithic and Microservice development of an application. Also, draw the architecture of each.
- II. "Being a DevOps engineer comes with big roles and responsibilities." Justify the statement with reasons.
- III. How is the DevOps team different from the traditional teams? Also, point out the problems in the traditional teams before adoption of DevOps in an organization.

Section – C

Note: Attempt Any Three Questions.

$3 \times 5 = 15$ Marks

- I. What are the four paths of adoption of DevOps in an organization? Explain each in brief.

- II. Explain the principles of DevOps each organization should be following before taking the decision of opting DevOps in their organization.
- III. Explain the phases of DevOps giving importance of each.
- IV. In an IT organization, the team has some ideas and wants to turn those ideas into a software application. Now, as a manager, you are confused about whether to follow the Agile work culture or DevOps. Give reasons why you should follow DevOps over Agile.

Printed Pages: 2

University Roll No.....

Mid-Term Examination, Even Semester 2020-21

B.Tech-CSE (CSF), 3rd, VIth

BCSE0606: Digital Forensics

Time: 2 Hours

Maximum Marks: 30

Section- A

Note: Attempt All Three Questions.

$3 \times 2 = 6$ Marks

- I. Discuss the procedure of validating forensic data.
- II. What do you mean by Identity Theft? In which section of ITAA2008 it listed.
- III. What are the format available to store disk image using forensic tool? What are the differences in these formats?

Section- B

Note: Attempt All Three Questions.

$3 \times 3 = 9$ Marks

- I. What is Cyber Crime? Compare traditional criminal activity with Cyber Crime.
- II. Discuss the techniques of tracing an e-mail message.
- III. Enlist various Network Tracking Tools for live acquisition of network traffic. Briefly explain two of them.

Section – C

Note: Attempt Any Three Questions.

3 x 5 = 15 Marks

- I. Discuss in details the systematic approach in computer investigation and conducting an Investigation in Computer Organizations.
- II. Consider the situation; Employer files have been deleted, disk have been reformatted, or other steps have been taken to conceal or destroy the evidence. How to recover the evidences using any forensics tool to safe guard the employee?
- III. Outline the problems and challenges forensic examiners face when preparing and processing investigations, including the ideas and questions they must consider.
- IV. What do you mean by incidence response methodology? Explain all components of it.

Printed Pages: 04

University Roll No.....

Mid-Term Examination, Even Semester 2020-21

B.Tech. CSE (DA), III, VI

BCSE0566: Hadoop & Big Data Analytics

Time: 2 Hours

Maximum Marks: 30

Section-A

Note: Attempt All Three Questions.

$3 \times 2 = 6$ Marks

- I. Define Big Data and its three Vs.
- II. Discuss Classification of Analytics.
- III. Categories each of the following in anyone of the three buckets (structured, unstructured or semi-structured) with appropriate reason:
 - a. Facebook Profile Pic
 - b. WhatsApp status
 - c. Email
 - d. News Article
 - e. Class Attendance Report
 - f. Student Assignment on Calculus
 - g. Web Search results in JSON
 - h. Subject Test Result in Excel for a particular class

Section- B

Note: Attempt All Three Questions.

3 x 3 =9 Marks

- I. Explain the following:
 - a. CAP Theorem
 - b. Can there exist any Big data solution on distributed system after compromising P component of CAP? Explain.
 - c. Data bases needs to be consistent always but in Big data few software are such which compromise Consistency .how can be this software is of any use if they are inconsistent?
- II. When it is wise to use combiner in MapReduce? During MapReduce flow, when is combiner called? is it called after mapper or after partitioner? Can a node have more than one combiner? Explain with reason.
- III. Explain the following Vs with Example:
a. Veracity b. Variability c. Volatility

Section - C

Note: Attempt Any Three Questions.

3 x 5 = 15 Marks

- I. Explain MapReduce using WordCount Problem.

Suppose we use an input file that contains the following lyrics from a famous song:

We're up all night till the sun
We're up all night to get some
We're up all night for good fun
We're up all night to get lucky

The input pairs for the Map phase will be the following:

(0, "We're up all night to the sun")
(31, "We're up all night to get some")
(63, "We're up all night for good fun")
(95, "We're up all night to get lucky")

The key is the byte offset starting from the beginning of the file. While we won't need this value in Word Count, it is always passed to the Mapper by the Hadoop framework. The byte offset is a number that can be large if there are many lines in the file.

