

End Term Examination, Odd Semester 2019-20

B. Tech. (CSE), II-Year, III-Semester

BCSC 0004 : Operating Systems

Time: 3 Hours

Max Marks: 50

Note :

1. Assume suitable data.
2. Draw neat diagrams wherever necessary.

Section – A**Note : Attempt all question.**

(7x5=35)

- I. Compare Monolithic, Layered, and Microkernel Architecture of Operating System.
- II. Draw the Gantt chart and calculate the turnaround time and waiting time for the following processes using SJF Preemptive and Round Robin CPU scheduling algorithms (Consider time quantum = 2)

Process	Arrival Time	Burst Time
P1	0	6
P2	1	4
P3	4	8
P4	3	3

- III. What is Deadlock? State and Explain necessary conditions for Deadlocks.

OR

Consider the following snapshot of the system:

Process	Allocation			Max			Available		
	R1	R2	R3	R1	R2	R3	R1	R2	R3
P1	0	1	0	7	5	3	3	3	2
P2	2	0	0	3	2	2			

P3	3 0 2	9 0 2	
P4	2 1 1	2 2 2	
P5	0 0 2	4 3 3	

- a) What are the values of need Matrix
 - b) Is the system in safe state? If Yes, what is the safe sequence?
 - c) If a request from process P1 arrives for (1,0,2), can the request be granted immediately.
- IV. Define Strong and Weak Semaphore. Describe the deadlock free solution for Dining Philosopher Problem using semaphores.
- V. Describe Process Control Block with the help of neat diagram. Discuss what role does it play during context switching. Also, List the CPU scheduling criteria.
- VI. For the following reference string ,determine the number of page faults that occur with 3 frames using LRU, and Optimal page replacement policy:
1, 2, 3, 4, 2, 1, 5, 6, 2, 1, 2, 3, 3, 6.
- VII. For the give sequence of disk request, calculate the total distance travelled by disk head in satisfying the entire request for C-SCAN, C- LOOK and SSTF Disk scheduling algorithms. Initial head position is 100 and total number of cylinders in the disk is 200.
27, 129, 110, 186, 147, 41, 10, 64, 120

Section – B

Note : Attempt all questions.

(3x2=6)

- I. Define the following terms:
 - a) Seek Time
 - b) Rotational Latency
- II. Describe Indexed Sequential File Access Method.
- III. How the free space management is done in Operating System.

Note : Attempt all questions.

(3x3=9)

- I. List and Explain I/O Buffering Techniques.
- II. Compare and Describe First Fit, Best Fit and Next Fit memory allocation algorithms with the help of example.
- III. Describe the following terms:
 - a) Principle of Locality
 - b) Thrashing
 - c) External Fragmentation.

Printed Pages:3

University Roll No:

End Term Examination, Odd Semester 2019-20

B. Tech (CSE, CCV, IOT,DA,CSF), II Year, III Sem.

BCSC0005: Computer Organization

Time: 3 Hour

Maximum Marks: 50

Section-A

Attempt all questions.

7x5=35 Marks

I. List all the functional blocks of computer system. Describe all with their importance in computer system.

OR

Define Logical gate? List & define basic gates require to design logical circuit. Describe universal gates in brief.

II. A Program residing in the memory unit of the computer consists sequence of instructions. The program is executed in the computer by cycle of each instruction is called instruction cycle. The instruction cycle is subdivided in phases. Explain each phases of Instruction cycle?

III. Draw Instruction format. Why mode field required in instruction format? Explain any two addressing modes with example.

OR

Explain hardwired control unit with suitable diagram?

IV. A block-set associative cache memory consists of 128 blocks divided into four block sets. The main memory consists of 16,384 blocks and each block contains 256 eight-bit words. How many bits are required for addressing the main memory? How many bits are needed to represent the TAG, SET and WORD fields?

V. A microprocessor employs RAM chip of size $512 * 8$ and ROM chip of size $1024 * 8$. The System required to store 2K bytes in RAM & 1K bytes in ROM to designed Main Memory. What will be the size of Main Memory? How many address lines and data lines are required to access one word from main memory? How many RAM and ROM chips are required with address & data lines? Also specify decoder size required to access RAM memory in this organization?

OR

Draw Memory Pyramid. Explain the difference between various memories on the basis of Storage, Cost per bit, Access Mode & Speed.

VI. Explain DMA controller with DMA transfer with suitable diagram.

VII. Write short notes on:

- a) Virtual Memory b) CPU Organization c) Binary Adder

Section-B

I. Attempt all questions.

$3 \times 2 = 6$ Marks

A. Consider a system with 2 level memory. Access times of Main Memory and cache memory are 10 ns and 1 ns, respectively. The hit ratio of cache memory is 60%. What is average access time of the system?

B. IO interface provides a method for transferring information between internal storage and external IO devices. Peripheral connected to a computer need special communication link for interfacing. Special link is to resolve the difference between CPU and each peripheral. Write all the major differences?

C. What is Asynchronous data transfer? Explain strobe control & handshaking method for asynchronous data transfer.

II. Attempt all questions.

3 x 3 =9 Marks

A. List the names of modes of transfer in IO organization. Explain programmed IO with their drawback?

B. Define locality of reference in terms of cache memory? Explain various scheme to write in cache memory?

C. A system uses three-page frames for storing process pages in main memory. It uses the Least Recently Used (LRU) page replacement policy. Assume that all the page frames are initially empty. What is the total number of page faults that will occur while processing the page reference string given below-?

4, 7, 6, 1, 7, 6, 1, 2, 7, 2

Also calculate the hit ratio and miss ratio.

End Term Examination, Odd Semester 2019-20
B. Tech., (Common to all Branches), II-Year, III-Semester
BMAS 0103 : Engineering Mathematics-III

Time: 3 Hours

Max Marks: 50

Section-A**Note: Answer ALL the questions.****(7x5=35)**

- I. Obtain the half range sine series of the function

$$f(x) = kx(x-l) \text{ in } 0 \leq x \leq l.$$

- II. Solve the partial differential equation by the method of separation of variables:

$$3\frac{\partial u}{\partial x} + 2\frac{\partial u}{\partial y} = 0, \quad u(x, 0) = 4e^{-x}.$$

(OR)

Derive the various possible solutions of one-dimensional heat equation

$$\frac{\partial u}{\partial t} = c^2 \frac{\partial^2 u}{\partial x^2}$$

by the method of separation of variables.

- III. Use Laplace transform to evaluate:

$$\int_0^\infty te^{-3t} \cos 2t \, dt$$

(OR)

Find the Laplace transform of the half sine wave rectifier function

$$F(t) = \begin{cases} E \sin wt, & 0 < t < \frac{\pi}{w} \\ 0, & \frac{\pi}{w} < t < \frac{2\pi}{w} \end{cases}$$

and $F\left(t + \frac{2\pi}{w}\right) = F(t)$.

- IV. Prove that an analytic function with constant modulus is constant.
 V. Expand the following function in Laurent's series:

$$f(z) = \frac{z}{(z^2+1)(z^2+4)} \quad \text{in } -1 < |z| < 2$$

- VI. Evaluate the following integral using contour integration:

$$\int_0^{2\pi} \frac{d\theta}{5+3 \cos \theta}$$

- VII. Find the inverse Laplace transform of the following function:

$$f(p) = \frac{p^2}{(p^2+4)(p^2+9)}$$

(OR)

What is Fourier series? What must be the conditions that the function must possess for its Fourier series expansion? Also, expand the following function in Fourier series:

$$F(x) = \begin{cases} x, & 0 < x < 1 \\ 0, & 1 < x < 2 \end{cases}$$

Section-B

Note: Answer ALL the questions.

(3x2=6)

- I. Prove that $u = \frac{1}{2} \log(x^2 + y^2)$ is harmonic.
- II. 2. Expand $f(z) = \frac{1}{z}$ as a Taylor's series about the point $z = 1$.
- III. 3. Calculate the residue of $F(z) = \frac{z^2}{(z-1)(z-2)^2}$ at each of its singularity and hence find

$$\oint_C F(z) dz \quad \text{where, } c \text{ is } |z| = 1.5$$

Note: Answer ALL the questions.

(3x3=9)

- I. Prove that $f(z) = z^n$ is analytic; n is a constant.
- II. State and prove Cauchy's integral theorem.

- III. Find the residue of $f(z) = \frac{z \sin z}{(z - \pi)^3}$.

Printed Pages : 2

University Roll No:

**End Term Examination, Odd Semester 2019-20
B.Tech (CSE/CCV/DA/IoT), IIInd Year, IIIrd Semester
BCSC0002 : Object-Oriented Programming**

Time: 3 Hour

Maximum Marks: 50

Section-A

35 Marks

1. Explain the Object-Oriented paradigm in programming, describe at least 4 principles of Object-Oriented programming in detail.
2. Explain the relationship between a Java class and a package. Describe the visibility modifiers available to a Java program unit that resides inside a package in Java.
3. Compare and contrast between an Abstract Class and Interface in Java. Specify a scenario where either of those would be desirable.
4. Create two Threads in Java, one using the Thread class and the other using the Runnable Interface to sleep for 4 seconds and then print "Thread Completed". Create an execution class called MyMain to execute these threads. Set the priority of both the threads to a minimum.
5. Study the Exception handler code statement given below. Specify the names of Exception classes it can handle. Would it be advisable to use such a handler in your Java code, if not, why? Write appropriate try and finally blocks to match the catch clause.

```
catch(Exception exceptionObject) {  
    // exception handling statements  
}
```

6. Study the following class given below

```
public class Friend {  
    private int friendID;  
    private String friendName;  
    private long friendPhoneNumber;  
}
```

Create the following code for the above class

1. getter and setter methods
2. parameterized constructor with a call to the parent class constructor
3. overload the `toString()` method
4. create a static field count that will keep the current total count of Friend objects created
5. create a method `getCount` to return the current total count of Friend objects created

OR

Create a collection to store containing objects of Student class. The Student class would contain the following three private fields, int rollNumber, String name, double marks. Create a method printList to print all the details of the students who have an even roll number in the following manner:

2	Ram	52
4	Shyam	45
6	Mohan	67

7. Explain the phrase “Immutability of String objects in Java”. Explain using an example the creation of an object in heap memory and an object in string constant pool simultaneously. Also show the difference of == operator and equals method through example.

OR

Create an appropriate execution class and methods to calculate the area of a square, a circle and a rectangle using constructor overloading.

Section-B

3 x 2 = 6

Marks

1. Describe what do you understand by the term “Regular Expressions”? Define any 3 application areas of applications of regular expressions in programming.
2. Write the purpose of the following to create a JDBC program in Java.
 - I DriverManager
 - II ResultSet
 - III Statement
 - IV Connection
3. Create a constructor for a Student class in python with the following attributes rollno, name,marks.

Section-C

3 x 3 = 9

Marks

1. Name all the types of drivers available in JDBC and describe their purpose. Construct a program in Java to attempt a connection to a MySQL database whose URL is “localhost”, port number is 3306, username is “root” and password “”.
2. Using Regular Expression syntax for Java, create a Java program to input a mobile number from the user and check whether it is a valid mobile number. A valid mobile number can only contain ten digits with an optional ‘0’ at the beginning.
3. Explain Inheritance in Python with regards to its significance and types. Write a program to demonstrate multilevel inheritance in Python.

SET-A

Printed Pages:14

University Roll No.....

End Term Examination, Odd Semester 2019-20

B. Tech (All Branches), II Year, III Semester

Subject: English for Professional Purposes-I

Subject Code: BELH-0003

Time: 3 Hours

Maximum Marks: 50

Note: Word limit for the questions in Section A is 75 while for the questions in Section B it is 150.

PART A - ORAL SKILLS

Section- A

$4 \times 2 = 08$ Marks

Attempt all the questions.

1. Write the following phonetically transcribed words in English Alphabet:
A. /bəuld/ B. /ɔ:l'redi/ C. /kɔ:l/ D. /pə'teitəu/
E. /fɛindʒ/ F. /en,dʒɪ'nieə/ G. /ə'sju:m/ H. /'ti:tʃə/
2. A. How -s is pronounced in the following words (Write IPA symbols):
A. girls B. jeans C. monkeys D. cats
B. How -ed is pronounced in the following words (Write IPA symbols):
A. peaked B. messed C. painted D. chaired
3. Write a note on coherence and cohesion in paragraph writing.
4. Should you have strong views for or against a notion or should you be more conciliatory in a GD? Illustrate.

Section- B

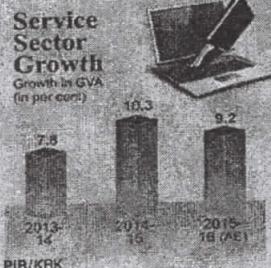
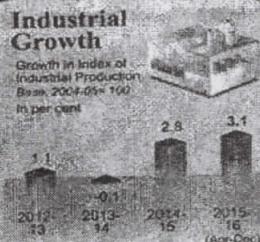
$3 \times 4 = 12$ Marks

Attempt all the questions.

5. Discuss organizational barriers to communication and suggest the ways to overcome them.
6. On behalf of GLA University, Mathura to Modern Furniture, New Delhi, write an email asking for the quotation of prices for their plastic furniture for office. Enquire also about the guarantee, concession and the mode of payment.
7. Draw inferences and interpret the following:



Indian Economy: A Snapshot



PART B- VERBAL APTITUDE

Attempt all the questions.

30 Marks

Change the following sentences into Indirect Speech (1-8):

- They said, "It is raining today."
 - They said that it was raining that day.
 - They said that it has been raining yesterday.
 - They said that was raining today.
 - They said that it is being raining that day.
 - They said that it rained that day.
- Rekha said to him, "I am leaving now and shall return after two hours."
 - Rekha asked him that she was leaving then and would return after two hours.
 - Rekha told him that she was leaving then and would return after two hours.
- Rohan said to Mohan, "Idiot."
 - Rohan told Mohan that he is an idiot.
 - Rohan asked Mohan an idiot.
 - Rohan told Mohan to be an idiot.
 - Rohan called Mohan an idiot.
 - None of the above

4. Nina said to Meesha, " Why are you late?"
- A. Nina asked Meesha why she was late.
 - B. Nina told Meesha that she was late.
 - C. Neena told Meesha that she is being late.
 - D. Neena asked Meesh why was she late.
 - E. None of the above
5. My father said, " You have caught cold again."
- A. My father asked me that I had caught cold again.
 - B. My father told me that I had caught cold again.
 - C. My father told me he had caught cold again.
 - D. My father told me that you had caught cold again.
 - E. My father told me that he has caught cold again.
6. She said to him, " honesty is the best policy."
- A. She told him that honesty is the best policy.
 - B. She told him that honesty was the best policy.
 - C. She told him that honesty has been the best policy.
 - D. She said him that honesty is the best policy.
 - E. None of the above
7. His wife said to him, " Do you know that I am hungry?"
- A. His wife asked him if he knew that she was hungry.
 - B. His wife told him if he knew that she was hungry.
- C. His wife asked him if he had known that she was hungry.
- D. His wife asked him if he knew that I was hungry.
- E. None of the above
8. Raju said, " If I were a teacher!"
- A. Raju wished that he had been a teacher.
 - B. Raju had wished that he had been teacher.
 - C. Raju wished that if he had been teacher.
 - D. Raju wished that if he was been teacher.
 - E. None of the above

Choose the most appropriate option (9-37)

9. I will go to Banaras if you _____ me 500 rupees.
- A. will give
 - B. give
 - C. gave
 - D. would give
 - E. None of the above
10. He _____ in that university for ten years but does not work now.
- A. has worked
 - B. worked
 - C. will work
 - D. had worked
 - E. None of these
11. Ramesh _____ three times this morning. (Time of speaking – 4 p. m.)
- A. rang up
 - B. has rung up
 - C. had rung up
 - D. ring up
 - E. None of these
12. He _____ me to play chess with him. But it was ten years since I had played chess.
- A. invited
 - B. had invited

