30-05-25

Printing Pages : 1 Paper Code : - BIT-601 (A) (SVSU) : 2023-2024/R

Enrollment No. | | | | | | | | | | | | | |

B.Tech (IT)
III YEAR, VI SEMESTER EXAMINATION
SOFTWARE PROJECT MANAGEMENT

[Time : 03:00 Hours] [Max. Marks : 70]

NOTE:- ATTEMPT ALL THE QUESTIONS AS PER GIVEN INSTRUCTIONS.

QUESTION NO.-1: ATTEMPT ANY FOUR PARTS. (4*3=12)

a) What do you understand by SPM? Why is it needed?
b) Write the different phases of Project Management life cycle.
c) What is stepwise project planning? Explain.
d) Define software reviews with its types.
e) Define the Risk analysis and planning.
f) Give the definition of Baseline.

QUESTION NO.-2: ATTEMPT ANY THREE PARTS. (3*4=12)

a) What is scope of a project? Explain with example.
b) Discuss the basic differences between PERT and CPM.
c) What are the various types of testing strategies?
d) Discuss Program Correctness.

QUESTION NO.-3: ATTEMPTANY THREE PARTS. (3*6=18)

a) What is the significance of Gantt chart? Discuss with proper example.
b) Elaborate Software Quality Metrics
c) Explain the following terms in reference to Earned value analysis:
(i) Actual cost and (ii) Earned value
d) Write a short note on types of Software Reviews.

QUESTION NO.-4: ATTEMPT ANY TWO PARTS. (2*7=14)

(a) Is it practical to specify maintainability in SRS? How would you specify it? Would it be a testable requirement?.
(b) Describe Change Management Process in detail.
(c) What is Software Project Estimation? Give a detailed description.

QUESTION NO.-5: ATTEMPT ANY TWO PARTS. (2*7=14)

(a) Describe five essential elements of project management.

(b) Write a detailed note on CASE tools.

(c) Write the levels of Testing. Explain any two techniques in reference to levels of testing in detail.

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30-05-25

Printing Pages : 2 Paper Code : BCSE-612 (B) (SVSU:2021-2022/R)

Enrollment No. | | | | | | | | | | | | | |

B.TECH. (CSE/IT/ CSE -AIML)
3RD YEAR, 6TH SEMESTER EXAMINATION
IMAGE PROCESSING

Time: 3:00 Hrs. **Max. Marks:70**

NOTE:- ATTEMPT ALL THE QUESTIONS AS PER GIVEN INSTRUCTIONS.

QUESTION NO.-1: ATTEMPT ANY FOUR PARTS. **(4*3=12)**

a) What is Stereo imaging? Explain with the help of diagram.

b) Explain major applications of digital image processing.

c) Differentiate between HIT-MISS operation and Dilation Erosion operation.

d) Prove that Opening and closing are the dual transformation

e) Give the model of image Degradation/Restoration.

f) What is the difference between median filter and adaptive median filter?

QUESTION NO.-2: ATTEMPT ANY THREE PARTS. (3*4=12)

a) Explain the simple Image formation model with the help of neat diagram.

b) What do you understand by contrast stretching technique? Explain with diagram.

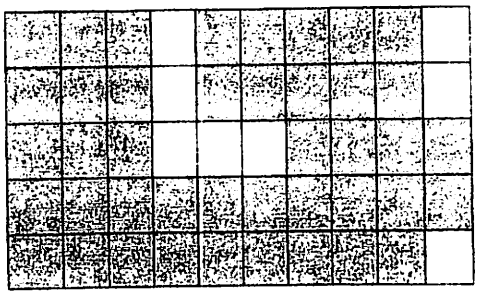
c) Discuss about Butterworth lowpass filter with a suitable example.

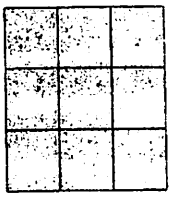
d) What is thresholding? Explain about global thresholding.

QUESTION NO.-3: ATTEMPT ANY THREE PARTS. (3*6=18)

a) Write about edge detection.

b) Define boundary extraction? perform boundary extraction on image A with the help of structuring element B. Here black means 1 and white means 0.

