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## Code: 7G162

III B.Tech. II Semester Supplementary Examinations January 2022

# Internet of Things <br> ( Computer Science and Engineering ) 

Max. Marks: 70
Time: 3 Hours
Answer all five units by choosing one question from each unit ( $5 \times 14=70$ Marks )

Marks CO | Blooms |
| :---: |
| Level |

## UNIT-I

1. a) Define Internet of Thins? Explain about the history of loT?

7M CO1
b) Mention the various applications of IoT.

## OR

2. a) Demonstrate the logical Deign of loT.
b) Discuss any three levels of IoT with examples.

## UNIT-II

3. a) Compare and contrast M2M with loT.
b) What is NFV? Explain NFV briefly with architecture.

7 M CO2

## OR

4. a) List out the steps for designing loT based system with example.

7M CO2
$7 \mathrm{M} \mathrm{CO2}$

## UNIT-III

5. Explain about the 6LoWPAN architecture.

## OR

6. a) Describe in detail about ZigBee compact application protocol.

7M CO3
b) Write short notes on Wireless RFID Infrastructure.

7M CO3

## UNIT-IV

7. Discuss about Functions and Modules in Python.

## OR

8. a) Write a short note on the following features in python.
i) Tuples
ii) Lists
iii) Dictionary
7M CO4
b) Write a Python program to compute statistics of a document with the following properties:
i) Create a text file with random text
ii) Create a function to read the contents of a file in reverse order.

7M CO4

## UNIT-V

9. a) Discuss about various interfaces of Raspberry Pi.

7M CO5
b) How Raspberry Pi differs with Arduino.

7M CO5

## OR

10. a) Write a python script to interface LED and switch with Raspberry Pi.

7M cos
b) Define Internet of Things? Differentiate the loT device from traditional device.

## R-17

## Code: 7G163

III B.Tech. II Semester Supplementary Examinations January 2022 Object Oriented Analysis and Design
( Computer Science and Engineering )
Max. Marks: 70
Time: 3 Hours
Answer any five full questions by choosing one question from each unit ( $5 \times 14=70$ Marks )

| UNIT-I | Marks | CO | Blooms <br> Level |
| :---: | :---: | :---: | :---: |
| deling? Describe each of them? <br> OR | 14 M | CO1 | L1,L2 |

2. Draw a neat diagram to illustrate the software development life cycle? Explain each of its phases?

14M CO1

UNIT-II
3. Describe about the different types of association relationships with suitable examples?

14M CO2

## OR

4. Draw and explain the class diagram for Railway Reservation system?

14M CO2
L4

## UNIT-III

5. What is interaction in UML? Explain the interaction diagram for an online shopping system?

14M CO3
OR
6. What is activity diagram? Draw and explain the activity diagram for a library management system

## UNIT-IV

7. Define state? List out the different parts of a state machine? Illustrate all with suitable examples?

14M CO4

## OR

8. Describe the various concepts involved in modeling a Reactive objects with a neat sketch?

14M CO4

## UNIT-V

9. Summarize the concept of nodes and components with a neat diagram?

14M CO5
OR
10. Draw and explain the component and deployment diagrams for an ATM machine?

14M CO5
Hall Ticket Number :
R-17
Code: 7G166
III B.Tech. II Semester Supplementary Examinations January 2022

## Artificial Intelligence

( Computer Science and Engineering )Max. Marks: 70Time: 3 Hours
Answer any five full questions by choosing one question from each unit ( $5 \times 14=70$ Marks )

## UNIT-I

1. How to represent a problem as a state space search, explain with water-jug
2. problem.

## OR

2. a) Define Agent. Discuss about the different types of it.
7M CO1
b) Discuss the various Problem characteristics in detail.
7M CO1

## UNIT-II

3. Write and explain the $\mathrm{A}^{*}$ algorithm. 14M CO2

## OR

4. a) What is Iterative Deepening, explain.
7 M CO2
b) Explain any one Constraint Satisfaction Problem (CSP) with an example.
7M CO2
Level