- C. was invited D. had been invited
E. none of these
13. We have carefully gone through the email which you _____ me on Aug. 26, 2019.
A. had sent B. sent
C. have sent D. send
E. None of these
14. If I _____ Prime Minister of India, I would have sent all the corrupts jail.
A. am B. were
C. will be D. would be
E. None of these
15. TRUCK AND CAR _____ (a newspaper headline)
A. COLLIDED
B. COLLIDE
C. WAS COLLIDED
D. HAD COLLIDED
E. None of these
16. The prisoners have escaped from the jail. They _____ a ladder which had been left behind by some workmen.
A. used B. had used
C. have used D. had been used
E. None of these
17. Narayan was in uniform when I met him. He _____ a soldier for ten years.
A. has been B. was
C. had been D. is
E. None of these
18. What does that notice say? – It _____, "No parking."
A. says B. said
C. will say D. has said
E. None of these
19. My grandmother once _____ Queen Victoria.
A. met B. had met
C. has met D. meets
E. None of these
20. The invention of new languages is of great interest to me.
A. Noun Phrase
B. Adjective Phrase
C. Adverb Clause
D. Verb Phrase
E. Noun Clause
21. He hit me with a stick.
A. Noun Phrase
B. Adjective Phrase
C. Adverb Phrase
D. Verb Phrase
E. None of these
22. The blue eyed girl sitting on the sofa is my sister.
A. Simple Sentence
B. Complex Sentence
C. Compound Sentence
D. Adjective phrase
E. Noun Phrase
23. Disha and Preeti are studying mathematics.
A. Noun Phrase
B. Adjective Phrase
C. Adverb Phrase
D. Verb Phrase
E. None of these
24. Rohan called Sohan an idiot.
A. Noun Phrase

- B. Adjective Phrase
 - C. Adverb Phrase
 - D. Verb Phrase
 - E. Complex Sentence
25. Tell me what your age is.
- A. Noun Phrase
 - B. Adjective Phrase
 - C. Principal Clause
 - D. Subordinate Clause
 - E. None of these
26. The teacher whom I liked most has resigned.
- A. Adjective Phrase
 - B. Adjective Clause
 - C. Principal Clause
 - D. Noun Clause
 - E. Adverb Phrase
27. Hell is what evil is in us.
- A. Adjective Phrase
 - B. Adjective Clause
 - C. Principal Clause
 - D. Noun Clause
 - E. Adverb Phrase
28. They beat poor Mahngu so hard that he spat blood for months.
- A. Simple Sentence
 - B. Complex Sentence
 - C. Compound Sentence
 - D. Main Clause
 - E. Adverb Phrase
29. The place where I live is very lonely.
- A. Adjective Phrase
 - B. Adjective Clause
 - C. Principal Clause
 - D. Noun Clause
 - E. Adverb Clause
30. If he joins us tomorrow, he will teach Phonetics.
- A. Adjective Phrase
 - B. Adjective Clause
- C. Principal Clause
 - D. Noun Clause
 - E. Adverb Clause
31. As soon as he received the telegram, he left in taxi.
- A. Dependent Clause
 - B. Complex Sentence
 - C. Adjective Phrase
 - D. Compound Sentence
 - E. None of these
32. His conduct among people was fair and square.
- A. Noun Phrase
 - B. Adjective Phrase
 - C. Adverb Phrase
 - D. Verb Phrase
 - E. Independent Clause
33. All existing business models are
- A. Transitive Verb
 - B. Past Participle
 - C. Gerund
 - D. Present Participle
 - E. Infinitive
34. Walking us good for health.
- A. Infinitive
 - B. Gerund
 - C. Past Participle
 - D. Present Participle
 - E. Transitive Verb
35. They run on NH2 everyday.
- A. Transitive Verb
 - B. Past Participle
 - C. Gerund
 - D. Present Participle
 - E. Intransitive Verb

36. We met a wounded soldier in the jungle.
- Infinitive
 - Linking Verb
 - Past Participle
 - Present Participle
 - Finite Verb
37. The rose smells sweet.
- Infinitive
 - Linking Verb
 - Past Participle
 - Present Participle
 - Gerund
- Identify the following sentences as simple, complex, compound or Compound-complex (38-45):**
38. If you are a stylistician what would you do with it?
- Simple
 - Compound
 - Complex
 - Compound-complex
 - None of the above
39. You relate it to meaning; to context; to your response; to social awareness; to genre studies; to whatever else it is that constitutes literary studies.
- Simple
 - Compound
 - Complex
 - Compound-complex
 - None of the above
40. The analysis has provided the means for you to relate the text to your own experience of language and reality.
- A. Simple B. Compound
 C. Complex
 D. Compound-complex E. None of the above
41. You are no longer dependent upon the literary or linguistic ideologues dispensing their judgments to you.
- Simple
 - Compound
 - Complex
 - Compound-complex
 - Both A and B
42. Man is the only creature that consumes without producing.
- Simple
 - Compound
 - Complex
 - Compound-complex
 - None of the above
43. He does not give milk, he does not lay eggs, he is too weak to pull the plough, and he cannot run fast enough to catch rabbits.
- Simple
 - Compound
 - Complex
 - Compound-complex
 - None of the above
44. Yet he is lord of all the animals.
- Simple
 - Compound
 - Complex
 - Compound-complex
 - None of the above
45. He sets them to work and gives back to them the bare minimum that will prevent them from starving.
- Simple B. Compound
 C. Complex

- D. Compound-complex
- E. None of the above

Do as directed (46-50)

- 46. I went to Agra. I saw the Taj.
(combine into compound sentence)
 - A. I went to Agra and saw the Taj.
 - B. I went to Agra to see the Taj.
 - C. I saw the Taj because I went to Agra.
 - D. It is good to see the Taj if you go to Agra.
 - E. None of these
- 47. He is too weak to lift this log.
(change into complex sentence)
 - A. He is weak and he cannot lift this log.
 - B. He is so weak that he cannot lift this log.
 - C. He is weak therefore he will not lift this log.
 - D. He is so weak that he will lift this log.
 - E. None of these
- 48. We read the notice. We did not attend the classes.
(combine into simple sentence)
 - A. We read the notice so we did not attend the classes.
 - B. We read the notice and we did not attend the classes.
 - C. We should have attended the classes after reading the notice.
 - D. We did not attend the classes after reading the notice.
 - E. None of these
- 49. Raju wished that he had been a teacher.
(change into simple sentence)
 - A. Raju wished to be a teacher.
 - B. Raju had wished that he had been teacher.
 - C. Raju wished that if he was been teacher.
 - D. Raju became a teacher.
 - E. None of these
- 50. He sets them to work and gives back to them the bare minimum.
(change into complex)
 - A. He sets them to work but gives back to them the bare minimum.
 - B. He sets them to work so he gives back to them the bare minimum.
 - C. Although he sets them to work, he gives back to them the bare minimum.
 - D. He gives back them the bare minimum to set them work.
 - E. None of these

Identify the types of the underlined word/words (51-56):

- 51. The issue of bilingual education has, nevertheless, served to unite the leadership of the nation's Hispanic communities.
 - A. Noun
 - B. Adjective
 - C. Adverb
 - D. Bare infinitive
 - E. Clause
- 52. Bilingual education can serve different purposes, however.
 - A. Adjective
 - B. Noun
 - C. Adverb
 - D. Verb
 - E. Preposition
- 53. You relate it to meaning: to context; to your response; to social awareness; to genre studies; to whatever else it is that constitutes literary studies.

- A. Noun B. Adverb
- C. Verb D. Preposition
- E. Adjective

54. Who was Solomon?

- A. Adjective B. Verb C. Noun
 - D. Pronoun E. None of these
55. The old widow woman asked the solicitor to draw up her will?
- A. Adjective B. Verb C. Noun
 - D. Pronoun E. None of these
56. Immigrants' adoption of English as their primary language is one measure of assimilation into the larger United States society.
- A. Conjunction B. Adjective
 - C. Adverb D. Preposition
 - E. None of these

Identify the word formation

process involved in the formation of the given words (57-60):

57. NASA
- A. Affixation B. Clipping
 - C. Acronym D. Coinage
 - E. None of the above
58. Assimilation
- A. Affixation B. Compounding
 - C. Blending D. Suppletion
 - E. Clipping
59. Lab
- A. Affixation B. Compounding
 - C. Blending D. Suppletion
 - E. Clipping
60. Nicotine
- A. Affixation B. Compounding
 - C. Blending D. Coinage
 - E. None of these

Identify the part of the sentence which contains grammatical error (61-70)

61. When he comes (A)/ I would (B)/ make sure (C)/ I meet him.(D)/ No error (E)
62. He is serving (A)/ under me for (B)/ the last several years but (C)/ I cannot claim even today that I have understood him thoroughly (D)/. No error (E)
63. I learnt (A)/ from my father (B)/ that honesty was (B)/ the best policy (D)/. No error (E)
64. Neither the students (A)/ nor the teacher (B)/ have done his (C)/ lesson. (D)/ No error (E)
65. Most of us are not aware (A)/ that (B)/ eating some varieties (C)/ of mushrooms result (D)/ in death. No error (E)
66. Many a man (A)/ have come to India from Bangladesh (B) /to live here (C)/ permanently (D)/. No error (E)
67. *Three Idiots* leaves (A)/ an indelible influence (B)/ on the young minds (C) whenever they watch it (D)/. No error (E)
68. Despite the prevalence of small female entrepreneurs (A)/ in developing countries, recent research suggest (B)/ that women do not benefit from loans in the same way as men do, (C)/leading to questions about the value of offering financial services to them (D)/. No Error (E)

69. Since Rohan has not (A)/ yet attained the age of eighteen (B)/, he had no right (C)/ to vote in the present election (D)/. No error (E)
70. Neither the size (A)/ nor the colour (B)/ of the gloves (C)/ were right (D)/. No error (E)
- Change Active Voice into Passive Voice, and vice versa, as the case may be (71- 75)**
71. One should avoid honking the horn unnecessarily.
- A. Unnecessary honking of horn ought to be avoided.
 - B. Unnecessary honking of horn can be avoided.
 - C. Unnecessary honking of horn should be avoided.
 - D. Unnecessary honking of horn must be avoided.
 - E. None of the above
72. The scheme permits investors to buy the shares from foreign companies.
- A. Under the scheme the investors may be permitted to buy shares from foreign companies.
 - B. Under the scheme the investors have been permitted to buy shares from foreign companies.
 - C. Under the scheme the investors are permitted to buy shares from foreign companies.
 - D. Under the scheme the investors were permitted to buy shares from foreign companies.
 - E. None of the above
73. They created such a fuss over a trivial matter.
- A. Such a fuss is being created over a trivial matter.
- B. Such a fuss was created over a trivial matter.
- C. Such a fuss has been created over a trivial matter.
- D. By them such a fuss has been created over a trivial matter.
- E. None of the above
74. The people couldn't move me to the hospital and the doctor operated on me at home.
- A.I couldn't be moved to the hospital and was operated on at home by the doctor.
 - B.I couldn't be moved to the hospital and I had to be operated on at home.
 - C.I couldn't be moved to the hospital and I was operated at home by the doctor.
 - D.I couldn't be moved to the hospital by the people and operated on at home.
 - E. None of the above
75. The news has been brought to us by him.
- A. He brought us the news.
 - B. He has brought us the news
 - C. He was brought the news to us.
 - D. We brought the news to him.
 - E. None of the above
- Do as directed (76-81)**
76. I order you to return the book (change into imperative sentence)
- A. Return the book.
 - B. Why are you not returning the book?
 - C. Will you return the book?

- D. You are advised to return the book.
E. None of the above
77. It was not delightful of you to make such a statement. (change into interrogative sentence)
A. Do you think before making statements?
B. Isn't it good to think before you speak?
C. What were you thinking while making this statement?
D. Wasn't it thoughtless of you to make such a statement?
E. None of the above
78. Is this not a reward in itself? (change into assertive sentence)
A. This is not rewarding me.
B. Rewards are hard to come by.
C. This is a reward in itself.
D. Don't do it only for the reward.
E. None of the above
79. I missed the train. (Change into negative sentence)
A. I could not catch the train.
B. I did not miss the train.
C. I can not catch the train.
D. I will not catch the train.
E. None of the above
80. You have a nice dress. (change into exclamatory sentence)
A. Your dress has a nice design.
B. Did you get the dress at a discount?
C. Your dress is not bad.
D. What a nice dress you have.
E. None of the above
81. Only he can bring the grapes. (Change into negative sentence)
A. He will not bring the grapes.
B. Only he will not bring the grapes.
C. None but he can bring the grapes
D. Will he not bring the grapes?
E. None of these

Read the passages given below and answer the questions that follow
(Q. 82-90)

Passage 1

In nearly all human populations a majority of individuals can taste the artificially synthesized chemical phenylthiocarbonide (PTC). However, the percentage varies dramatically--from as low as 60% in India to as high as 95% in Africa. That this polymorphism is observed in non-human primates as well indicates a long evolutionary history which, although obviously not acting on PTC, might reflect evolutionary selection for taste discrimination of other, more significant bitter substances, such as certain toxic plants.

A somewhat more puzzling human polymorphism is the genetic variability in earwax, or cerumen, which is observed in two varieties. Among European populations 90% of individuals have a sticky yellow variety rather than a dry, gray one, whereas in northern China these numbers are approximately the reverse. Perhaps like PTC variability, cerumen variability is an incidental expression of something more adaptively significant. Indeed, the observed relationship between

cerumen and odorous bodily secretions, to which non-human primates and, to a lesser extent human, pay attention suggests that during the course of human evolution genes affecting body secretions, including cerumen, came under selective influence.

82. It can be inferred from the passage that human populations vary considerably in their

- A. ability to assimilate artificial chemicals
- B. vulnerability to certain toxins found in plants
- C. ability to discern bitterness in taste
- D. sensitivity to certain bodily odors
- E. None of these

83. Which of the following provides the most reasonable explanation for the assertion in the first paragraph that evolutionary history "obviously" did not act on PTC?

- A. PTC is not a naturally occurring chemical but rather has been produced only recently by scientists.
- B. Most humans lack sufficient taste sensitivity to discriminate between PTC and bitter chemicals occurring naturally.
- C. Variability among humans respecting PTC discrimination, like variability respecting earwax, cannot be explained in terms of evolutionary adaptivity.
- D. Unlike non-human primates, humans can discriminate intellectually between toxic and non-toxic bitter substances.
- E. None of these

84. Which of the following best expresses the main idea of the passage?

- A. Artificially synthesized chemicals might eventually serve to alter the course of evolution by desensitizing humans to certain tastes and odors.
- B. Some human polymorphisms might be explained as vestigial evidence of evolutionary adaptations that still serve vital purposes in other primates.
- C. Sensitivity to taste and to odors have been subject to far greater natural selectivity during the evolution of primates than previously thought.
- D. Polymorphism among human populations varies considerably from region to region throughout the world.
- E. None of these

85. It can be inferred from the passage that

- A. The amount of bodily odours and secretion that take place reduce at each stage of evolution.
- B. The extent of attention paid by non-human primates to body secretions is much higher than that of the more evolved human species.
- C. Artificially synthesized chemicals have impaired the extent of sensitivity that human beings have to body secretions.
- D. All of these
- E. None of these

Passage 2

Immigrants' adoption of English as their primary language is one measure of assimilation into the larger United States society. Generally, languages define social groups and provide justification for social structures. Hence, a distinctive language sets a cultural group off from the dominant language group. Throughout United States history this pattern has resulted in one consistent, unhappy consequence, discrimination against members of the cultural minority. Language differences provide both a way to rationalize subordination and a ready means for achieving it. (having or giving style or distinction) Traditionally, English has replaced the native language of immigrant groups by the second or third generation. Some characteristics of today's Spanish-speaking population, however, suggest the possibility of a departure from this historical pattern. Many families retain ties in Latin America and move back and forth between their present and former communities. This "revolving door" phenomenon, along with the high probability of additional immigrants from the south, means that large Spanish-speaking communities are likely to exist in the United States for the indefinite future.

This expectation underlies the call for national support for bilingual education in Spanish-speaking communities' public schools. Bilingual education can serve

different purposes, however. In the 1960s, such programs were established to facilitate the learning of English so as to avoid disadvantaging children in their other subjects because of their limited English. More recently, many advocates have viewed bilingual education as a means to maintain children's native languages and cultures. The issue is important for people with different political agendas, from absorption at one pole to separatism at the other. (an underlying often ideological plan or program "a political agenda") To date, the evaluations of bilingual education's impact on learning have been inconclusive. The issue of bilingual education has, nevertheless, served to unite the leadership of the nation's Hispanic communities. Grounded in concerns about status that are directly traceable to the United States history of discrimination against Hispanics, the demand for maintenance of the Spanish language in the schools is an assertion of the worth of a people and their culture. If the United States is truly a multicultural nation—that is, if it is one culture reflecting the contributions of many—this demand should be seen as a demand not for separation but for inclusion. (leading to no conclusion or definite result) (the act of asserting; also: DECLARATION, AFFIRMATION) More direct efforts to force inclusion can be misguided. For example, movements to declare English the

official language do not truly advance the cohesion of a multicultural nation. They alienate the twenty million people who do not speak English as their mother tongue. They are unnecessary since the public's business is already conducted largely in English. Further, given the present state of understanding about the effects of bilingual education on learning, it would be unwise to require the universal use of English. Finally, it is for parents and local communities to choose the path they will follow, including how much of their culture they want to maintain for their children.