- What will the output pairs look like?
- What will be the types of keys and values of the input and output pairs in the Map phase?

For the Reduce phase, some of the output pairs will be the following:

("up", 4) ("to", 3) ("get", 2) ("lucky", 1) ...

- What will the input pairs look like?
- What will be the types of keys and values of the input and output pairs in the Reduce phase?

- II. What are different types of NoSQL Databases? Explain them with Example.
- III. Consider a data storage for University students. Each student data, stuData which is in a file of size less than 64MB. A data block stores the full file data for a student of stuData_idN, where N = 1 to 500.
 - a. How the files of each student will be distributed at a Hadoop cluster? How many student data can be stored at one cluster? Assume that each rack has two DataNodes for the processing each of 64GB memory. Assume that cluster consists of 120 racks, and thus 240 DataNodes.
 - b. What is the total memory capacity of the cluster in TB and DataNodes in each rack?
 - c. Show the distributed blocks for students with ID=96 and 1025. Assume default replication in the DataNodes = 3.
 - d. What shall be the changes when a stuData file size \leq 128 MB?
- IV. Answer the following:
 - a. How NameNode in HDFS check health of DataNodes?
 - b. What is HDFS Federation?
 - c. Replication is boon for Big Data. How? What are the ways in which HDFS decide where to store which replica?
 - d. How HDFS deal with ever increasing load of namenode and storage problem of metadata on it in Hadoop 2?
 - e. Maintaining Replication factor of three consume lot of storage in HDFS, what solution Big Data Engineers comes up in Hadoop 3.x?

Printed Pages: University Roll No.....

Mid-Term Examination, Even Semester 2020-21

B.Tech-CSE(IoT), III, VI

BCSC0655: Big Data Analytics

Time:2 Hours

Maximum Marks: 30

Section- A

Note: Attempt All Three Questions.

3 x 2 = 6 Marks

Q1. Enlist all V's that change the definition of data into Big Data?

Q2. Define Data Node in Hadoop Cluster?

Q3. How many input splits will be made by Hadoop framework with default block size 64 MB in hdfs?

Input files sizes are 65KB, 127 MB and 64MB.

Section- B

Note: Attempt All Three Questions.

3 x 3 = 9 Marks

Q1. Explain CAP Theorem? Discuss eventual consistency with suitable example. Can we compromise Partition tolerance in Big Data distributed environment? Justify your answer.

Q2. Differentiate between Hadoop 1.0 with Hadoop 2.0.

Q3. Write Big Data challenges and advantages with suitable example.

Section – C

Note: Attempt Any Three Questions.

3 x 5 = 15 Marks

Q1. Define Job Tracker and Task Tracker in Hadoop? How many job trackers in a single cluster of Hadoop? What happens if Name Node fails whenever a job submits by a user in Hadoop?

Q2. How Map Reduce perform the processing in Hadoop? Explain each stages of Map Reduce.

Q3. Write Short notes on:

- (a) Heart Beat
- (b) YARN
- (c) Big Data Analytics

Q4. What are different types of NoSQL Databases? Explain them with Example.

Printed Pages:

University Roll No.....

Mid-Term Examination, Even Semester 2020-21

B.Tech (CSE-IoT), III, VI

BCSE 0656: IoT for Industries

Time : 2 Hours

Maximum Marks: 30

Section- A

Note: Attempt All Three Questions.

$3 \times 2 = 6$ Marks

Q1. What are the device management capabilities of LwM2M protocol?

Q2. Explain the different components of a Raspberry Pi 4 B+ board?

Q3. Gives the detail for generations of Raspberry Pi.

Section- B

Note: Attempt All Three Questions.

$3 \times 3 = 9$ Marks

Q1. What are the immediate Benefits of Industrial IoT.

Q2. Write a short note on: IoT, IIoT and M2M .

Q3. How many Expansion Connectors, USB port, GPIO Port, internal communication support, ground pins are available with RPi 4 B+ model. Write the GPU specification of RPi 4 B+.

Section – C

Note: Attempt Any Three Questions.

$3 \times 5 = 15$ Marks

Q1. Briefly explain with real life example, how IoT has become a game changer in the new economy where the customers are looking for integrated values?

Q2. Explain some tools and techniques that enable IoT solution and security aspects for industries.

Q3. Define various IIoT Layers and their relative importance.

Q4. Introduce the additional features of OMA LwM2M 1.2 over OMA LwM2M 1.1 and OMA LwM2M 1.0.