## UNIT-III

5. Discuss about Universal, Existential and Nested quantifiers in First-Order Logic
14M CO3

## OR

6. Write short notes on:
a). Backward chaining 7M
b). Forward chaining.
7M CO3

## UNIT-IV

7. a) Explain about Mental Events and Objects in knowledge engineering.
7M CO4
b) How to do planning with state space search, explain.
7M CO4

## OR

8. a) What is Ontological engineering in knowledge engineering, explain.
7M CO4
b) Write short notes on Hierarchical planning.
7M CO4
UNIT-V
9. Write short notes on: a). Axioms of Probability. 7M
b). Fuzzy Logic.
7M cos
10. What are the uses of Bayes' rules in Uncertain knowledge and reasoning, discuss in detail.

## Cryptography and Network Security

( Computer Science and Engineering )
Max. Marks: 70
Time: 3 Hours
Answer all five units by choosing one question from each unit ( $5 \times 14=70$ Marks ) ********

## UNIT-I

1. Describe the various active attacks? What security mechanisms are suggested to
counter attack active attacks?

## OR

2. Draw Internetwork security model and explain the components.

## UNIT-II

3. a) Differentiate between Message Authentication Code and Hash function.
b) Describe RSA algorithm and perform encryption using RSA algorithm for the following $P=7, q=11, e=17$ and $M=8$;

## OR

4. Explain digital signature standard with necessary diagrams in details. 14M

UNIT-IV
5. a) What is replay attack and how is it encountered in in IP Security? 7M
b) Explain about key management process. 7M

OR
8. a) List the different message types in SSL Handshake Protocol. 7M
b) Who are the different participants in Secure Electronic Transaction (SET)?
Explain how communication goes on between them.

UNIT-V
9. a) Explain about Host based Intrusion Detection Systems in brief. 7M
b) Describe the different types of fire walls and its configuration in detail. 7M

OR
10. a) Write briefly about techniques used for Statistical anomaly detection. 7M
b) Discuss virus structures. 7 M

Code: 7G161
III B.Tech. II Semester Supplementary Examinations January 2022
Data Mining and Data Warehousing
( Computer Science and Engineering )
Time: 3 Hours
Max. Marks: 70
Answer any five full questions by choosing one question from each unit ( $5 \times 14=70$ Marks )

Marks CO | Blooms |
| :---: |
| Level |

## UNIT-I

1. a) Elaborate on the major issues in data mining
$6 \mathrm{M} \mathrm{CO1}$
b) Describe the concept hierarchy generation for categorical data. $8 \mathrm{M} \mathrm{CO1}$

OR
2. a) Discuss about classification of data mining systems

6M CO1
b) What is data transformation? Explain different types of data transformation used in data mining.

8M co1

## UNIT-II

3. a) Design a Multi-dimensional Model and distinguish the OLAP operations on Data Cube.

8M CO2
L5,L4
b) Categorize various kinds of Association Rules with examples.
$6 \mathrm{M} \mathrm{CO2}$
OR
4. a) Compare and contrast Star schema and Snow flake schema.
$6 \mathrm{M} \mathrm{Co2}$
b) Describe about FP-Growth Algorithm with a suitable example

8M CO2
UNIT-III
5. a) How is classification performed in data mining? Explain

6 M CO3
b) State the Back Propagation Algorithm for classification and explain with an example.

8M CO3

## OR

6. a) How is prediction performed in data mining? Explain
$6 \mathrm{M} \mathrm{CO3}$
b) Discuss K-Nearest Neighbor classification with suitable example

8M CO3

## UNIT-IV

7. a) What is clustering? Discuss Grid based clustering methods.

8M CO4
L1,L2
b) Distinguish between K-Means and K-Medoid methods
$6 \mathrm{M} \mathrm{CO4}$
OR
8. a) Why is Outlier Mining important? Explain distance based Outlier Detection.

6M CO4
b) Explain about Model based clustering methods.

8M CO4

## UNIT-V

9. a) Demonstrate the methodologies used for spatial mining.

7M cos
7M cos
OR
10. a) What is text mining? Demonstrate the steps involved in text mining process.