86. It can be inferred from the passage that one of the characteristics of immigrant groups to the United States has traditionally been that, after immigration, relatively few members of the group
- A. became politically active in their new communities
 - B. moved back and forth repeatedly between the United States and their former communities
 - C. used their native languages in their new communities
 - D. suffered discrimination in their new communities at the hands of the cultural majority
 - E. sought assimilation into the dominant culture of the new communities they were entering
87. The passage suggests that one of the effects of the debate over bilingual education is that it has

- A. given the Hispanic community a new-found pride in its culture
 - B. hampered the education of Spanish-speaking students
 - C. demonstrated the negative impact on imposing English as the official United States language
 - D. provided a common banner under which the Spanish-speaking communities could rally
 - E. polarized the opinions of local Spanish-speaking community leaders
88. The phrase "different political agendas" in para 2 refers specifically to conflicting opinions regarding the
- A. means of legislating the assimilation of minorities into United States society
 - B. methods of inducing Hispanics to adopt English as their primary language
 - C. means of achieving nondiscriminatory education for Hispanics
 - D. official given responsibility for decisions regarding bilingual education
 - E. extent to which Hispanics should blend into the larger United States society
89. The author says that "It would be unwise to require the universal use of English." (towards the end of para 2) One reason for this, according to the author, is that
- A. it is not clear yet whether requiring the universal use of

- English would promote or hinder the education of children whose English is limited
- B. the nation's Hispanic leaders have shown that bilingual education is most effective when it includes the maintenance of the Spanish language in the schools
- C. requiring the universal use of English would reduce the cohesion of the nation's Hispanic communities and leadership
- D. the question of language in the schools should be answered by those who evaluate bilingual education, not by people with specific political agendas
- E. it has been shown that bilingual education is necessary to avoid disadvantaging in their general learning children whose English is limited
90. In the last paragraph, the author of the passage is primarily concerned with discussing
- A. reasons against enacting a measure that would mandate the forced inclusion of immigrant groups within the dominant United culture
- B. the virtues and limitations of declaring English the official language of the United States
- C. the history of attitudes within the Hispanic community toward bilingual education in the United States
- D. the importance for immigrant groups of maintaining large segments of their culture to pass on to their children
- E. the difference in cultures between Hispanics and other immigrant groups in the United States

BMA/AS/01/3

SET-B

Printed Pages:14

University Roll No.....

End Term Examination, Odd Semester 2019-20

B. Tech (All Branches), II Year, III Semester

Subject: English for Professional Purposes-I

Subject Code: BELH-0003

Time: 3 Hours

Maximum Marks: 50

Note: Word limit for the questions in Section A is 75 while for the questions in Section B it is 150.

PART A - ORAL SKILLS

Section- A

$4 \times 2 = 08$ Marks

Attempt all the questions.

1. Write the following phonetically transcribed words in English Alphabet:
A. /bəuld/ B. /ɔ:l'redi/ C. /kɔ:l/ D. /pə'teitəʊ/
E. /ʃeindʒ/ F. /en.dʒɪ'næs/ G. /ə'sju:m/ H. /'ti:tʃə/
2. A. How -s is pronounced in the following words (Write IPA symbols):
A. girls B. jeans C. monkeys D. cats
B. How -ed is pronounced in the following words (Write IPA symbols):
A. peaked B. messed C. painted D. chaired
3. Write a note on coherence and cohesion in paragraph writing.
4. Should you have strong views for or against a notion or should you be more conciliatory in a GD? Illustrate.

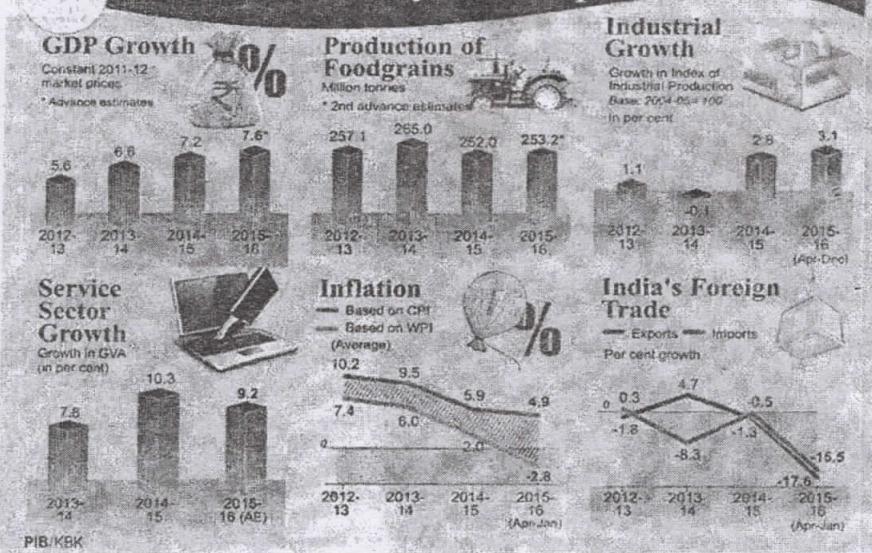
Section- B

$3 \times 4 = 12$ Marks

Attempt all the questions.

5. Discuss organizational barriers to communication and suggest the ways to overcome them.
6. On behalf of GLA University, Mathura to Modern Furniture, New Delhi, write an email asking for the quotation of prices for their plastic furniture for office. Enquire also about the guarantee, concession and the mode of payment.
7. Draw inferences and interpret the following:

1 Indian Economy: A Snapshot



PART B- VERBAL APTITUDE

Attempt all the questions.

30 Marks

Choose the most appropriate option (1-29)

- I will go to Banaras if you _____ me 500 rupees.
A. will give B. give
C. gave D. would give
E. None of the above
- He _____ in that university for ten years but does not work now.
A. has worked B. worked
C. will work D. had worked
E. None of these
- Ramesh _____ three times this morning. (Time of speaking – 4 p. m.)
A. rang up B. has rung up
C. had rung up D. ring up
E. None of these

- A. rang up B. has rung up
C. had rung up D. ring up
E. None of these
- He _____ me to play chess with him. But it was ten years since I had played chess.
A. invited B. had invited
C. was invited D. had been invited
E. none of these
- We have carefully gone through the email which you _____ me on Aug. 26, 2019.
A. had sent B. sent
C. have sent D. send
E. None of these

6. If I _____ Prime Minister of India, I would have sent all the corrupts jail.
A. am B. were C. will be
D. would be E. None of these
7. TRUCK AND CAR _____ (a newspaper headline)
A. COLLIDED B. COLLIDE
C. WAS COLLIDED
D. HAD COLLIDED
E. None of these
8. The prisoners have escaped from the jail. They _____ a ladder which had been left behind by some workmen.
A. used B. had used
C. have used D. had been used
E. None of these
9. Narayan was in uniform when I met him. He _____ a soldier for ten years.
A. has been B. was
C. had been D. is
E. None of these
10. What does that notice say? – It _____, "No parking."
A. says B. said
C. will say D. has said
E. None of these
11. My grandmother once _____ Queen Victoria.
A. met B. had met
C. has met D. meets
E. None of these
12. The invention of new languages is of great interest to me.
A. Noun Phrase
B. Adjective Phrase
C. Adverb Clause
D. Verb Phrase
E. Noun Clause
13. He hit me with a stick.
A. Noun Phrase
B. Adjective Phrase
C. Adverb Phrase
D. Verb Phrase
E. None of these
14. The blue eyed girl sitting on the sofa is my sister.
A. Simple Sentence
B. Complex Sentence
C. Compound Sentence
D. Adjective phrase
E. Noun Phrase
15. Disha and Preeti are studying mathematics.
A. Noun Phrase
B. Adjective Phrase
C. Adverb Phrase
D. Verb Phrase
E. None of these
16. Rohan called Sohan an idiot.
A. Noun Phrase
B. Adjective Phrase
C. Adverb Phrase
D. Verb Phrase
E. Complex Sentence
17. Tel me what your age is.
A. Noun Phrase
B. Adjective Phrase
C. Principal Clause
D. Subordinate Clause
E. None of these

18. The teacher whom I liked most has resigned.
A. Adjective Phrase
B. Adjective Clause
C. Principal Clause
D. Noun Clause
E. Adverb Phrase
19. Hell is what evil is in us.
A. Adjective Phrase
B. Adjective Clause
C. Principal Clause
D. Noun Clause
E. Adverb Phrase
20. They beat poor Mahngu so hard that he spat blood for months.
A. Simple Sentence
B. Complex Sentence
C. Compound Sentence
D. Main Clause
E. Adverb Phrase
21. The place where I live is very lonely.
A. Adjective Phrase
B. Adjective Clause
C. Principal Clause
D. Noun Clause
E. Adverb Clause
22. If he joins us tomorrow, he will teach Phonetics.
A. Adjective Phrase
B. Adjective Clause
C. Principal Clause
D. Noun Clause
E. Adverb Clause
23. As soon as he received the telegram, he left in taxi.
A. Dependent Clause
B. Complex Sentence
C. Adjective Phrase
D. Compound Sentence
E. None of these
24. His conduct among people was fair and square.
A. Noun Phrase
B. Adjective Phrase
C. Adverb Phrase
D. Verb Phrase
E. Independent Clause
25. All existing business models are wrong.
A. Transitive Verb
B. Past Participle
C. Gerund
D. Present Participle
E. Infinitive
26. Walking us good for health.
A. Infinitive
B. Gerund
C. Past Participle
D. Present Participle
E. Transitive Verb
27. They run on NH2 everyday.
A. Transitive Verb
B. Past Participle
C. Gerund
D. Present Participle
E. Intransitive Verb
28. We met a wounded soldier in the jungle.
A. Infinitive
B. Linking Verb
C. Past Participle
D. Present Participle
E. Finite Verb
29. The rose smells sweet.
A. Infinitive
B. Linking Verb
C. Past Participle

D. Present Participle

E. Gerund

Change the following sentences into Indirect Speech (30-37):

30. They said, "It is raining today."

- A. They said that it was raining that day.
- B. They said that it has been raining yesterday.
- C. They said that was raining today.
- D. They said that it is being raining that day.
- E. They said that it rained that day.

31. Rekha said to him, "I am leaving now and shall return after two hours."

- A. Rekha asked him that she was leaving then and would return after two hours.
- B. Rekha told him that she was leaving then and would return after two hours.
- C. Rekha told him that she was leaving and would return after two hours.
- D. Rekha told him that she has been leaving then and would return after two hours.
- E. Rekha told him that she had left then and would return after two hours.

32. Rohan said to Mohan, "Idiot."

- A. Rohan told Mohan that he is an idiot.
- B. Rohan asked Mohan an idiot.
- C. Rohan told Mohan to be an idiot.
- D. Rohan called Mohan an idiot.
- E. None of the above

33. Nina said to Meesha, " Why are you late?"

- A. Nina asked Meesha why she was late.
- B. Nina told Meesha that she was late.
- C. Neena told Meesha that she is being late.
- D. Neena asked Meesh why was she late.
- E. None of the above

34. My father said, "You have caught cold again."

- A. My father asked me that I had caught cold again.
- B. My father told me that I had caught cold again.
- C. My father told me he had caught cold again.
- D. My father told me that you had caught cold again.
- E. My father told me that he has caught cold again.

35. She said to him, "honesty is the best policy."

- A. She told him that honesty is the best policy.
- B. She told him that honesty was the best policy.
- C. She told him that honesty has been the best policy.
- D. She said him that honesty is the best policy.
- E. None of the above

36. His wife said to him, "Do you know that I am hungry?"

- A. His wife asked him if he knew that she was hungry.
- B. His wife told him if he knew that she was hungry.

- C. His wife asked him if he had known that she was hungry.
D. His wife asked him if he knew that I was hungry.
E. None of the above
37. Raju said, "If I were a teacher!"
A. Raju wished that he had been a teacher.
B. Raju had wished that he had been teacher.
C. Raju wished that if he had been teacher.
D. Raju wished that if he was been teacher.
E. None of the above
- Identify the following sentences as simple, complex, compound or Compound-complex (38-45):**
38. If you are a stylistician what would you do with it?
A. Simple
B. Compound
C. Complex
D. Compound-complex
E. None of the above
39. You relate it to meaning: to context; to your response; to social awareness; to genre studies; to whatever else it is that constitutes literary studies.
A. Simple
B. Compound
C. Complex
D. Compound-complex
E. None of the above
40. The analysis has provided the means for you to relate the text to your own experience of language and reality.
A. Simple
- B. Compound
- C. Complex
- D. Compound-complex
- E. None of the above
41. You are no longer dependent upon the literary or linguistic ideologues dispensing their judgments to you.
A. Simple
B. Compound
C. Complex
D. Compound-complex
E. Both A and B
42. Man is the only creature that consumes without producing.
A. Simple
B. Compound
C. Complex
D. Compound-complex
E. None of the above
43. He does not give milk, he does not lay eggs, he is too weak to pull the plough, and he cannot run fast enough to catch rabbits.
A. Simple
B. Compound
C. Complex
D. Compound-complex
E. None of the above
44. Yet he is lord of all the animals.
A. Simple
B. Compound
C. Complex
D. Compound-complex
E. None of the above
45. He sets them to work and gives back to them the bare minimum that will prevent them from starving.
A. Simple
B. Compound

- C. Complex
- F. Compound-complex
- G. E. None of the above

Do as directed (46-50)

46. I went to Agra. I saw the Taj.
(combine into compound sentence)
- A. I went to Agra and saw the Taj.
 - B. I went to Agra to see the Taj.
 - C. I saw the Taj because I went to Agra.
 - D. It is good to see the Taj if you go to Agra.
 - E. None of these
47. He is too weak to lift this log.
(change into complex sentence)
- A. He is weak and he cannot lift this log.
 - B. He is so weak that he cannot lift this log.
 - C. He is weak therefore he will not lift this log.
 - D. He is so weak that he will lift this log.
 - E. None of these
48. We read the notice. We did not attend the classes. (combine into simple sentence)
- A. We read the notice so we did not attend the classes.
 - B. We read the notice and we did not attend the classes.
 - C. We should have attended the classes after reading the notice.
 - D. We did not attend the classes after reading the notice.
 - E. None of these
49. Raju wished that he had been a teacher. (change into simple sentence)

- A. Raju wished to be a teacher.
 - B. Raju had wished that he had been teacher.
 - C. Raju wished that if he was been teacher.
 - D. Raju became a teacher.
 - E. None of these
50. He sets them to work and gives back to them the bare minimum.
(change into complex)
- A. He sets them to work but gives back to them the bare minimum.
 - B. He sets them to work so he gives back to them the bare minimum.
 - C. Although he sets them to work, he gives back to them the bare minimum.
 - D. He gives back them the bare minimum to set them work.
 - E. None of these

Identify the types of the underlined word/words (51-56):

51. The issue of bilingual education has, nevertheless, served to unite the leadership of the nation's Hispanic communities.
- A. Noun B. Adjective
 - C. Adverb D. Bare infinitive
 - E. Clause
52. Bilingual education can serve different purposes, however.
- A. Adjective B. Noun
 - C. Adverb D. Verb
 - E. Preposition

53. You relate it to meaning; to context; to your response; to social awareness; to genre studies; to whatever else it is that constitutes literary studies.

- A. Noun B. Adverb
- C. Verb D. Preposition
- E. Adjective

54. Who was Solomon?

- A. Adjective B. Verb C. Noun
- D. Pronoun E. None of these

55. The old widow woman asked the solicitor to draw up her will?

- A. Adjective B. Verb C. Noun
- D. Pronoun E. None of these

56. Immigrants' adoption of English as their primary language is one measure of assimilation into the larger United States society.