A= 

B= 

c) Write short note on:

i. Dynamic Range compression

ii. Power log transformation

d) An image segment is shown below. Let V be the set of gray level values used to define connectivity in the image. Compute D4,D8 and Dm distance between pixel p & q

(i) V={2,3} (ii) V={2,6}

p

2	3	2	6	1
6	2	3	6	2
5	3	2	3	5
2	6	3	5	2
4	5	2	6	2

q

[P.T.O.]

QUESTION NO.-4: ATTEMPT ANY TWO PARTS. (2*7=14)

a) Gray level histogram of an image is given by

Gray level	0	1	2	3	4	5	6	7
No. of pixels	790	1023	850	656	329	245	122	81

Compute the gray level histogram of the output image obtained by enhancing the input by the histogram equalization technique.

b) Explain region based segmentation technique in detail.

c) What do you mean by image processing? Explain the fundamental steps of image processing with help of diagram.

QUESTION NO.-5: ATTEMPT ANY TWO PARTS. (2*7=14)

a) Compare the basic frequency domain low pass and high pass filters.

b) Given histogram table image (a) and (b), match the histogram (a) as given by (b)

Gray level	0	1	2	3	4	5	6	7
No. of pixels	790	1023	850	656	329	245	122	81

Gray level	0	1	2	3	4	5	6	7
No. of pixels	0	0	0	614	819	1230	819	614

c) Write short note on:

i. Thinning and Thickening

ii. Region Filling

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30-05-25

Printing Pages : 1 **Paper Code : - BCME-601** **(B) (SVSU) : 2024-2025/R**

Enrollment No. | | | | | | | | | | | | | |

B.TECH (CSE (CLOUD COMPUTING-SPECIALIZATION)
III YEAR VI SEMESTER EXAMINATION
CLOUD COMPUTING INFRASTRUCTURE

[Time : 3:00 Hours] **[Max. Marks : 70]**

NOTE: - ATTEMPT ALL THE QUESTIONS AS PER GIVEN INSTRUCTIONS

QUESTION NO.-1: ATTEMPT ANY FOUR PARTS. (4*3=12)

a) What is the goal of encrypted cloud storage?
b) What is storage networking?
c) Discuss SaaS maturity models?
d) What is virtualization?
e) Write down the merits and demerits of using SIEM tools.
f) Differentiate between different types of virtualization?

QUESTION NO.-2: ATTEMPT ANY THREE PARTS. (3*4=12)

a) State any three essential characteristics of cloud computing.
b) What are the benefits of cloud computing?
c) State any two service provider of PaaS.
d) List down the use cases for public cloud optimization.

QUESTION NO.-3: ATTEMPT ANY THREE PARTS. (3*6=18)

a) Explain in detail about cloud delivery model.
b) Explain the types of hardware virtualization?
c) Explain briefly the security concerns of cloud computing.
d) What are the methods of storage virtualization?

QUESTION NO.-4: ATTEMPT ANY TWO PARTS. (2*7=14)

a) What are the 7 steps to optimize cloud?
b) How can you make a DR plan effective?
c) Describe the principles of Clod governance framework.

QUESTION NO.-5: ATTEMPT ANY TWO PARTS. (2*7=14)

a) Describe various steps of implementing data governance in Cloud computing.
b) There are varieties of cloud monitoring techniques available. List down all and explain any two in detail.
c) List down all the architecture styles of storage in cloud computing. Explain any 2 in brief.

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28-05-25

Printing Pages : 1 Paper Code : - BCSE -001 (A) (SVSU) : 2023-2024/R

Enrollment No. | | | | | | | | | | | | | | |

B.Tech (CSE/IT)

III YEAR, VI SEMESTER EXAMINATION

SOFT SKILLS & INTERPERSONAL COMMUNICATION

[Time : 03:00 Hours] [Max. Marks : 70]

NOTE:- ATTEMPT ALL THE QUESTIONS AS PER GIVEN INSTRUCTIONS.

QUESTION NO.-1: ATTEMPT ANY FOUR PARTS. (4*3=12)

a) What do you understand by self-assessment?
b) Discuss ego and its concept and ways to check ego.
c) What do you understand by stress? What are tips to control stress?
d) What is a key decision and effective decision making?
e) Throw a light on the effective feedback and types of effective feedback.
f) Write a note on the emotion management strategies.

QUESTION NO.-2: ATTEMPT ANY THREE PARTS. (3*4=12)

a) What is JOHARI WINDOW?
b) Write a note on self-confidence.
c) First impression.
d) How to identify our personal strength and weaknesses?