7M CO5
L1,L6
b) Explain various types of web mining with suitable examples

7M CO5
L2
H.T. No:-

Date: 17-02-2022
Duration: 120Min.
Max.Marks:70
Choose the correct Answer.
100 X $1=100$ Marks
Directions (1-5) In each of the following questions, out of the given alternatives, choose the one which best expresses meaning of the given word .

1. Abandon
a) abscond
b) discontinue
c) neglect
d) condense
2. Lethargy
a) Laxity
b) Impassivity
c) Serenity
d) Listlessness
3. Diligent
a) Intelligent
b) Energetic
c) Modest
d) industrious
4. False
a) defective
b) untrue
c) incorrect
d) inaccurate
5. Mystique
a) Fame
b) Reputation
c) Admirable Quality
d) Popularity

Direction (6-10) In each of the following questions, choose the word opposite in meaning to the given word.
6. Start
a) close
b) shut
c) end
d) finish
7. Lend
a) hire
b) pawn
c) cheat
d) borrow
8. Magnify
a) Induce
b) Diminish
c) Destroy
d) Shrink
9. Vanquish
a) Surrender
b) Debase
c) Destroy
d) Ruin
10. Malicious
a) Boastful
b) Indifferent
c) Kind
d) Generous

Directions (11-15) In each of the following questions, and Idiomatic expression is given followed by alternatives, choose the one which best expresses the meaning of the given idiom.
11. To cross swords
a) to fight
b) to defend
c) to kill
d) to rob
12. To talk one's head off
a) To talk loudly
b) To talk in whispers
c) To talk to oneself
d) To talk excessively
13. To throw down the glove
a) To resort to wrong tactics
b) To give a challenge
c) To accept defeat
d) To reject the prize
14. To smell a rat
a) to detect bad smell
b) to misunderstand
c) to suspect a trick or deceit
d) to see hidden meaning
15. To play fast and loose
a) To beguile others
b) To be winning some times and losing at other times
c) To play with someone's feelings
d) To play tricks

Directions (16-20): In each of the following questions, out of the four alternatives, choose the one which can be substituted for the given words/sentences
16. One who forcibly seizes control of a bus or an aircraft
a) pirate
b) swindler
c) hijacker
d) pilferer
17. Large scale departure of people
a) Migration
b) Emigration
c) Immigration
d) Exodus
18. One who always runs away from danger
a) Escapist
b) Timid
c) Coward
d) Shirker
19. The short remaining end of cigarette
a) stump
b) stub
c) rag
d) scrap
20. One who loves mankind
a) Anthropologist
b) Philanthropist
c) Seismologist
d) Optometrist

Directions (21-25) (Analogy) Select the lettered pair that has the same relationship as the original pair of words.
21. Bog:-----slumber::sleep
a) dream
b) foray
c) marsh
d) night
22. -----:horse::board:train
a) stable
b) shoe
c) ride
d) mount
23. Poetry:rhyme::philosophy:--------
a) imagery
b) music
c) bi-law
d) theory
24. Marshal:prisoner::principal:------
a) teacher
b) president
c) doctrine
d) student
25. Diamond:baseball::court:------
a) poker
b) jury
c) grass
d) squash

Directions (26-30) In each of the following questions, a word has been written in four different ways out of which only one is correctly spelt. Find the correctly spelt word.
26.
a) Business
b) Busness
c) Businies
d)Buseneis
a) Accomodation
b) AccomodItion
c) Acommodation
d) Accommodation
28.
a)Comissioon
b) Commission
c) Comiesson
d) Comession
29.
a) Guerila
b) Goriella
c) Gorilla
d) Goerilla
30.
a) comitment
b) comitment
c) commitment
d) comitmant