- A. Conjunction B. Adjective
- C. Adverb D. Preposition
- E. None of these

Identify the word formation process involved in the formation of the given words (57-60):

57. NASA

- A. Affixation B. Clipping
- C. Acronym D. Coinage
- E. None of the above

58. Assimilation

- A. Affixation B. Compounding
- C. Blending D. Suppletion
- E. Clipping

59. Lab

- A. Affixation
- B. Compounding
- C. Blending
- D. Suppletion
- E. Clipping

60. Nicotine
- A. Affixation
 - B. Compounding
 - C. Blending
 - D. Coinage
 - E. None of these

Identify the part of the sentence which contains grammatical error (61-70)

61. When he comes (A)/ I would (B)/ make sure (C)/ I meet him.(D)/ No error (E)

62. He is serving (A)/ under me for (B)/ the last several years but (C) / I cannot claim even today that I have understood him thoroughly (D)./ No error (E)

63. I learnt (A)/ from my father (B)/ that honesty was (B)/ the best policy (D)./ No error (E)

64. Neither the students (A)/ nor the teacher (B)/ have done his (C)/ lesson. (D) No error (E)

65. Most of us are not aware (A)/ that (B)/ eating some varieties (C)/ of mushrooms result (D)/ in death. No error (E)

66. Many a man (A)/ have come to India from Bangladesh (B) /to live here (C)/ permanently (D)./ No error (E)

67. *Three Idiots* leaves (A)/ an indelible influence (B)/ on the young minds (C) whenever they watch it (D)./ No error (E)

68. Despite the prevalence of small female entrepreneurs (A)/ in developing countries, recent research suggest (B)/ that women

do not benefit from loans in the same way as men do, (C)/leading to questions about the value of offering financial services to them
(D)/. No Error (E)

69. Since Rohan has not (A)/ yet attained the age of eighteen (B)/, he had no right (C)/ to vote in the present election (D)/. No error (E)

70. Neither the size (A)/ nor the colour (B)/ of the gloves (C)/ were right (D)/. No error (E)

Change Active Voice into Passive Voice, and vice versa, as the case may be (71- 75)

71. One should avoid honking the horn unnecessarily.
A. Unnecessary honking of horn ought to be avoided.
B. Unnecessary honking of horn can be avoided.
C. Unnecessary honking of horn should be avoided.
D. Unnecessary honking of horn must be avoided.
E. None of the above

72. The scheme permits investors to buy the shares from foreign companies.
A. Under the scheme the investors may be permitted to buy shares from foreign companies.
B. Under the scheme the investors have been permitted to buy shares from foreign companies.
C. Under the scheme the investors are permitted to buy shares from foreign companies.

D. Under the scheme the investors were permitted to buy shares from foreign companies.
E. None of the above

73. They created such a fuss over a trivial matter.

- A. Such a fuss is being created over a trivial matter.
- B. Such a fuss was created over a trivial matter.
- C. Such a fuss has been created over a trivial matter.
- D. By them such a fuss has been created over a trivial matter.
- E. None of the above

74. The people couldn't move me to the hospital and the doctor operated on me at home.

- A.I couldn't be moved to the hospital and was operated on at home by the doctor.
- B.I couldn't be moved to the hospital and I had to be operated on at home.
- C.I couldn't be moved to the hospital and I was operated at home by the doctor.
- D.I couldn't be moved to the hospital by the people and operated on at home.
- E. None of the above

75. The news has been brought to us by him.

- A. He brought us the news.
- B. He has brought us the news
- C. He was brought the news to us.
- D. We brought the news to him.
- E. None of the above

Do as directed (76-81)

76. I order you to return the book
(change into imperative sentence)
A. Return the book.
B. Why are you not returning the book?
C. Will you return the book?
D. You are advised to return the book.
E. None of the above
77. It was not delightful of you to make such a statement. (change into interrogative sentence)
A. Do you think before making statements?
B. Isn't it good to think before you speak?
C. What were you thinking while making this statement?
D. Wasn't it thoughtless of you to make such a statement?
E. None of the above
78. Is this not a reward in itself?
(change into assertive sentence)
A. This is not rewarding me.
B. Rewards are hard to come by.
C. This is a reward in itself.
D. Don't do it only for the reward.
E. None of the above
79. I missed the train. (Change into negative sentence)
A. I could not catch the train.
B. I did not miss the train.
C. I can not catch the train.
D. I will not catch the train.
E. None of the above
80. You have a nice dress. (change into exclamatory sentence)
A. Your dress has a nice design.
B. Did you get the dress at a discount?
- C. Your dress is not bad.
D. What a nice dress you have.
E. None of the above
81. Only he can bring the grapes.
(Change into negative sentence)
A. He will not bring the grapes.
B. Only he will not bring the grapes.
C. None but he can bring the grapes
D. Will he not bring the grapes?
E. None of these

**Read the passages given below and answer the questions that follow
(Q. 82-90)**

Passage 1

Immigrants' adoption of English as their primary language is one measure of assimilation into the larger United States society. Generally, languages define social groups and provide justification for social structures. Hence, a distinctive language sets a cultural group off from the dominant language group. Throughout United States history this pattern has resulted in one consistent, unhappy consequence, discrimination against members of the cultural minority. Language differences provide both a way to rationalize subordination and a ready means for achieving it. (having or giving style or distinction) Traditionally, English has replaced the native language of immigrant groups by the second or third generation. Some characteristics of today's Spanish-speaking population, however, suggest the

possibility of a departure from this historical pattern. Many families retain ties in Latin America and move back and forth between their present and former communities. This "revolving door" phenomenon, along with the high probability of additional immigrants from the south, means that large Spanish-speaking communities are likely to exist in the United States for the indefinite future.

This expectation underlies the call for national support for bilingual education in Spanish-speaking communities' public schools. Bilingual education can serve different purposes, however. In the 1960s, such programs were established to facilitate the learning of English so as to avoid disadvantaging children in their other subjects because of their limited English. More recently, many advocates have viewed bilingual education as a means to maintain children's native languages and cultures. The issue is important for people with different political agendas, from absorption at one pole to separatism at the other. (an underlying often ideological plan or program "a political agenda") To date, the evaluations of bilingual education's impact on learning have been inconclusive. The issue of bilingual education has, nevertheless, served to unite the leadership of the nation's Hispanic communities. Grounded in concerns about status that are directly traceable to the

United States history of discrimination against Hispanics, the demand for maintenance of the Spanish language in the schools is an assertion of the worth of a people and their culture. If the United States is truly a multicultural nation—that is, if it is one culture reflecting the contributions of many—this demand should be seen as a demand not for separation but for inclusion. (leading to no conclusion or definite result) (the act of asserting; also: DECLARATION, AFFIRMATION) More direct efforts to force inclusion can be misguided. For example, movements to declare English the official language do not truly advance the cohesion of a multicultural nation. They alienate the twenty million people who do not speak English as their mother tongue. They are unnecessary since the public's business is already conducted largely in English. Further, given the present state of understanding about the effects of bilingual education on learning, it would be unwise to require the universal use of English. Finally, it is for parents and local communities to choose the path they will follow, including how much of their culture they want to maintain for their children.

82. It can be inferred from the passage that one of the characteristics of immigrant groups to the United States has traditionally been that, after immigration, relatively few members of the group

- A. became politically active in their new communities
 - B. moved back and forth repeatedly between the United States and their former communities
 - C. used their native languages in their new communities
 - D. suffered discrimination in their new communities at the hands of the cultural majority
 - E. sought assimilation into the dominant culture of the new communities they were entering
83. The passage suggests that one of the effects of the debate over bilingual education is that it has
- A. given the Hispanic community a new-found pride in its culture
 - B. hampered the education of Spanish-speaking students
 - C. demonstrated the negative impact on imposing English as the official United States language
 - D. provided a common banner under which the Spanish-speaking communities could rally
 - E. polarized the opinions of local Spanish-speaking community leaders
84. The phrase "different political agendas" in para 2 refers specifically to conflicting opinions regarding the
- A. means of legislating the assimilation of minorities into United States society
 - B. methods of inducing Hispanics to adopt English as their primary language
 - C. means of achieving nondiscriminatory education for Hispanics
 - D. official given responsibility for decisions regarding bilingual education
 - E. extent to which Hispanics should blend into the larger United States society
85. The author says that "It would be unwise to require the universal use of English." (towards the end of para 2) One reason for this, according to the author, is that
- A. it is not clear yet whether requiring the universal use of English would promote or hinder the education of children whose English is limited
 - B. the nation's Hispanic leaders have shown that bilingual education is most effective when it includes the maintenance of the Spanish language in the schools
 - C. requiring the universal use of English would reduce the cohesion of the nation's Hispanic communities and leadership
 - D. the question of language in the schools should be answered by those who evaluate bilingual education, not by people with specific political agendas
 - E. it has been shown that bilingual education is necessary to avoid disadvantaging in their general

learning children whose English is limited

86. In the last paragraph, the author of the passage is primarily concerned with discussing
- A. reasons against enacting a measure that would mandate the forced inclusion of immigrant groups within the dominant United culture
 - B. the virtues and limitations of declaring English the official language of the United States
 - C. the history of attitudes within the Hispanic community toward bilingual education in the United States
 - D. the importance for immigrant groups of maintaining large segments of their culture to pass on to their children
 - E. the difference in cultures between Hispanics and other immigrant groups in the United States

Passage 2

In nearly all human populations a majority of individuals can taste the artificially synthesized chemical phenylthiocarbonide (PTC). However, the percentage varies dramatically--from as low as 60% in India to as high as 95% in Africa. That this polymorphism is observed in non-human primates as well indicates a long evolutionary history which, although obviously not acting on PTC, might reflect evolutionary selection for taste discrimination of other, more significant bitter

substances, such as certain toxic plants.

A somewhat more puzzling human polymorphism is the genetic variability in earwax, or cerumen, which is observed in two varieties. Among European populations 90% of individuals have a sticky yellow variety rather than a dry, gray one, whereas in northern China these numbers are approximately the reverse. Perhaps like PTC variability, cerumen variability is an incidental expression of something more adaptively significant. Indeed, the observed relationship between cerumen and odorous bodily secretions, to which non-human primates and, to a lesser extent human, pay attention suggests that during the course of human evolution genes affecting body secretions, including cerumen, came under selective influence.

87. It can be inferred from the passage that human populations vary considerably in their

- A. ability to assimilate artificial chemicals
- B. vulnerability to certain toxins found in plants
- C. ability to discern bitterness in taste
- D. sensitivity to certain bodily odors
- E. None of these

88. Which of the following provides the most reasonable explanation for the assertion in the first paragraph that evolutionary history "obviously" did not act on PTC?

- A. PTC is not a naturally occurring chemical but rather has been produced only recently by scientists.
- B. Most humans lack sufficient taste sensitivity to discriminate between PTC and bitter chemicals occurring naturally.
- C. Variability among humans respecting PTC discrimination, like variability respecting earwax, cannot be explained in terms of evolutionary adaptivity.
- D. Unlike non-human primates, humans can discriminate intellectually between toxic and non-toxic bitter substances.
- E. None of these
89. Which of the following best expresses the main idea of the passage?
- A. Artificially synthesized chemicals might eventually serve to alter the course of evolution by desensitizing humans to certain tastes and odors.
- B. Some human polymorphisms might be explained as vestigial evidence of evolutionary adaptations that still serve vital purposes in other primates.
- C. Sensitivity to taste and to odors have been subject to far greater natural selectivity during the evolution of primates than previously thought.
- D. Polymorphism among human populations varies considerably from region to region throughout the world.
- E. None of these

90. It can be inferred from the passage that

- A. The amount of bodily odours and secretion that take place reduce at each stage of evolution.
- B. The extent of attention paid by non-human primates to body secretions is much higher than that of the more evolved human species.
- C. Artificially synthesized chemicals have impaired the extent of sensitivity that human beings have to body secretions.
- D. All of these
- E. None of these

[SET A]

Printed Pages: 24

University Roll No.

End-Term Examination, Odd Semester 2019-20

B. Tech (CSE) II Year, Semester III/MCA I Year, Semester I

Ethics & Values: BELH-0006

Time: 2.30 Hours

Maximum Marks: 50

Note: Read the passages carefully and answer the given questions. Each question is followed by multiple statements numbered 1,2,3,4, 5, 6 & 7. Please note that there is only ONE CORRECT ANSWER (one among a, b, c, d) Choose the most appropriate one. Please don't forget to mark the SET. on your OMR Sheet. (Attempt All Questions)

Direct question based on debates (20X1=20)

Topic: Merit vs. Reservation

1. Affirmative action theory means:

1. Pushing back to some communities.
2. Acting positively for some groups, class or cast of people.
3. Putting taxes
4. Giving waivers
5. Giving reservations
6. None of these

a. 1,2 ,3 & 4 b. 2,3 ,4 & 5 c. only 6 d. 2,4,5

2. Reservation can be meaningful if:

1. It helps the real needy.
2. It helps every undeserved.
3. Given for lower economy class.
4. It really changes the quality of life.
5. It politically favors to parties.
6. All above

a. 1, 3, 4, b. 4, 5, 6 c. 1, 2, 3& 6 d. 3, 4, 5

3. What's wrong according to corrective argument?

1. Reservation is wrong.
2. Reservation is fair to correct the past wrong.
3. Some Unprivileged people need justice.
4. Social justice demands affirmative action.

5. only 2

6. Only 2, 3 & 4

a. 5 b. 6 c. 1,2 & 3 d. 1,2,3& 4

4. According to Compensatory argument:
 1. Unprivileged people need to compensate.
 2. Privileged people need reservation.
 3. Reservation is unfair.
 4. Compensation is wrong.
 5. Only meritorious deserve compensation.
 6. Only upper classes deserve compensation.
 7. None of the above.
- a. only 1,2,3 b. only 4,5,6 c. only 5,6 & 7 d. only 7
5. What is wrong about reservation?
 1. It demoralizes the meritorious.
 2. It is unfair and unequal treatment.
 3. It is fair.
 4. It is tool of vote politics.
 5. Its need of social justice.
 6. All the above.
- a. 1, 2, 3 4, b. only 4 & 5 c. 1, 2 & 4 d. only 6
6. What is argument from social representation?
 1. Each class in a society needs improper representation.
 2. Society needs proper representation.
 3. Society should protect the interest of all groups.
 4. Society is made of different groups.
 5. Social representation is demand of social justice.
 6. All above.
- a. 1, 4, 5 6 b. 2,3,4,5, c. only 6 d. only 1, 4 & 5
- Topic: Data Localization & Cyber Sovereignty
7. What is not right about Data Localization?
 1. it's about high speed data transfer.
 2. it's about storing data with local servers.
 3. it's concerned with digital information security.
 4. It's concerned with data, cloud computing & IOT also.
 5. Only 1
 6. All above
- a. only 6 b. only 5. c. only 1 d. 2,3,& 4

8. Cyber sovereignty involves:

1. Privacy of the users
2. National information safety
3. Monetary safety
4. Control over IOT
5. Control over data informatics
6. None of the above.

a. 1, 2, 3, 4 & 5 b. Only 1,2 & 3 c. only 4& 5 d. only 6

9. What are the benefits of data localization?

1. Data leak.
2. Privacy leak.
3. No control on monetary systems.
4. No cyber security.
5. None of the above

a. 1,2,3,4& 5 b. only 5 c. only 1& 2 d. 1,2&3

10. What are the ethical questions in this debate?

1. It is about national security.
2. It is about one's privacy.
3. It is right to ownership.
4. It is about data security.
5. It is about only commercial reasons.
6. it's only about sovereignty.

a. 1,2 ,3 ,4 ,5 & 6 b. only 4,5 & 6 c. only 1,2,3 & 4 d. only 1,2 & 6

Topic: Net Neutrality & Internet Rights

11. What is Net Neutrality?

1. It is new IOT system.
2. It is new data operating system.
3. It is new cloud computing system.
4. It is new cyber security system.
5. Only 1& 2
6. None of the above.

a. 1,2 ,3 & 4 b. only 2& 4 c. only 5 d. only 6

12. What are the debating points?

1. It is about internet rights.
2. It is about data speed.
3. It is about fair treatment.
4. It is about different tariffs.
5. It is about right to speech.
6. All above

a. only 1& 2 b. only 6 c. only 4 & 5 d. only 3& 4

13. How does it affect internet rights?

1. Internet is medium of joy.
2. Internet is medium of communication.
3. All individual should have free net services.
4. Service providers may give priority to who can afford.
5. Service providers may slow down the speed.
6. Common individual may face problems.

a. only 4,5 & 6 b. only 1,2 & 3 c. only 2 ,4 & 5 d. Only 2, 4, 5 & 6

14. Some points of service providers may be consider ethically right as:

1. They are owners of real infra-structures.
2. They provide the platforms to float the software applications.
3. They should have legitimate profit sharing.
4. In business their interests also matter.
5. Software application providers enjoy the infrastructures.
6. They have exclusive rights to decide the tariffs.