QUESTION NO.-3: ATTEMPT ANY THREE PARTS. (3*6=18)

a) Write a note on empowering, motivating and inspiring others.
b) What do you understand by interpersonal skill and communication skill?
c) What is self-criticism? How will you point it out?
d) Describe the ways how will you handle your failures?

QUESTION NO.-4: ATTEMPT ANY TWO PARTS. (2*7=14)

a) Write a note on self-evaluation.
b) What are responsibilities of engineers for environment and society?
c) What do you understand by SWOT analysis? Discuss.

QUESTION NO.-5: ATTEMPT ANY TWO PARTS. (2*7=14)

(a) Write a note on the ethical reasoning and engineering ethics.
(b) Discuss rights and responsibilities regarding intellectual property.
(c) What are central professional responsibilities of engineers?

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18-06-25

Printing Pages : 2 Paper Code BCSE-001 (C) (SVSU:2022-2023/R)

ENROLLMENT NO. | | | | | | | | | | | | | |

B.TECH. (CSE/IT)
3RD YEAR, 6TH SEMESTER EXAMINATION
SOFT SKILLS & INTERPERSONAL COMMUNICATION

[Time: 3:00 Hrs. Max. Marks:70]

NOTE:- ATTEMPT ALL THE QUESTIONS AS PER GIVEN INSTRUCTIONS.

I. Long Question: Answer Any Three [10X3=30]

Q1.Perception is an active psychological process. Elaborate.
Q2.What is the Johari Window?
Q3.What is communication? Define its type and Process.
Q4.Explain in brief about motivation need theory and diagram of motivation process?
Q5. Write a note on: - Engineering ethics, Values and Belief Systems

II. Short Question: Answer Any Five [5 X5=25]

Q1. Explain the 7cs of communication?

Q2. Define a SWOT of yourself.

Q3.Write a note on:-Emotions and Stress.

Q4.Self-awareness is your ability to perceive and understand the things that make you who you are define it

Q5.Define self appraisal and self esteem

Q6. Explain the barriers of communication.

Q7.Define Herzberg's Motivation – Two Factor Theory

III. Objective Question : Answer all Questions [15 X 1= 15]

S.No.	Questions	Option A	Option B	Option C	Option D
1	Which among the following is not an external factor which affects the communication process?	Time	Language	Culture	Communication
2	In Extra-personal communication, the sender cannot use words.	False	True		
3.	In intrapersonal communication, the central nervous system works as a medium.	False	True		
4	Soft skill is intrapersonal.	False	True		

[P.T.O.]

5	The word communication has its origin in _____.	German	Latin	French	American
6	When you talk to yourself, then that kind of communication is called _____ .	Formal	Informal	Intrapersonal	Interpersonal
7	Johari Window was developed in 1955 by _____ psychologists.	French	American	German	Italian
8	The hidden self is fear, secrets, sensitivities. So hidden self should be moved into _____ .	Blind area	Open area	Unknown area	None of the above
9	Communication is the part of ---------	Soft	Hard	Rough	Short
10	Anything that prevents understanding of the message is called __	Barrier	Noise	Stress	Complex
11	Which one is not considered to be a skill required for effective participation in group discussions?	Good communication skills	Interpersonal skills	Planning	Leadership skills
12	Stress refers to -----Strain/tension	Physical	Mental	Emotional	All of above
13	Importance of stress management is:-	Improve mood	Increases efficiency	Boost Immune system	All of above
14	..... Is stress management technique	Physical Exercise	Yoga	Meditation	All of above
15	Error of Evaluation?	Personal Error	Variable error	Constant Error	All of above

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16-06-25

Printing Pages : 1 **Paper Code : - BCSE-611** **(B) (SVSU) : 2024-2025/R**

Enrollment No. | | | | | | | | | | | | | |

B.TECH (CSE/IT)
III YEAR VI SEMESTER EXAMINATION
INTRODUCTION TO ARTIFICIAL INTELLIGENCE

[Time : 3:00 Hours] **[Max. Marks : 70]**

NOTE: - ATTEMPT ALL THE QUESTIONS AS PER GIVEN INSTRUCTIONS

QUESTION NO.-1: ATTEMPT ANY FOUR PARTS. **(4*3=12)**

a) What do you mean by artificial intelligence?
b) Write a note on the foundations of artificial intelligence.
c) Explain the Turing test for the establishment of AI as a new discipline.
d) Explain the working mechanism of LDA.
e) Describe the role of computer vision in artificial intelligence.