Directions (31-35) In each question below are given two sentences numbered I and II. In these sentences, two homonyms are given in italics, which may be either misspelt or inappropriate in the context of the sentences. Read both sentences carefully and decide on their correctness on the basis of Italicized
I. It is a knaughty problem
II. Suresh is a naughty boy
a) if only sentence I is correct
b) if only sentence II is correct
c) if both sentences I and II correct
d) if I as well as II are incorrect, but both could be made correct by interchanging the italicized words
32. I.A painter is an Artiste
II.Raj Kapoor is a skilled Artist.
a) if only sentence $I$ is correct
b) if only sentence II is correct
c) if both sentences I and II correct
d) if I as well as II are incorrect, but both could be made correct by interchanging the italicized words
I. I think this electric meter is faulty.
II. I require two meters of cloth for this purpose.
a) if only sentence I is correct
b) if only sentence II is correct
c) if both sentences I and II correct
d) if I as well as II are incorrect, but both could be made correct by interchanging the italicized words
34. I. his manners are urban .
II.people of urbane area are civil in manners.
a) if only sentence I is correct
b) if only sentence II is correct
c) if both sentences I and II correct
d) if I as well as II are incorrect, but both could be made correct by interchanging the italicized words
I.painting is done on canvass.
II.He was canvassing for votes.
a) if only sentence I is correct
b) if only sentence II is correct
c) if both sentences I and II correct
d) if I as well as II are incorrect, but both could be made correct by interchanging the italicized words
Directions: (36-40) In each of the following questions, a sentence has been given in Active / Passive voice. Out of the four alternatives suggested select the one which best expresses the same sentence in passive/ Active voice.
36. Darjeeling grows tea.
a) Tea grows in Darjeeling
b) Tea is grown in Darjeeling
c) Let the tea be grown in Darjeeling
d) Tea is grown in Darjeeling
37. It is time to ring the bell
a) it is time to the bells rings
b) it is being time to ring the bell
c) it is the time for the bell to ring
d) it is time for the bell to be rung
38. He will write a letter next week
a) A letter would be written by you
b) A letter will be written by him next week
c)A letter is written by him
d)A letter was written by him next week
39. They know him
a) He is known by them
b) He is known to them
c) He is known to them
d) He was known by them
40. My uncle promised me a present.
a) A present was promised by my uncle to me
b) I was promised a present by my uncle
c) I had been promised a present by my uncle
d) I was promised by my uncle a present
(Directions 41-50): Choose the most appropriate word in the context of the passage, from the given alternatives.
Life is an $\qquad$ (41) series of challenges and opportunities to be seized. You have to plan for exercising the right career choices and $\qquad$ (42) the right opportunities. Planned $\qquad$ (43) rather than a hasty decision is $\qquad$ (44) as far as your career is concerned. You need to $\qquad$ (45) what occupational groups, $\qquad$ (46) and types of organizations seem $\qquad$ (47) to you. An individual today has man (48) this or take full $\qquad$ (49) of this determining his or her future. Few of us $\qquad$ freedom. Most of us let the future be $\qquad$ (50) by what is going to happen rather by personal life goals and plans for the future.
41
a) enticing
b) exciting
c) encharming
d) enhancing
a) catching
b) offsetting
c) grabbing
d) conceiving
a) delay
b) hindrance
c) wait
d) procrastination
43
a) desirable
b) deciphered
c) inevitable
d) acceptable
45
a) check
b) classify
c) divide
d) analyze
46
a) specifications
b) limitations
c) qualifications
d) identification
47
a) worthy
b) needful
c) suitable
d) necessary
48
a) reprimand
b) realize
c) recognize
d) remember
49
a) advantage
b) enjoyment
c) privileges
d) compensation
50
a) determined
b) swayed
c) deprived
d) led

Direction (51-55): In the questions given below, some of the sentences have errors and some have none. Find out which part of a sentence has an error. If there is no mistake, the answer is 'No error'.
51. He took to (a)/ reading Times (b) / for better knowledge of facts. (c) / No error (d)
52. I am not wealthy,(a)/so I cannot afford (b)/to buy a expensive car(c) no error(d)
53. Both the civilians (a)/ and army men (b) / joined the first world war. (c) / No error (d)
54. A person I met (a) / in the theatre (b) / was the playwright himself. (c) / No error (d) To perform this experiment, (a) / drop little sugar (b) / into a glass of water. (c) / No
55. error (d)