a. Only 6 b. only 1,2 & 4 c. only 2, 3 & 4 d. Only 4,5 & 6

15. What are the insights from the debate?

1. Internet rights depend on what you can afford.
2. Service providers may have some right points.
3. All floating application on infrastructures making huge profits.
4. Profit sharing should not be ethical.
5. What matters is service only.
6. Internet rights should be fundamentally equal.

a. only 6 b. only 2, 3, 5, & 6 c. 4,5 & 6 d. 1,2 ,3 ,4 ,5 & 6

Topic: Euthanasia: Mercy Killing

16. Which of the following points are incorrect about Euthanasia?

1. It is about willful mercy killing.
2. In Euthanasia the death of a person is predictable.
3. It is assisted suicide.
4. It is suicide.
5. It is in the case of terminal illness.
6. It is illegal in India.

a.1,2 & 3 b. only 6 c. only 2 ,4 & 6 d. only 1,2 ,3 & 5

17. What are the fundamental questions on the issue of Euthanasia?

1. Justification for mercy killing.
2. Moral sanctioning of Euthanasia is against humanitarian spirit.
3. Right to assisted suicide.
4. Euthanasia is legal or not.
5. Euthanasia as moral right.
6. Only 2,3 & 4

a. only 1,3&4 b only 1,2&4 c only 2,3&4 d only 1,2, 3, 4 & 5

18. Why would a libertarian permit Euthanasia?

1. Everyone has complete right to decide about one's own life.
2. We own ourselves including our bodies.
3. We are free to ask for assisted suicide.
4. We have no freedom to die.
5. We have no rights to others.
6. None of the above.

a. only1,2,3 b only 1,2&4 c only 2,3&4 d only 6

19. Why Kantians would not permit Euthanasia?

1. Because it will violate humanity principle.
2. Because it will be treating life as a matter of happiness and pleasure.
3. Because we have duty to go on living even if it is painful
4. Because we have a right to our life.
5. It is against human rights.
6. All above

a. only 1,3&4 b only 1,2&4,5 c only 1,2,3 d Only 6

20. What is legal status of Euthanasia in India?

1. Only passive case is permitted.
2. Only active case is permitted.
3. Active with no choice.
4. Active with assisted suicide.
5. Both active and passive is permitted.

a 1,2&4 b. 1&2 c. 2,3&4 d. Only 1

Case Study based questions: (20X.5=10)

The Case of Privacy

Marcus is a computer engineer who has recently developed an app which helps users keeps track of medical information, doctor's appointments, and prescriptions. Information about the user is stored in this app, including what prescriptions they are taking and how frequently they schedule doctor's appointments. As the developers of the app, Marcus and his company have access to this information. The marketing department requests Marcus supply them with customer-specific information so they can better target ads and app suggestions to the users. Marcus understands that he is part of a company, but also feels that the privacy of the app users should be protected. Additionally, Marcus feels that as an engineer, he should be responsible to those who use his technology. How does Marcus determine how much of the user's information should be shared with marketing? Is this an ethical use of information or a violation of the user's privacy?

21. What are not the concerns in the case?

1. Privacy of the clients.
2. Privacy of the doctors.
3. User's information.
4. Company's integrity
5. Violation of privacy.
6. Self interest

a. Only 2&3 b. only 2 & 6 c. only 2 & 4 d. Only 4&5

22. What is right about Marcus's professional ethics?

1. Supplying the information
2. Protecting the information
3. Working for company's interest.
4. Minding his own interests.
5. Minding the user's privacy.
6. None of the above.

a. 1,2,3,5 b. 3,4,5 c. Only 2,4,5 d. Only 2&5

23. What was Marcus's accountability?

1. Work for only the marketing department.
2. Work for only the software application's non-technical issues.
3. Work for his own development only.
4. Work for the company's profit only.
5. Work for the user's interest only.
6. None of the above.

a. only 1,2 ,3 ,4 b. 2,3 ,4 ,5 c. Only 6 d. 1,2,3,4,5

24.. What would be wrong from the Professional Ethics point of view?

1. Following the right codes of software engineering.
2. Maintaining Privacy.
3. We should violate ethics for personal interest.
4. Software engineer should mind his/her growth only.
5. Privacy cannot be violated for personal interests.

a. only 3,4,5 b. Only 1&2 c. Only 2 & 5 d. only 4&5

25. What could be the unethical use of information in the case?

1. Leaking the user's identity.
2. information for company's profit.
3. information for Marcus's own growth.
4. Information for doctor's benefit.
5. None of the above.

a. Only 1,2,3 b. 1,2,3,4 c. Only 5 d. Only 3&5

Ship or Not to Ship

Rachel works as a Quality Assurance Engineer at a large electronics company. She is responsible for the final testing of her company's servers and is part of a team which decides when new products will be shipped to distributors for sale. Rachel's company has a contract with another company which makes the chips which are incorporated into the servers Rachel's company makes. The business model for this product is to release a new generation server approximately every six months, meaning Rachel has a limited timeframe to conduct her Quality Control tests. Because there is such a short amount of time between the releases of each next new product, the Quality and Assurance department cannot perform every possible test on the servers to ensure they are defect free. Rachel will not ship a product if there is any possibility that the server could malfunction and cause physical harm to the customer. However, she will ship a product that has a higher likelihood of failure resulting in data loss for the customer, because she knows that if she doesn't, her company's competitor will. Is this an ethical way to conduct business? How should she determine when to ship a product with known defects?

26. What is incorrect to do in this case?

1. I would not mind ethical handling of the product.
2. In the short time I maintain that there should not be physical harm.
3. I would ship the product with least damage to my client.
4. I would simply ship the product as to earn profit.
5. I would simply ship the product.

a. 1,4 & 5 b 1,2,3,4,5 c. 2,3,4,5 d. only 4

27. What would Rachel avoid in the case?

1. Maintain the quality.
2. Only mind the competition.
3. She should not think morally.
4. She should work independently on her will.
5. She should not care the physical harm to the client.

a. 1,2,3,4 b. Only 3,4 c. only 1 & 5 d. 2,3 ,4 & 5

[SET A]

28. Which of the following are the insights from the case?

1. We must deliver the product without possible checks.
2. In limited frame of time we should try to give priority to consumer.
3. We should value companies' interest only.
4. We should mind our job only.
5. Only 2

6 None of the above.

a. Only 2,3 ,4 b. Only 1& 2 c. 1,2,3,4 d. 1,2 ,3

29. What would be wrong from the professional ethics point of view in the case?

1. Rachell shipping the product with all possible checks.
2. Rachell simply minding the business.
3. Rachell simply shipping before her competitor.
4. Rachell not shipping the product.
5. Rachell not caring the physical harms.
6. Rachell simply caring the profit.

a. only 2, 3, 4, 5 & 6 b. Only 1, 2, 3, 4 c. only 6 d. only 2

30. What are the ethical issues in the case?

1. Privacy
2. Job Pressure
3. Consumer's health
4. Competition pressure
5. Companies interests
6. One's ethical attitude

a. 1,2 ,3 ,4 b. 1,2 ,3 c. 1,2,3,4,5,6 d. only 2,3 ,4

Copy Right Issue

SDX Alliance is a large company that sells computers, computer components, and software. Ralph is hired as an entry-level software engineer at SDX Alliance. His first project was to assist in writing the code for SDX Alliance's new hard disc controller. He had previously worked on a similar system interning at a start-up and had written a code which greatly enhanced the performance of their product. Ralph quietly re-uses this same code in the SDX Alliance product, and does not think to tell anyone that he has used the code from his last job. His manager is thrilled with the speed improvements this code brings to the product.

[SET A]

Before the product is released, it has to undergo a four-month long quality assurance process review. During the review of the product, it was found the code which Ralph developed had been copyrighted by the startup he had previously worked for. Even though Ralph had developed the code, his previous company still owned the intellectual property rights to it.

When his manager informed Ralph of the problem, Ralph admits he did not realize he had made a mistake because he was not familiar with copyright laws. Ralph then goes on to explain that the start-up he used to work for is now out of business and is unsure if SDX Alliance would be able to get in contact with the owner of the copyright. If SDX Alliance can't use Ralph's code, then it will have to rewrite the entire code of the product, delaying its release by many months.

What a copy right issues involves:

31. One's intellectual ownership.

2. One's profit.

3. One's right to product

4. One's claim to idea

5. One's legal right.

6. One' moral right.

a. only 1 b. only 1,2 & 3 c. only 4, 5 6 d. 1,2,3,4,5,6

32. Did Ralph do the right thing?

1. Yes, it made his job easy.

2. No, he should first check the copy rights.

3. Yes, company product would get good profit.

4. No, company would have faced legal issues.

5. Yes, He doing all for profit.

6. No, he should have minded the professional ethics.

a. 1,2 ,3 b, 3,4 ,5 c. 2, 4, 6 d. only 2 & 6

33. What you would to resolve the problem?

1. First I would try to talk copy right holders.

2. If , I could not find the copy right holders then simply use the code.

3. I would start afresh writing different codes.

4. I would simply accept I did wrong.

5. I would convince my boss to use the same code.

6. I would simply mind the profit.

a. Only 1 & 3 b. Only 4 & 5 c. only 5 & 6 d. only 3,4 & 5

[SET A]

34. What would be professionally unethical in the case?

1. Ralph thinking about the good business.
2. Ralph did not inform to company using already used codes.
3. Ralph would simply thinking about success of the project.
4. Ralph did not check with copy right issues.
5. He did the right thing.
6. All above.

a. only 6 b. only 5 only 1,2 & 3 d. only 2,3 ,4

35. What are the factors of dilemma?

1. Company's project deadline.
2. Competition.
3. Copy right problem.
4. Only profit
5. Unethical practice.
6. In time launch of the product.

a. only 4 b. only 4, 5 , 6 c. 1,2 ,3 5 & 6 d. only 3

May Be Truth with You

Catherine is a new hire at a startup that produces LCD displays for large venues, such as shopping malls. Part of her job requires her to troubleshoot malfunctioning displays.

One day, a shopping mall reported that two display units out of twelve had stopped working from their installation three months prior. The customer also noted serial and revision numbers on the two units were different from the rest of the units. At the job site, Catherine inspected the displays and realized her company had sold units that were from a bad batch (i.e. group of displays that did not have over 50% yield during manufacturing). Catherine wanted to tell the site why the units failed, but recognized that if she disclosed this information, the site would be eligible to receive replacement displays at no additional cost. On the other hand, if she blamed the failing units on a weaker cause, such as improper installation, her company would be able to charge the site for replacement units. Catherine knew her manager would want her to choose the option that would minimize the company's losses; however, she wanted to be honest with the site as they were one of the company's best customers.

36. What is Catherin's moral dilemma?

1. She cannot be untruthful to the customers.
2. She has to untruthful to customers.
3. She has to loyal to company's business interests.
4. She has to be professionally ethical.
5. She should mind only profits.
6. She cannot be unethical.

a. only 3,4 ,5 b. only 1,2 ,3 c. 1,2 ,3 ,4 5, & 6 d. 1, 3,4 & 6

37. Why should she be honest in this case?

1. She is dealing with best customers.
2. She should mind the company's image.
3. She should befool them to make profits.
4. She should be honest to only company.
5. She should care her interests only.
6. She should tell the truth to company.

a. 1, 2 & 6 b. only 6 c. only 3,5 & 6 d. only 1 & 6

38. What is the way out to this moral problem?

1. She should only think about technical issue.
2. She should not reveal the things to customer.
3. She should try to replace without installation charges.
4. She should make boss aware of the problem.
5. She should mange both the company's image and customer interests.
6. She should simply charge for installation and replace the device.

a. only 1. b. only 3,4 & 5 c. only 2, 3 & 4 d. only 4

39. What are the insights from this case?

1. A technical problem may involve moral issues.
 2. Catherine was professionally ethical.
 3. She was technically correct also.
 4. She was right in thinking to manage solution.
 5. She did not want to be unethical to customers.
 6. She did not want to be unethical with company also.
- a. 1, 2 ,3 b. 1,2 ,3 4, ,5 & 6 c. only 1,2 & 6 d. only 4,5 & 6**

40. What you would not do in the case?

1. I would simply mind installing the device.
2. I would mind only technical issue.
3. I would only mind my interests.
4. I would only mind company's profit.
5. I would simply protect my job.
6. All above.

a. only 1,2 ,3 b. only 3,4 & 5 c. only 6 d. only 1,4 & 5

Passage 1 (10X1 = 10) (Attempt All Questions)

According to some thinkers, justice in society means to give one what he/she deserves. In other words, if one performs good meritorious acts, one must be rewarded and if one does something wrong one must be punished accordingly. This argument is called "moral desert". These theorists define social justice as distribution of social goods in accordance with people's talents and merits. However, some policies of governments all around the world seem to go against this principle- in particular, the policy of "Affirmative action". The moral desert argument does not seem to apply on "Affirmative action" – the policy by which a government usually acts pro-actively to redress the past injustice to certain sections of society by reserving seats and positions in the areas of education, employment and business. We need to understand this issue in light of different views and theories of social justice. There are three prominent views on the justice and its distribution to the common people. Let's first talk about the John Rawls who in his book "A Theory of Justice" advances a thought experiment -what he calls the "Original Position"-which is a situation in which all rational and self-interested individuals take decisions or make choices on the benefits and developments without having a prior knowledge of their arbitrary facts like race, ability, cast, gender and class etc.-termed the "veil of ignorance" by Rawls . Under the "veil of ignorance" they have to choose and decide on the principles of justice by which a fair distribution of resources, powers and rights can be done. Rawls argues that two principles seem reasonable in such a situation: 1) Equality principle, according to which each individual must be provided equal rights with the most extensive basic liberties compatible with similar liberties for others, and 2) Difference principle what he calls qualified equality principle that maintains that socio-economic inequalities have to be arranged in a manner so that they are to the greatest benefit of the least advantaged members of society.

Before we understand what Rawls actually means by his difference principle let us try to understand three basic arguments of Affirmative action theory: 1) Corrective argument; according to which a government should take positive actions to redress

the wrongs of past by benefiting some cast, race, gender or group who have not been given the proper resources to develop and compete 2) Compensatory argument which points out the fact that some advantaged groups of people have to compensate for some least advantaged groups of people who have been deprived of basic resources for development, and 3) Social Representation / Diversity argument that maintains that the different variety of groups who actually make up the whole society should be given proper and proportionate socio-political-economic representation in terms of education, job and business. However, Rawls in his qualified equality principle argues that socio-economic inequalities in terms of government affirmative action policies and provisions must be in favor of least well-off.

The second prominent view is Aristotelian Virtue theory in which he criticizes the Utilitarian view of justice in favor of what he calls the Teleological view of justice. Aristotle asks: if you have to distribute best flutes, to who would you give them? There could be those who are needy while some might want it because they are interested in playing flutes. Some might even be willing to pay a huge price for the best flutes. However, surprisingly, Aristotle says the best flutes have to be distributed to the best flute players who have the best excellence or virtues to practice flute playing. Here, Aristotle offers his teleological explanation of the idea of justice that society consists of different kinds of people having different virtues and people must be rewarded according to their best virtues so that the best society can be created. Thus, justice in fair distribution has got a "telos" or purpose to give resources and opportunities to the people who can create a good society by practicing their virtues.

Aristotelian view really throws a different light on the issue of affirmative action. A group of people who are suffering from the socio-economic equalities in education, job and business usually criticize the other benefited groups and argue that there should not be inequalities in allocation of seats or positions. They further argue that due to reservation less qualified and skilled people get the powers and positions in governance and they produce poor quality results. But, this view is questionable on the grounds that the people of either group, advantaged or non-advantaged, meritorious or less qualified are doing the same thing, corruption in the various systems without practicing their skills or virtues. As a result, the so called merit is not serving the purpose to create a better society and most of the people those who are getting opportunity and resources are utilizing and exploiting their powers and positions. Nevertheless, the reservation given in the name of cast and other arbitrary facts which are only by chance and not chosen by any individual is really poses a moral problem of forced discrimination. Therefore, the reservation policies must be in Rawlsian terms be based on qualified equality

[SET A]

principle serving the least well-off to really improve the socio-economic condition of less advantaged people.

The third prominent view offers a criticism of both the Rawlsian and Aristotelian views of justice. The third view advocates individual rights and is against active roles of government in fair distribution of resources. Immanuel Kant and Robert Nozick are the two main philosophers who defend the theory of rights and liberty of people. Immanuel Kant argues that individuals have rationality to decide and thereby they must be given autonomy to choose their own ideas of good life. We should not be led by any purpose to create a better society; rather a better society will automatically come when the individuals are given basic liberties and rights with a sense of autonomy. On the other hand, Robert Nozick rejects the active roles of governments and affirmative action theories. He argues that government roles should be limited to the security and protection of people. There should not be any paternalistic legislation, moral legislation, and wealth re-distribution through taxation. Government intervention in individuals' lives is violation of individual liberty which limits their choices relating to education, job, business and life as a whole.

The first two views and the third view in contrast give the impression of a tussle between the Fit versus freedom. Rawls and Aristotle argue about the fitness of the principles and virtues, while Nozick and Kant defend the rights and freedom of individuals. However, Rawls rejects Nozick's point that merit should be the criteria for just distribution. He says merit is just moral luck and no one can claim moral credit for his merits. Merit too, he says, is an arbitrary fact that is not entirely one's own creation.

Reservation alone is not the solution. Creamy layer must be excluded from the benefit of reservation. The policy should purposefully lessen the socio-economic gaps amongst the people so that they can all compete in the race of development with, if not an equal start then at least, a fair start. Reservation in this way can rationally be based on socio-economic real facts and conditions, and the socio-economic benefits should be distributed to those who really deserve without considering the arbitrary facts like cast, class, race and gender. Indeed we cannot really go in the past to rectify what has been done but taking meaningful lessons from the past it is better to give proper resources to all those who deserve and want to compete and develop.

Questions:

41. Which of the following points are not right about the moral desert argument?

1. One should not be respected on the grounds one actually deserves.
2. One should be rewarded for one's good actions and punished for the bad.
3. Distribution of social goods should be based on one's effort.
4. Socio-economic inequality should be for least well-off.
5. All above

a)2&3 b)3&4 c)2&3&5 d)1&4

42. "The best flutes must go to the best flute players according to Aristotle". Which of the following statements are right according to Aristotle?

1. Best flute players require best flutes.
2. Best flute players derive pleasure in best flutes.
3. Best flute players would use flutes at best.
4. Best flute players have virtue to play flutes well.
5. Best fluit players morally deserve.

a)1,2,3 b) only 2,3 ,4 c) only 4&5 d) 1,2,3,4,5

43. What is "veil of ignorance"?

1. It is a thought experiment.
2. It is the position in which people don't know their arbitrary facts.
3. It is the position where we don't know about our history.
4. In this people know their arbitrary facts.
5. This is to reach the original position.

a) 1,2,3 & 5 b) 1,2&3 c)1,3&4 d)1&2

44. Which of the following statements are true about Affirmative Action Theory?

1. A government should take positive actions to redress the wrongs of past.
2. Privileged groups of people have to compensate for some unprivileged groups of people.

[SET A]

3. The different variety of groups who actually make up the whole society should be given proper and proportionate socio-political-economic representation.

4. Socio-economic inequalities should not be based on arbitrary facts

5. None of the above

a) 1&2 & 4 b) only 5 c) 2&3 &5 d) 1, 2 & 3

45. What is Teleological view of justice?

1. Different kinds of people have different virtues to create a society.

2. People must be respected according to their best virtues.

3. Justice has a purpose to create a better society.

4. Justice is not only distributive.

5. Each virtue has a purpose to fulfill.

6. All above

a) only 1,2,3 b)only4& 5 c) only 6 d) only 3

46. Which of the following statements are not right about the Difference Principle of John Rawls?

1. It is the principle of qualified inequality.

2. It allows the socio-economic inequalities that are best for least well off.

3. It respects both one's efforts and the benefit of disadvantaged people.

4. Difference principle believes in distribution according to merit.

5. None of the above

a)Only1&4 b)only 1, 2,4 c)1,3&4 d)2,3&4

47. Which of the following statements are correct about corrective and compensatory arguments?

1. A governments should not take any positive action to correct the past wrongs.

2. Those cast, race, and gender groups will be benefited who have been privileged in history.

3. Advantaged groups have to compensate for least advantaged group.

4. There should not be any discrimination

5. All above

a)1&2 b)3&4 c) only 5 d) only 3

48. Why does Robert Nozick criticize the Affirmative action theory?

1. Because a government takes positive actions to intervene in individuals lives.
2. Because a government re-distributes the wealth in the name of taxation to benefit unprivileged people.
3. Because a government limits their choices relating to education, job, business and life as a whole.
4. Because a government behave like a pattern.
5. All above

a)1,2&3 b) only 5 c) only1&3 d)2,3&4

49. What is criticism of Immanuel Kant on the Aristotelian view of justice?

1. Every individual can have a different autonomous purpose.
2. People have rationality to decide about their life.
3. People must be given autonomy to choose their own ideas of good life.
4. We should respect only virtuous people who are fit for society.
5. Freedom and rationality suffices to choose the better.
6. None of the above.

a)1,2 ,3 ,4 b) only 1 & 3 c) 1,2 ,3 & 5 d)only 1&2

50. What are the views of Robert Nozick that John Rawls would not accept?

1. Merit is criteria for just distribution.
2. Merit is one's ownership.
3. We have moral credit to our merits.
4. Merit is not just moral luck.
5. None of the above.

a) Only 5 b) 1, 2&3 c) 3&4 d) 1,2&4

Direct Questions Based on Imagineering, Utilitarianism, Kantianism & Virtue Theory: (10X.5=5)

51. What is ethical action according to Deontology?

1. Action based on duty.
2. Action based on freedom
3. Action based on reason
4. Action based on utility.
5. Action based pleasure.
6. Action based on moral law.

a. only 1,2 3. b. only 4,5 & 6 c. only 1,2 & 3 d. only 4 & 6

52. Who deserve according to Aristotle?

1. All the needy.
2. All the interested.
3. All the users.
4. All the reserved.
5. All who can afford.
6. All who cab best utilize.
7. None of the above

a. only 1,2 ,3 b. only 7 c. only 1,2 ,3 ,4 & 5 d. Only 3 & 6

53. How does Mill differ from Bentham?

1. Mill minds only quantitative pleasures.
2. Bentham minds only qualitative pleasures.
3. Bentham minds only social good.
4. Mill minds both social good and individual rights.
5. Mill minds both qualitative and qualitative pleasure.
6. They don't differ.

a. 3, 4, 5 b. 1,2 ,3 c. only 6 d. 2,3 ,4

54. What is utility?

1. Pleasure
 2. Goodness
 3. Happiness
 4. Maximum good
 5. Maximum pain
- a. only 1 b. only 5 c. only 1,2, 3 ,4 d. Only 4**

55. What is moral law?

1. Individual moral rule.
2. Objective moral rule.
3. Both 1& 2
4. Neither 1 nor 2.
5. Only1
6. Only2

a. only 3 b. Only 4 c. Only 1 d. Only 2

56. When you act like a chimps:

1. When you act freely.
2. When you act rationally
3. When you simply follow.
4. When you react only.
5. When you make a choice.
6. When you mind only pleasure.

a. 1, 2, 3 b, 3, 4, 5 c. 3,4,5,6 d. only 6

57. What is Imagineering?

1. It is simply doing engineering.
2. It is applying engineering rationality.
3. It is applying innovation.
4. It is really thinking about problem solving.
5. It is only attending lecture for attendance.
6. It is only minding exam.

a. Only 2,3 4, b, only 4,5 & 6 c. only 2, ,3 & 6 d. only 6

58. What are not the technical factors in Imagineering?

1. Design
2. Processing
3. Coding
4. Industrial psychology
5. Consumer satisfaction.
6. Market acceptability

a. 1, ,2 &3 b. 4, 5, 6 c. only 5& 6 d. 1,2,3,4,5& 6

[SET A]

59. Kant was impressed with Newtonian:

1. Universal laws
 2. Uniformity
 3. Certainty
 4. Freedom
 5. Rationality
 6. Maxim
- a. only 4,5,6 b. only 2,3 & 6 c. only 1& 6 d. 1,2 ,3

60. What is maxim?

1. A moral rule
2. A rational moral rule
3. Individual moral rule
4. Objective moral rule
5. Only 3
6. None of the above

a. only 5 b. only 6 c. only 1& 4 d. only 2

Direct Questions Based on Documentaries: (10X.5=5)

61. What is insight from Modern Times?

1. Helping others is another way to be happy.
2. Your happiness depends more on the others.
3. Adversities test your problem solving attitude.
4. Happiness is not about being rich.
5. A Good hearted person lives happy even in the problems.
6. Happiness is not being selfish all the time.

a. 1, 2, 3, 4 & 5 b. only 2& 3 c.1, 3 & 4 d. 1, 3, 4, 5 &6

62. What was the charterer of Charlie in the movie?

1. He was uncooperative.
2. He was caring.
3. He was friendly.
4. He was positive and motivated.
5. He was only doing foolishly.
6. He was exemplary to understand self motivated happiness.

a. 3, 4, & 6 b. 2, 3 & 4 c. Only 4, 5 & 6 d. 1, 2, 3, 4, 5 & 6

63. Modern time movie gives lesson to learn about:

1. A good life
2. A good person.
3. Happiness
4. Ethics
5. Fun
6. Friendship care and cooperation.

a. only 6 b. only 1 c. only 1,2 ,3 d. 1,2 ,3 ,4 ,5 ,6

64. What is learning from the movie Right Here Right Now?

1. Reactive behavior leads to bad results.
2. Positive behavior leads to happiness.
3. Professional ethics is primary.
4. Good behavior forms a harmony.
5. Everyone's happiness counts in a network.

a. 1, 2 & 3 b.1, 2, 3, 4,5c. only 4 & 5 d. only 1&3

65. What was Driver's ethical attitude in Right Here Right Now?

1. He was professionally incorrect.
2. He was personally incorrect.
3. He was caring.
4. He was a jovial person.
5. He shared his happiness.
6. Sharing happiness is a value to a good life.

a. 1, 2 & 3 b. 2& 3 c. 3, 4& 5 d. 3, 4,5&6

66. What are the insights from the movie Kedarnath?
1. We should plan more tourism to hills area.
 2. We should better understand geographical conditions.
 3. We should be highly religious.
 4. We should be rational enough to foresee the problems.
 5. We should be selfish in problems.
 6. We should be helping in problems.

a. only 1,2 ,3 b. Only 3, & 4 c. 2, 4 & 6 d. 1, 4 & 5

67. Was the person's attitude not allowing the old man inside the cover right?

1. It was selfish but not wrong.
2. It was selfish and wrong.
3. He has priority to family.
4. He had first duty to protect his family.
5. He was totally unconcerned.
6. He had no remorse as he did the right thing.
7. Cannot judge, it was really complex situation.

a. 1 & 7 b. 3 & 4 c. 1, 3 & 6 d. 3, 6, 7

68. Story of stuff is worthwhile to watch to understand:

1. Causes of ecological imbalance.
2. Causes of personal imbalance.
3. Causes of political imbalance.
4. Causes of pollution imbalance.
5. Causes of personality imbalance.
6. Causes of product and use imbalance.
7. None of the above.

a. Only 7 b. only 1,2 ,3 c. 1,2 ,3 ,4 ,5 ,6 d. only 1, 4 & 6

[SET A]

69. "What we produce and throw in nature comes to us." What is moral of this statement?

1. Stuff does not return.
2. Rational use of stuff.
3. Stuff is only for use.
4. Stuff should be biodegradable.
5. Stuff should not be recyclable.
6. We create hazards unknowingly
7. We create hazards knowingly.

a. 1, 2 ,5 ,7 b. only 2,3 ,4 ,5 & 7 c. 1,2 3, 4 ,,5 d. only 2, 4, 7
70. Kedarnath movie gives lesson to understand.

1. Rationality
2. Problem Solving
3. Decision making
5. Selfish attitude
6. Social service
7. Survival strategies.

a. 1,2 ,3 b. only 5 & 7 c. 1, 2 ,3 & 7 d. 1,2 ,3 ,4 ,5 ,6 ,7

Printed Pages: 2

University Roll No:

End Term Examination, Odd Semester 2019-20

B.Tech(CSE), II, III

BCSC0003: Database Management Systems

Time: 3 Hour

Maximum Marks: 50

Section-A

Note : Attempt All Questions.

7 x 5 = 35 Marks

- I. A database is being constructed to keep track of the teams and games of a sports league. A team has a number of players, not all of whom participate in each game. It is desired to keep track of the players participating in each game for each team, the positions they played in that game, and the result of the game. Design an ER schema diagram for this application, stating any assumptions you make. Choose your favorite team sport (e.g., soccer, baseball, football)
- II. Explain the concepts of natural join? Also discuss the types of Outer join with suitable example?
- III. Given below is the set of functional dependencies for relation R (A, B, C, D, E)
 $F = \{AB \rightarrow C, AB \rightarrow D, D \rightarrow A, BC \rightarrow D, BC \rightarrow E\}$.
 - (a) Find all candidate keys.
 - (b) Is this relation in BCNF? If not, show all dependencies that violate it.
 - (c) Is this relation in 3NF? If not, show all dependencies that violate it.
- IV. Which of the following schedules are conflict serializable? For each serializable schedule find the equivalent schedule.
S1: r1(x); r3(x); w3(x); w1(x); r2(x)
S2: r3(x); r2(x); w3(x); r1(x); w1(x)
S3: r1(x); r2(x); r3(y); w1(x) r2(z); r2(y); w2(y)
- V. Consider the following Scheme:
SUPPLIER (SUPPLIER_ID, SUPPLIER_NAME, SUPPLIER_ADDRESS)
PARTS (PART_ID, PART_NAME, COLOR)
CATALOG (SUPPLIER_ID, PART_ID, COST)
Write the following queries in Relational Algebra:
 - (a) Find the name of the suppliers who supply Black Parts.
 - (b) Find the name of suppliers who supply both Blue and Black Parts.
 - (c) Find the name of suppliers who supply all Parts.

- VI. Given below is the set of functional dependencies for a relation R (A, B, C, D, E, F, G),
 $F = \{AD \rightarrow BF, CD \rightarrow EGC, BD \rightarrow F, E \rightarrow D, F \rightarrow C, D \rightarrow F\}$
 Find a minimal cover for the above set of dependencies. Show all the steps clearly.
- VII. Compare and contrast the differences between time stamp protocol and validation based protocol for concurrency control?

Section-B

Note : Attempt All Questions.

3 x 2 = 6 Marks

(a)

- I. In multiple-granularity locking, what is the difference between implicit and explicit locking.
- II. Show that the two-phase locking protocol ensures conflict serializability, and that transactions can be serialized according to their lock points.
- III. What is deadlock? What are necessary condition for it? Explain with suitable example.

Note : Attempt All Questions.

3 x 3 = 9 Marks

(b)

- I. What is blind writes? Check whether the given schedule S is view serializable or not.

T1	T2	T3	T4
R (A)	R (A)	R (A)	R (A)
W (B)	W (B)	W (B)	W (B)

- II. What is log file? Write the steps for log based recovery of a system with suitable example.
- III. Explain how the following differ: fragmentation transparency, replication transparency, and location transparency

Soft Skills

End Term, Odd Sem Examination (2019-20)

Course- B.tech/MCA

Year- II/I

Branch- (All)

Time : 120 Min.

M.M-40

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-80, marks-0.50

Q1. The cost of a diamond varies as the square of its weight. A diamond weighing 20 decigrams costs Rs. 4,800. Find the cost of a diamond of the same kind weighing 8 decigrams.

- A. Rs. 762 B. Rs. 760 C. Rs. 764 D. Rs. 768
E. None of these

Q2. The ratio of the first and second-class fares between the two stations is 6 : 4 and the number of passengers traveling by first and second-class is 1 : 30. If Rs. 2100 is collected as fare, what is the amount collected from first class passengers?

- A. Rs. 250 B. Rs. 200 C. Rs. 150 D. Rs. 100
E. None of these

Q3. Divide Rs. 390 among 3 persons A, B and C such that 3 times A's share, 2 times B's share and 4 times C's share are all equal. The shares of A, B and C are respectively

- A. Rs. 120, Rs. 180, Rs. 90 B. Rs. 60, Rs. 90, Rs. 45
C. Rs. 240, Rs. 157, Rs. 90 D. Rs. 90, Rs. 45, Rs. 60
E. None of these

Q4. IBM and KTC quote for a tender. On the tender opening day, IBM realizes that their quotations are in the ratio 7:4 and hence decreases its price during negotiations to make it Rs 1 Lakh lower than KTC's quoted price. KTC realizes that the final quotes of the two were in the ratio 3:4. What was the price at which IBM won the bid?