Directions (56-60) pick out the most effective word from the given words to fill in the blanks to make the sentence meaningfully complete.
56 The conference was successful, your style of presentation was...... everyone liked
a) valuable
b) difficult
c) conductive
d) wonderful

He has ........... people visiting him at his house because he fears it will cause discomfort to neighbors.
a) curtailed
b) requested
c) stopped
d) warned

58 He is too ------ to be deceived easily
a) strong
b) modern
c) kind
d) intelligent

59 Successful people are genuinely very efficient in ----- their task.
a) making
b) attaining
c) accomplishing
d) achieving

60 You must ----------- your career with all seriousness.
a) direct
b) pursue
c) complete
d) manage

Directions (61-65):: in each question, a part of sentence is printed in italics. Bellow each sentence, some phrases are given which can substitute the italicized part of the sentence. Find out the phrase which can correctly substitute that part of the sentence. If sentence is correct as if is, the answer is' No correction is required" or No improvement.
61 The police broke away the meeting as it turned violent.
a) Broke up
b) Broke off
c) broke through
d) No improvement

62 They are working for the upliftment of their village.
a) uplift of
b) uplifting of
c) uplifting
d) No improvement

63 My mother asked me when would I have a glass of milk .
a) I will
b) I would
c) I shall
d) No improvement

64 The teacher asked, "why you are late?"
a) why you were late
b) why late you are
c) why are you late
d) No correction required

65 The train left before we reached the station.
a) had left
b) would have left
c) has had left
d) No improvement

Directions (66-70) : Rearrange these parts so as to form a complete meaningful sentence and then choose the correct combination.
66 (1) We
(p) agreed with
(Q) the manner in which you said it
${ }^{\circledR}$ but we objected to
(s) what you said
a) PQRS
b) PSRQ
c) RPQS
d) SQPR

67 Why do people
$(P)$ despite a desire
(Q) to quit and despite
${ }^{\circledR}$ continue smoking
(S) the known health hazards?
a) PQSR
b) RPQS
c) QSPR
d) SRPQ

68 The man
$(P)$ is generally the one
(Q) Who can work very hard
${ }^{\circledR}$ when he must work
(S) who can play most heartily when he has the chance of playing
a) PSQR
b) QRPS
c) QRSP
d) SPQR

> (1)If you are serious about (P)vocabulary building not a hobby
> (Q)you will have to make
> ® an absorbing interest,
> (S)increasing your vocabulary)
> (6) or even an obsession.
a) PQSR
b) PRQS
c) RQPS
d) SQPR
a) PRSQ
b) QPRS
c) RSPQ
d) SQPR

Directions (71-75): in each sentence below ,there are two blank spaces . Below each sentence some pairs of words are given which are numbered ,(a),(b),(c), and (d).pick out the most appropriate pair to fill in the blank I same order ,make the sentence meaningfully complete
71 I am not $\qquad$ to sell you my house unless you offer a more ......price.
a) conform, true
b) conform, true
c) ready, correct
d) having, actual

72 Education is $\qquad$ to the economic and social fabric of the nation, but $\qquad$ that few political parties have made it an election issue .
a) eminent, barring
b) concomitant, instead of
c) basic, despite
d) rudimentary, besides

73 Since we ......read every book, we $\qquad$ only the famous ones .
a) have , sold
b) should, buy
c) must, ignore .
d) cannot, select

How many of the books published each year in India make a $\qquad$ towards improving men's $\qquad$ with each other?
a) sensational, reservations
b) referential, behavior
c) significant , relationship
d) incorporated ,obligation

75 He usually $\qquad$ .but today he appears rather . $\qquad$
a) strict ,unwell
b) tense, restless
c) quiet, calm
d) calm, disturbed

Directions (76-80) Rearrange the given sentences $A, B, C, D$, and $E$ in the proper sequence so as to form a meaningful paragraph and then answer the questions given below them.
(A) She decided to go to school and meet the principal.
(B) Suddenly she realized that she had no money with her.
(C) By the time she reached there, he had left the office.
(D) Therefore, she decided to go to the office of Ravi's father and get the money.
(E) Sudha wanted her son Ravi to get admission in a convent school.