- A. Rs 7 Lakh B. Rs 4 Lakh C. Rs 3 Lakh D. Rs 1.5 Lakh
E. None of these

Q5. The proportion of milk and water in 3 samples is 2:1, 3:2 and 5:3. A mixture comprising of equal quantities of all 3 samples is made. The proportion of milk and water in the mixture is :

- A. 2:1 B. 5:1 C. 99:61 D. 227:133 E. None of these

Q6. What is the duplicate ratio of 12:3 ?

- A. 2:1 B. 1:2 C. 144:9 D. 16:1 E. None of these

Q7. Weight of Ram and Shyam is in the ratio of 2:5 while weight of Ram and Dinesh is in the ratio of 7:9. What will the weight of Ram if the sum of weights of Shyam and Dinesh is 53 Kg?

- A. 28 Kg B. 15 Kg C. 14 Kg D. 18 Kg E. None of these

Q8. Find the mean proportion to 4 and 9.

- A. 36 B. 2 C. 3 D. 6 E. None of these

Q9. In a house, there are dogs, cats and parrot in the ratio 3:7:5. If the number of cats was more than the number of dogs by a multiple of both 9 and 7, what is the minimum number of pets in the house?

- A. 945 B. 630 C. 252 D. 238 E. None of these

Q10. A , B and C enter into a partnership by investing Rs 28000, Rs 32000 and Rs 18000. A is working partner and gets a fourth of the profit for this services and the remaining profit is divided amongst the three in the ratio of their investments. What is the amount of profit that B gets if A gets a total of Rs 4995?

- A. Rs 1665 B. Rs 2960 C. Rs 2590 D. Rs 3000
E. None of these

Q11. A, B, C, are three partners .They altogether invested Rs. 14000 in business. At the end of the year, A got Rs. 337.50, B got Rs. 1125 and C got Rs. 637.50 as the profit. What is The difference between the investments of B and A?

- A. 2200 B. 3200 C. 4200 D. 5250
E. None of these

Q12. A and B enter in to a partnership and A invests Rs. 10,000 in the partnership. At the end of 4 months he withdraws Rs.2000. At the end of another 5 months, he withdraws another Rs.3000.

If B receives Rs.9600 as his share of the total profit of Rs.19,100 for the year, how much did B invest in the company?

- A. Rs. 12,000 B. Rs. 8,000 C. Rs. 6,000 D. Rs. 96,000
E. None of these

Q13. The distance travelled by a traveller is directly proportional to the square root of time taken by him. If he travelled 300 m in 9 minutes then what will the distance travelled by him in 2 minutes 30 sec? (Approx)

- A. 140 m B. 200 m C. 150 m D.160 m
E. None of these

Q14. A fort has provisions for 60 days. If after 15 days 500 men strengthen them and the food lasts 40 days longer, how many men are there in the fort?

- A. 3500 B. 4000 C. 6000 D. 7000
E. None of these

Q15. A milk-man sells milk after mixing water to it to such a extent that water accounts for 20% of the mixture. If he sells at a mark-up rate of 10%, find his actual profit percentage.

- A. 30% B. 32% C. 33.33% D. 37.5% E. None of these

Q16. A shop-keeper purchases 12 dozen eggs. But 1 dozen of them are rotten and hence he has to throw them away. If he sells the remaining at a mark-up of 8.33%, find his profit percentage.

- A. No profit No loss B. 7.28% profit C. 4.16 profit D. 1.44% loss
E. 0.7% loss

Q17. A 25% discount offer results into a saving of Rs. 37. Find the selling price of the article.

- A. Rs 99 B. Rs 100 C. Rs 101 D. Rs 111 E. Rs 74

Q18. A trader gives two successive discounts of 20% and 10%. What is the equivalent discount that he is offering?

- A. 30% B. 33% C. 25% D. 21% E. 28%

Q19. A scheme of 1 soap free with every 4 soaps purchased is launched for increasing the sales. What is the effective discount that the scheme offers?

- A. 33.33% B. 37.5% C. 25% D. 20% E. None of these

Q20. What should be the mark-up percentage if a trader wishes to make a profit of 10% inspite of a discount of 10%

- A. 20% B. 18.18% C. 22.22% D. 27.27% E. None of these

Q21. If the cost price is 25% less than the selling price, find the profit percentage.

- A. 25% B. 27.27% C. 20% D. 32.5% E. None of these

Q22. An article sold at a certain price results in a loss of 7% whereas when it is sold at Rs. 100 more, it results in a 13% profit. Find the cost price of the article.

- A. Rs. 400 B. Rs. 500 C. Rs. 600 D. Rs. 800

E. Cannot be determined

Q23. $3.2\% \text{ of } 500 \times 2.4\% \text{ of } ? = 288$

- A. 650 B. 700 C. 600 D. 750 E. None of these

Q24. $? \times 10\% \text{ of } 25 + 25\% \text{ of } 17 = 73$

- A. 36.91 B. 38.25 C. 39.5 D. 27.5 E. None of these

Q25. How many different values can x take if the number 1225051x44 is divisible by 3?

- A.1 B. 2 C.3 D.4 E. None of these

Q26. What is the smallest digit that should be replaced by '*' in the number 3069*1245, to make it divisible by 15?

- A.0 B. 1 C.2 D. 3 E. None of these

Q27. If the number 42573x is divisible by 72, find the value that x can assume?

- A.6 B. 3 C.2 D.4 E. None of these

Q28. Abinav scores 80% in Physics and 66% in chemistry and the maximum marks of both the papers are 100 each. What percent does he score in maths which is of 200 marks, if he scores 80% marks in all the three subjects:

- A. 74% B. 84% C. 87% D. 83% E. None of these

Q29. In a school there are 1800 students. Last day except 4% of the boys all the students were present in the school. Today except 5% of the girls all the students are present in the school, but in both the days no. of students present in the school, were same. The no. of girls in the school, were

- A. 1200 B. 800 C.1000 D. 600 E. None of these

Q30. A student has to obtain 33% of the total marks to pass. He got 125 marks and failed by 40 marks. The maximum marks are:

- A. 300 B. 500 C. 800 D. 1000 E. None of these

Q31. Ali the barber shaved 40 % of his customers and gave a haircut to 80 % of his customers. He charged Rs. 7 for a shave and Rs. 5 for a haircut. If 20 % of customers who opted for a shave also had a hair-cut, what were Khan's earnings if he had 75 customers (in Rs.)?

- A. 410 B. 1,020 C. 510 D. None of these

Q32. Of the 1000 inhabitants of a town 60 % are males, of whom 20 % are literate. If of all the inhabitants 25 % are literate. Then what percent of the females of the town are literate?

- A. 22. 5 % B. 27.5 % C. 32. 5 % D. 37.5 % E. None of these

Q33. The price of an article was increased two times successively by 10% each time. By what percent should the new price be reduced so as to restore the original price.

- A.15% B. 17.36% C. 17% D. 16.36% E. None of these

Q34. 2/5 of the voters promise to vote for A and the rest promised to vote for B. Of these, on the last day 15% of the voters went back their promise to vote for A and 25% of voters went back of their promise to vote for B, and A lost by 4 votes. Then, the total number of voters is:

- A. 200 B. 210 C. 190 D. 195 E. None of these

Q35. At what angle the hands of a clock are inclined at 15 minutes past 5?

- A. 58.50 B. 640 C. 67.50 D. 72.50 E. None of these

Q36. At what time between 4 and 5 o'clock will the hands of a watch point in opposite directions?

- A. 54 past 4 B. $(53 + 7/11)$ past 4 C. $(54 + 8/11)$ past 4
D. $(54 + 6/11)$ past 4 E. NOT

Q37. How much does a watch lose per day, if its hands coincide every 64 minutes?

- A. $32\frac{8}{11}$ B. $33\frac{8}{11}$ C. $34\frac{8}{11}$ D. $35\frac{8}{11}$
E. None of these

Q38. A clock is set right at 5 a.m. The clock loses 16 minutes in 24 hours. What will be the true time when the clock indicates 10 p.m. on 4th day?

- A. 12 p.m. B. 10 p.m. C. 9 p.m. D. 11 p.m.
E. None of these

Q39. What time between 4 and 5 o'clock will the hands of a clock be at right angle?

- A. $3\frac{5}{11}$ B. $4\frac{5}{11}$ C. $5\frac{5}{11}$ D. $6\frac{5}{11}$ E. None of these

Q40. Which of the following two months in a year have the same calendar?

- A. October, December B. April, November C. June, October
D. April, July E. None of these

Q41. What was the day on February 9, 1979?

- A. Tuesday B. Saturday C. Friday D. Thursday E. None of these

Q42. Rahul was born on 29th, Feb 2016 which happened to be a Monday. If he lives to be till 2099, how many birthdays would he celebrate on a Monday?

- A. 1 B. 2 C. 3 D. 5 E. None of these

Q43. The calendar for the year 2007 will be the same for the year

- A. 2014 B. 2016 C. 2017 D. 2018 E. None of these

Q44. If February 1, 1996 is wednesday, What day is March 3, 1996?
A. Saturday B. Tuesday C. Wednesday D. Monday
E. None of these

Q45. The CI earned in the 7th year is Rs. 500. If the rate of interest is 15%, find the compound interest earned in the 8th year.
A. Rs 500 B. Rs 525 C. Rs 550 D. Rs 575
E. None of these

Q46. The difference between the compound interest and simple interest on a certain sum at 10% per annum for 2 years is Rs. 631. Find the sum.
A. Rs 6,310 B. Rs 63,100 C. Rs 6,31,000
D. Cannot be determined E. None of these

Q47. If the rate of interest in case of both compound and simple interest is 8.33%, find the ratio of the compound interest and simple interest earned in first 2 years on the same principal.
A. 25 : 24 B. 24 : 25 C. 11 : 12 D. 12 : 1 E. None of these

Q48. The population of a city grows at a rate of 5% per annum. If in 2006 its population is 18,52,200, what was its population in 2004?
A. 12,60,000 B. 13,60,000 C. 15,60,000 D. 16,00,000
E. None of these

Q49. What approximate rate per annum of simple interest would yield the same amount as that got at compound interest rate of 20% p.a. when the same principal is kept for three years in both the cases.
A. 72.8% B. 64% C. 32% D. 21.33% E. None of these

Q50. At a certain rate of simple interest, a principal becomes three times in 15 years. In how many years will the principal amount become nine times?
A. 45 years B. 30 years C. 60 years D. 75 years
E. None of these

Q51. What will the approximate amount be after 3 years if I deposit Rs. 5000 in a bank which offers me a rate of interest of 5%.
A. Rs 5750 B. Rs 5760 C. Rs 5770 D. Rs 5700
E. None of these

Q52. What is the difference between the compound interests on Rs. 5000 for 1.5 years at 4% per annum compounded yearly and half-yearly?
A. Rs. 2.04 B. Rs. 4.80 C. Rs. 3.06 D. Rs. 8.30 E. None of these

Q53. I bought an Astra two years back. Its value depreciated by 9% every year. If at present its value is Rs. 9,10,910, at what cost had I bought it?
A. 10,91,910 B. 10,9,190 C. 10,00,000 D. 11,00,000
E. None of these

Q54. Anoop borrowed Rs. 800 at 6 % p.a. & Rs. 1200 at 7 % p.a. for the same duration. He had to pay Rs. 1584 in all as interest. Find the time period.
A. 10 yrs B. 11 yrs C. 12 yrs D. 13 yrs E. None of these

Directions (Q 55-56): Study the following information carefully to answer these questions:

- P X Q means "P is mother of Q"
P ÷ Q means "P is sister of Q"
P + Q means "P is brother of Q"
P - Q means "P is father of Q"

Q55. In A - B ÷ D x C, how is A related to C?
(a) Brother (b) Sister (c) Grand father (d) Uncle
(e) None of these

Q56. Which of the following means M is the maternal uncle of R?
A. R * N ÷ M B. M + N * R C. M ÷ N * T + R
D. Cannot be determined E. None of these

Directions (Q 57-58): Study the following information to answer the given questions:

- (i) In a family of 6 persons, there are two couples.
(ii) The lawyer is the head of the family and has only two sons – Mukesh and Rakesh – both teachers.
(iii) Mrs. Reena and her mother-in-law both are lawyers (iv) Mukesh's wife is a doctor and they have a son, Ajay.

Q57. Which of the following is definitely a couple?
(a) Lawyer – teacher (b) doctor – lawyer (c) teacher – teacher
(d) cannot be determined (e) None of these

Q58. What is the profession of Rakesh's wife?
(a) Teacher (b) Doctor (c) lawyer (d) cannot be determine
(e) None of these

Q59. Introducing a lady a gentleman says, "Her mother's mother is the mother of my father." How is the gentleman related to the lady ?
a) Maternal Uncle b) Maternal Cousin c) Paternal Cousin
d) Paternal Uncle e) None of these

Q60. Pointing to Bhuvan, Meena said. "He is the son of my father's only son." How is Bhuvan's mother related to Meena?

- A. Mother B. Sister-in-law C. Aunt D. Daughter
E. None of these

Q61. Pointing to an old man, Kailash said, "His son is my son's uncle." How is the old man related to Kailash?

- A. Brother B. Uncle C. Father D. Grandfather
E. None of these

Q62. is the brother of Q and R. S is R's mother. T is P's father. Which of the following statements cannot be definitely true ?

- A. T is Q's father B. S is P's mother C. P is S's son
D. Q is T's son E. None of these

Q63. In a family, there are six members A, B, C, D, E and F.

A and B are a married couple, A being the male member. D is the only son of C, who is the brother of A. E is the sister of D. B is the daughter-in-law of F, whose husband has died. How is E related to C ?

- A. Sister B. Daughter C. Cousin D. Mother
E. None of these

Q64. There are six persons A, B, C, D, E and F. C is the sister of F. B is the brother of E's husband. D is the father of A and grandfather of F. There are two fathers, three brothers and a mother in the group. Who is the mother ?

- A. A B. B C. C D. E E. None of these

Q65. Rahul ranked ninth from the top and thirty-eighth from the bottom in a class. How many students are there in the class?

- A. 45 B. 46 C. 47 D. 48 E. None of these

Q66. In a class of 40 children, Sunetra's rank is eight from the top. Sujit is five ranks below Sunetra. What is Sujit's rank from the bottom?

- A. 27 B. 29 C. 28 D. 26 E. None of these

Q67. In a row of boys, A is fifteenth from the left and B is fourth from the right. There are three boys between A and B. How many boys are there in the row?

- A. 9 B. 10 C. 14 D. 22 E. None of these

Directions (Q68-70): Study the following information carefully and answer the given questions.

Amongst five friends A, B, C, D, E, each got different marks in the examination. A scored more than B but less than C. C scored 65 marks. D

scored less marks than only E. The one who scored the minimum marks scored 60 marks and the one who scored the highest, scored 80 marks.

Q68. Who scored the second highest marks?

- (a) B (b) E (c) D (d) C (e) A

Q69. Who is the most likely to have scored 62 marks?

- (a) B (b) A (c) D (d) E (e) Either E or B

Q70. Who scored the lowest marks?

- (a) B (b) E (c) D (d) C (e) A

Q71. Among B, F, J, K and W, each one of them is of different heights, F is taller than only J. B is taller than F and W (both) but not as tall as K. Who among them is the third tallest?

- (a) B (b) F (c) K (d) W (e) None of these

Q72. In a class Harsh is 10th from the top and Harshita is 20th from the bottom. Naveen is 11 ranks above Harshita and 21 ranks below Harsh. How many students are there in the class?

- (a) 60 (b) 61 (c) 62 (d) 58 (e) None of these

Q73. Mamta's rank is 21st from the top and 15th from the bottom in the class. How many students are there in the class?

- (a) 29 (b) 36 (c) 27 (d) 35 (e) None of these

Q74. Among A, B, C, D and E, A is taller than only B but shorter than C. C is taller than E. C is not the tallest. Who among them will be in the middle if they stand in the order of their height?

- (a) A (b) C (c) B (d) D (e) None of these

Q75. What annual installment will discharge a debt of Rs 2,360 due in four years at 12% p.a. simple interest?

- A. 400 B. 500 C. 300 D. 600 E. None of these

Q76. A sum of Rs 7500 is to be paid back in three equal annual installments. How much is each installment if the interest is compounded annually at 4% p.a.?

- (a) Rs. 1000.05 (b) Rs 981.65 (c) Rs 163.58
(d) Rs 2701 .61 (e) None of these

Q77. The salaries A, B, C are in the ratio 2 : 3 : 5. If the increments of 15%, 10% and 20% are allowed respectively in their salaries, then what will be new ratio of their salaries?

- A. 3 : 3 : 10 B. 10 : 11 : 20 C. 23 : 33 : 60
D. Cannot be determined E. None of these

Q78. Ajay , Vijay, and Chetan enters into a partnership with equal amounts for same time but Ajay as being an active partner keeps 40% of the profit earns for his services. Chetan gets Rs. 2000 as profit. Calculate the amount of profit earned by Ajay.

- A. Rs 3000 B. 2000 C. 5000 D. 6000 E. None of these

Q79. How many times between 4 AM and 5 PM will the hands of a clock be at 180° ?

- A. 11 B. 12 C. 13 D. 22 E. None of these

Q80. Which of the following pair of years ends on same day ?

- A. 1900, 2000 B. 2100, 2500 C. 2100, 2300 D. 1900, 2200
E. None of these

Printed Pages : 2

University Roll No:

End Term Examination, Odd Semester 2019-20

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

BCSC0010: Discrete Mathematics

Time: 3 Hour

Maximum Marks: 50

Section-A

$7 \times 5 = 35$ Marks

1. Prove that the relation $R = \{(x, y) | x - y \text{ is an even integer for all } x, y \in Z\}$ is an equivalence relation.

2. Attempt all:

a. Prove the following:

$$Y - X' = Y \cap X$$

b. Out of 80 students in a class, 60 play football, 53 play hockey and 35 play both the games. How many students

i. Do not play any of these games?

ii. Play only hockey but not football?

3. Attempt all:

a. Solve the following recurrence relation:

$$u_n = u_{n-1} + 2u_{n-2}, n \geq 2, u_0 = 3, u_1 = 7$$

b. Find the generating function for the following sequence:

$$1, 2, 2^2, 2^3, 2^4, \dots$$

4. Attempt all:

a. By using mathematical induction prove that the given equation is true for all positive integers.

$$2 + 4 + 6 + \dots + 2n = n(n + 1)$$

b. Three electric bulbs are chosen at random from 15 bulbs of which 5 are defective. Find the probability that none of them is defective.

5. Attempt all:

- a. Show that s is a valid conclusion from the given premises:
 $p \rightarrow \neg q, \quad q \vee r, \quad \neg s \rightarrow p, \quad \neg r.$

b. Translate following using predicate logic and also find its negation:

'All men are Mortal'

6. Show that $(\mathbb{Z}, +, \cdot)$ is a ring where \mathbb{Z} denotes the set of integers with operations addition and multiplication.

7. Attempt all:

- a. Find the order of all elements in the set $\{a, a^2, a^3, a^4, a^5, a^6\}$ with respect to multiplication operation and identity element a^6 .
 b. State and prove handshaking theorem on graphs.

Section-R

(a) Attempt all questions:

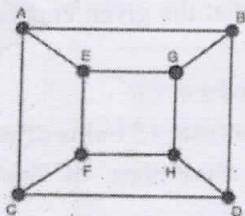
3 x 2 = 6 Marks

1. State and prove Lagrange's theorem on subgroups.
 2. Discuss the concept of bipartite graphs with example.
 3. Show that the set $\{1, 2, 3, 4\}$ is a finite abelian group under multiplication modulo 5.

(b) Attempt all questions:

3 x 3 = 9 Marks

- What do you understand by homomorphism of groups? Give example.
 - Prove that for any elements a and b in a group $(G, *)$
 - $(a^{-1})^{-1} = a$
 - $(ab)^{-1} = b^{-1}a^{-1}$
 - Find a Euler and Hamiltonian path/circuit in the graph given below: (if exists)



Printed Pages :4

University Roll No:

End Term Examination, Odd Semester 2019-20

Program: B.Tech(CS), Year: II Semester: III

Subject Code:BCSC0009 Subject Title: Software engineering

Time: 3 Hour

Maximum Marks: 50

Section-A

Note: Attempt all questions.

$7 \times 5 = 35$ Marks

- I. Discuss the elicitation technique which promotes the creative thinking and new ideas. Consider the following activities of Restaurant System:

- Customer Order
- Serve Product
- Collect Payment
- Produce Product
- Store Product
- Order Raw Materials
- Pay for Raw Materials
- Pay for Labor

Consider the above scenario and create the following:

- a) Use Case Diagram
- b) DFD level-0, level-1.

OR

Assume that you are the technical manager of a software development organization. A client approached you for a software solution. The problems stated by the client have uncertainties which lead to loss if it not planned and solved. Which software development model you will suggest for this project-justify. Explain the model with its pros and cons and neat sketch.

- II. Compare the Walston-Felix model with the SEL model on a software development expected to involve 8 person-years of effort.
- a) Calculate the number of lines of source code that can be produced.
 - b) Calculate the duration of the development.
 - c) Calculate the productivity in LOC/PY
 - d) Calculate the average manning
- III. Differentiate between structure chart and flow chart. Consider a program that reads a number from array, sort the number using any sorting algorithm and print the sorted list of elements. Draw structure chart for this problem and clearly show the data and control flow.

OR

Discuss the various software planning objectives. Also enlist various function oriented design notations. Design the structured chart for the following code with proper leveling:

```
subhowManyThrees()
dimnum1,count,totalasinteger
num1=startMsg()
count=0
total=0
whilenum1>0do
    checkNumber(count,total,num1)
    num1=num1-1
endwhile
endMsg(count)
endsub
subcheckNumber(byRefc,byReft,byValn)
    ifnMOD3=0Then
        c=divBy3(c)
    Else
        t=add(n,t)
    Endif
endsub
functiondivBy3(x)
    returnx+1
endfunction
functionadd(n,t)
    returnn+t
endfunction
functionstartMsg()
    console.writeline("program started, enter your number")
    returnconsole.readline()
endfunction
subendMsg(n)
    console.writeline("number of threes : "&n)
endsub
```

- IV. What do you understand by structure Design methodology? Apply all four steps of SDM for given scenario:

GLA University has to design a software system for Result Management system.(make necessary assumptions)

- V. Consider the fallowing program and Draw flow graph, DD path graph, identify independent paths; Write the test cases, Calculate cyclomatic complexity by all four methods.

```
#include <stdio.h>
void main ()
{
    int number1, number2;
    printf("Enter two integers: ");
    scanf("%d %d", &number1, &number2);
    if (number1 >= number2)
    {
        if (number1 == number2)
        {
            printf("Result: %d = %d", number1, number2);
        }
        else
        {
            printf("Result: %d > %d", number1, number2);
        }
    }
    else {
        printf("Result: %d < %d", number1, number2);
    }
    getch();
}
```

- VI. Admission to a professional course is subject to the following Conditions:

1. Marks in Mathematics ≥ 60
2. Marks in Physics ≥ 50
3. Marks in Chemistry ≥ 40
4. Total in all three subjects ≥ 200 or Total in Mathematics and Physics ≥ 150

If aggregate marks of an eligible candidate are more than 225, he/she will be eligible for honors course; otherwise he/she will be eligible for pass

course.

The program reads the marks in the three subjects and generates the following outputs:

- (a) Not Eligible
- (b) Eligible to Pass Course
- (c) Eligible to Honors Course

Design test cases using decision table testing technique and Equivalence class testing technique.

- VII. Draw the framework of Automation testing. Why Automation Testing is needed? Explain Automated Testing process of Selenium with the help of examples (By considering different test cases).

Section-B

I. *Note: Attempt all questions.*

3 x 2 =6 Marks

- (a) Differentiate between Reverse and Re Engineering. In which scenario reverse engineering is required. Give the illustration that shows the application of reverse engineering at different level of abstraction.
- (b) The development effort for a software project is 500 person months. The empirically determined constant (K) is 0.3. The complexity of the code is quite high and is equal to 8. Calculate the total effort expended (M) if
 - (i) Maintenance team has good understanding of the project ($d=0.9$)
 - (ii) Maintenance team has poor understanding of the project ($d=0.1$)
- (c) Explain with the help of example why single entry, single exit modules make testing easier during maintenance.

II. *Note: Attempt all questions.*

3 x 3 =9 Marks

- (a) Consider a simple program to classify a triangle. Its inputs is a triple of positive integers (say x, y, z) and the date type for input parameters ensures that these will be integers greater than 0 and less than or equal to 100. The program output may be one of the following words:
[Scalene; Isosceles; Equilateral; Not a triangle]
Define all the input and output domain Equivalence Classes.
- (b) Discuss the relationship between quality factors and quality criteria in McCall's software quality model.
- (c) Discuss how the CMM encourages continuous improvement of the software process. Also enlist various key process areas of CMM at various maturity levels.

Printed Pages : 2 **University Roll No:**
End Term Examination, Odd Semester 2019-20
Program: B.Tech(CSE(CCV)), Year : II , Semester : III
Subject Code : BCSE0501 ,Subject Title : Introduction to IT Infrastructure Landscape

Time: 3 Hour **Maximum Marks: 50**

Section-A

Attempt all questions **7x5=35 Marks**

1. Explain the need of virtualization in storage technologies. Explain different storage virtualization techniques.
 2. What are different network storage technology landscapes? Also differentiate between Fabric and Switched fabric.
 3. Analyze different RAID levels with diagrams. Differentiate between mirroring and cloning .
 4. What is the significance of LDAP in cloud technology? Explain LDAP Replication Topologies in detail.
 5. Discuss different types of operating systems. Also explain different types of servers used to provide IT infrastructure.
 6. Differentiate between Hub, Switch and Router. Also explain different encryption techniques used to maintain confidentiality.
 7. What is data warehousing? How is it different from data marts? Also explain how these two help in process of data mining.

Section-B

1. Attempt all questions **$3 \times 2 = 6$ Marks**

- (a) Explain the purpose of middleware and its properties.
 - (b) Discuss the advantages of message oriented middleware.
 - (c) With the help of a diagram explain objects of websphare MQ.

2. Attempt all questions

3 x 3 =9 Marks

- (a) Explain web tier deployment and its advantages.
- (b) Explain lotus notes architecture with the help of a diagram. Also explain Lotus domino server types.
- (c) Analyze global data warehouse architecture in detail with the help of a diagram.

Printed Pages :3

University Roll No:

End Term Examination, Odd Semester 2019-20

Program: B.Tech(CSF), Year: II Semester: III

Subject Code:BCSE0601 Subject Title: IT Application & data Security

Time: 3 Hour

Maximum Marks: 50

Section-A

Note: Attempt all questions.

7 x 5 = 35 Marks

- I. What are threats and malware that affect the security of application? Discuss and explain agile framework for software development with suitable diagram.
- II. Discuss and explain most effective countermeasures of input validation. What are Practical solutions for input validation? Also explain different way to prevent data tampering.

OR

What do you understand by vulnerability of sensitive data exposure? Explain what methods are used for protection of sensitive data leakages.

- III. What are the control objectives of session management? Explain hijacking, session replay and man in middle attack with example.
- IV. Discuss the block diagram of data encryption standard algorithm. Encrypt and decrypt the message “stegano” by using multiplicative cipher having key=7.use encoding 00 to 25 for letters A to Z respectively.

OR

Using S-DES, show encryption and decryption of the given string 01000110 using the key 101000010.

- V. Write the steps of Elgamal digital signature scheme. Using the elgamal signature, let prime number is $q=19$, primitive root $\alpha=10$,

private key XA=15, Random integer K=5.find the value of signature S1 and S2 if $h(M)=14$.verify the signature.

- VI. Discuss and explain process in which an attacker covers tracks by destroying all evidence of the attack. Also explain four strategic countermeasures for protecting Web applications and to increase security awareness.
- VII. Malware, known as Stuxnet is a shorthand term that encompasses all types of malicious software. This includes viruses, worms, Trojan horses, spyware, and all other types of software that get put onto your computer without you knowing it. Malware may exploit weakness to initially infiltrate a system or to gain additional privileges on an already-compromised machine. The weaknesses may be exploiting automatically by malware authors creations or manually by attempt will be generically called attackers. Weaknesses fall into two broad categories, based on where the weakness lies. Technical weakness involves tricking people. The malware, hidden in shortcuts to executable programs (files with extension .ink) was executed automatically when the content of an infected USB drive was displayed. Employing this same technique, the worms were capable of installing other malware. Data gathered later by other experts indicates that the worms was actually looking for some specific programmable Logic Controllers(PLC) devices used in a specific industrial plants. A fact that points to the possibility that malware was part of the sites infected with sabotage. The significance that such a sophisticated treat represents to the industrial recourses in Europe and others parts of the world cannot be underestimated.

Q.1 Describe some of the weaknesses exploited by malware.

Q.2 Discuss the steps of malware threat technique in correct order.

Section-B

I. Note: Attempt all questions.

$3 \times 2 = 6$ Marks

- (a) What do you understand by data security? Discuss and explain the lifecycle of data security with suitable diagram.
- (b) Discuss and explain the technique in which values and actions are inserted unexpectedly as an application's input to crash it down.
- (c) The academic security model was "wide open" and the government security model was 'closed and locked'. Justify this statement with suitable example.

II. Note: Attempt all questions.

$3 \times 3 = 9$ Marks

- (a) Differentiate between Birthday attack and cryptanalysis attack. What are the steps involved in SQL Injection.
- (b) Which types of sniffing attacks can be carried out at every layer of OSI-Model? Also discuss counter measures for cross-site scripting forgery.
- (c) Write short note on any two:
 - 1) Botnet and phishing network based threat techniques.
 - 2) Physical security countermeasures
 - 3) Web application countermeasures

Printed Pages : 02 **University Roll No:**
End Term Examination, Odd Semester 2019-20
B.Tech, (CSE DA), II, III
BCSE 0551: Introduction to Business Analytics

Time: 3 Hour **Maximum Marks: 50**

Section-A (from Entire syllabus of the subject)

Attempt all the following: **35 Marks**

- I. Discuss the various classification of Analytics with some examples and case studies?
- II. Define business analytics. What are the component of Business Analytics? Discuss them with example. How people not aware of Analytics take decisions?
- III. Discuss ROLAP, MOLAP and HOLAP. Differentiate between OLTP and OLAP. What are the features of data warehouse?
- IV. Discuss BI Architecture. What are the different stages and steps involving in Bi Design and development?
- V. What is CRISP-DM? Explain and draw the sequence diagram of all the phases of CRISP-DM.
- VI. What is Machine Learning? Discuss Supervised Learning, Unsupervised Learning and Reinforcement Learning with help of example.
- VII. What is data mining? What are the challenges of Data mining? Is Big Data proving to be useful in overcoming any of these challenges?

Section-B (from Module-3 of the Syllabus of the Subject)

(a) Attempt the following:

$3 \times 2 = 6$ Marks

I. Answer the following:

- a. Define Dashboard?
- b. Why should dashboards be used in the decision making process?

II. Answer the following:

- a. Discuss layers of information.
- b. What are the different Gestalt principles of perception applicable to dashboards?

III. Answer the following:

- a. Define Big Data.
- b. Can big data replace all other data storage techniques as RDBMS or data warehouse?

(b) Attempt the following:

$3 \times 3 = 9$ Marks

I. What are the three types of dashboard? Explain them vividly.

II. Discuss following with suitable diagram:

- a. Line chart
- b. Pie chart
- c. Radar chart
- d. Column chart
- e. Bar chart
- f. Gauges

III. Discuss 4V's of Big data. How big data is useful to:

- a. Financial sector
- b. Telecommunication services
- c. Transportation services
- d. Healthcare and life science services

Printed Pages: 02

University Roll No.....

End Term Examination, Odd Semester 2019-20

B.Tech. (CS-IoT), Year - II, Sem. - III

BCSE 0651: Wireless Sensor Networks & IoT Standards

Time: 3 Hour

Maximum Marks: 50

Section – A

Attempt All questions.

$7 \times 5 = 35$ Marks

- I. Differentiate between pure and slotted Aloha.
- II. Describe the concept of CSMA MAC protocol.
- III. Explain in detail the services provided by the different layers of OSI model along with the name of each layer.
- IV. Enlist the different categories of routing protocols along with advantages and disadvantages of each.
- V. Discuss the different phases of Directed Diffusion.
- VI. Elaborate the process of cluster formation and data transmission in LEACH protocol.
- VII. Draw the IPv6 packet format along with the number of bits required for each field.

Section – B

Attempt All questions of Both Parts.

Part A

$3 \times 2 = 6$ Marks

- I. Define coverage and localization.
- II. How the Operating System for WSN differs from other Operating Systems?
- III. What are the different ways for representing an IPv6 address? What are the different techniques to shorten an IPv6 address representation?

Part B

$3 \times 3 = 9$ Marks

- I. Differentiate between full monitoring and perimeter monitoring.
- II. Explain CoAP and MQTT protocols.
- III. Explain the important features of ZigBee and 6LoWPAN protocols.