76 Which of the following should be the first sentence?
a) A
b) B
c) E
d) D

77 Which of the following should be the second sentence?
a) A
b) B
c) C
d) D

78 Which of the following should be the third sentence?
a) A
b) B
c) C
d) E

79 Which of the following should be the fourth sentence?
a) A
b)B
c) C
d)D

80 Which of the following should be the last sentence?
a) A
b) B
c) C
d) D

Directions (81-85) Find the suitable word pair for the following.
81 Body and .........
a) Fruit
b) Soul
c) Mind
d) Juice

82 Cause and
a) Big
b) Small
c) Smart
d) Effect

83 Sweet and
a) Bitter
b) Tasty
c) Yummy
d) Sour

84 Past and
a) Tomorrow
b) Future
c) Yesterday
d) None

85 Moon and
a) Stars
b) Earth
c) Galaxy
d) Mars

Directions(86-90):Choose the nearest confusing word for the following words 86 Advice:
a) Adverse
b) Advocate
c) Advise
d) Admire

87 Coarse:
a) Curse
b) Course
c) Purse
d) Nurse

## Affect

a) Effort
b) Effect
c) Efficient
d) Eminent

89 Lose :
a) Lust
b) Loose
c) Lost
d) Lamp

90 Yoke:
a) Yank
b) Bulk
c) Yolk
d) Milk

## Directions (91-100): Read the following passage carefully and answer the questions given below it.

The Supreme Court Judgement which abolishes punishment for attempted suicide will prove to be a milestone in India's judicial history. This is so because the judgement will benefit tens of thousands of miserable souls who are prosecuted for failing to kill themselves. Around 50,000 suicides are reported in India every year. Considering that three suicide bids take place for every successful one, we can safely assume that the failed suicides amount to 1, 50,000 a year in India.
These $1,50,000$ individuals could be sentenced to one year in jail under Section 309 of the Indian penal Code Which the Supreme Court Judgement has effected as being unconstitutional. Quite rightly, the judgment said that Section punishment for a troubled individual whose deep unhappiness had caused him to try and end his life. Yet, time and again,, the Indian police had launched these prosecutions. The Supreme Court Judgment has overturned a 1987 decision by a division bench which had upheld the constitution Validity of the Indian law against Suicide. The judgment had ruled that the right to life implied in the Indian Constitution does not include the right to die..

Which judgement of the supreme Court will be a milestone in India's Judicial History?
a) The one abolishing Suicide
b) The one abetting suicide
c) The one doing away with punishment for attempted suicide
d) The one condoning suicide

92 Why is the judgement hailed as a milestone?
a) because it will bring relief all around
b) because it will lessen the work of the police
c) because it is very balanced
d) because it will bring relief to all those being punished for attempting suicide

What punishment according to the passage was envisaged for unsuccessful suicide attempts, under the Indian law?
a) a fine of thousand rupees
b) death sentence
c) one year in jail
d) extreme torture
94. The judgement has termed Section 309 as cruel and irrational because
a) it takes away the right to life
b) it doubles the punishment of a tortured soul
c) it is very lenient
d) it provides for false accusations
95. What has the Indian police done time and again?
a) it has attempted to punish those guilty of trying to end their life
b) it has punished those who have committed suicide
c) it has imposed hardships on citizens
d) it has violated the Constitution
96. The Supreme Court judgement
a) has come up with the decision on its own
b) has reversed an earlier judgement dealing with suicide
c) is a continuation of the 1987 decision
d) is a unique one
97. In 1987, a division bench had
a) rejected the Indian law against suicide
b) changed the Indian law against suicide
c) supported the Indian law against Suicide
d) given a new meaning to the suicide law
98. The 1987 judgement had reasoned that
a) a man was free to die
b) the constitution did not provide for Suicide
c) right to die in Indian Constitution was upheld
d) the right to life in Indian Constitution had no implication of right to die
99. The word 'effaced' in the passage means
a) included
b) deleted
c) devised
d) dismissed

100 The word 'validity' in the passage means
a) soundness
b) remainder
c) invocation
d) legality