QUESTION NO.-2: ATTEMPT ANY THREE PARTS. **(3*4=12)**

a) What are the basic components of propositional logic?
b) List down the elements of Reinforcement learning. Also explain them in detail.
c) State the components of Hidden Markov Model. How does this model work?
d) Define Modus Ponen's rule in propositional logic.

QUESTION NO.-3: ATTEMPT ANY THREE PARTS. **(3*6=18)**

a) Explain the working principle of Genetic Algorithm in detail.
b) Describe A* search technique. Prove that A* is complete and optimal.
c) Describe the structure of AI Agents.
d) Differentiate between Supervised and Unsupervised Learning.

QUESTION NO.-4: ATTEMPT ANY TWO PARTS. **(2*7=14)**

a) Illustrate decision trees learning technique using a suitable example.
b) Explain Min Max algorithm with the help of an example.
c) Explain forward chaining and backward chaining with example.

QUESTION NO.-5: ATTEMPT ANY TWO PARTS. **(2*7=14)**

a) Write a note on parametric estimation techniques.
b) Describe Bayesian networks. How are the Bayesian networks powerful representations for uncertainty knowledge?
c) Depict Depth First Search Algorithm using an example. Write all necessary steps.

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12-06-25

Printing Pages : 2

Paper Code : - BCSE-601

(C) (SVSU) : 2024-2025/R

Enrollment No. | | | | | | | | | | | | | | |

B.TECH (CSE)
III YEAR VI SEMESTER EXAMINATION
COMPILER DESIGN

[Time : 3:00 Hours]

[Max. Marks : 70]

NOTE: - ATTEMPT ALL THE QUESTIONS AS PER GIVEN INSTRUCTIONS

QUESTION NO.-1: ATTEMPT ANY FOUR PARTS. (4*3=12)

a) Explain all the phases of compiler with example?

b) Differentiate between token and lexeme. Find the number of tokens in:

```
printf
(
"pt = %d, &pt = %x"
,
pt
,
&
pt
)
;
```

c) What are the properties of Operator Grammar? Check whether the following Grammar is operator precedence Grammar or not:

S→SYS/ab
Y→aSZSa
Z→b.

d) Differentiate between syntax tree, parse tree and annotated parse tree?

e) What is boot strapping,using bootstrapping, the first two cross Compilers are (C_NS and N_MM) ,generate the third compiler?

QUESTION NO.-2: ATTEMPT ANY THREE PARTS. (3*4=12)

a) Discuss Constant Propagation and constant folding.

b) What do you understand by lexical error and syntactic error? Also suggest methods for recovery of errors?

c) Find the FIRST & FOLLOW of the grammar given below:

S→ xXYy
X→ Zz
Y→ p/ ϵ
Z→ q / ϵ

d) Construct the basic block of the given 3-address statement:

(1) PROD = 0
(2) I = 1
(3) T2 = addr(A) – 4
(4) T4 = addr(B) – 4
(5) T1 = 4 x I
(6) T3 = T2[T1]
(7) T5 = T4[T1]
(8) T6 = T3 x T5
(9) PROD = PROD + T6
(10) I = I + 1
(11) IF I <=20 GOTO (5)

QUESTION NO.-3: ATTEMPT ANY THREE PARTS. (3*6=18)

a) Discuss the rules for eliminating the left recursion. Eliminate the left recursion from the following grammar: S → A

A → Ad / Ae / aB / ac

B → bBc / f

b) Give Algorithm for constructing predictive parsing table. Consider the following grammar and construct predictive parsing table :

G --> SG'
G' --> +SG' | ε
S --> FS'
S' --> *FS' | ε
F --> id | (G)

c) Explain various loop optimization techniques with example?

d) Construct the DAG for the following expression
((x+y)–((x+y)*(x–y))) and ((x+y)*(x–y))

QUESTION NO.-4: ATTEMPT ANY TWO PARTS. (2*7=14)

a) Evaluate the three address code for the following given code fragment:

```
while(p<q and r>s)do
  if p=1 then q=q+1
else
while(p<=s)do
  p=A+3
```

b) Write the quadruple, triple and indirect representation of the expression: (a + b) * (c + d) - (a + b + c)

c) Consider Syntax Directed Translation Scheme (STDS):

E->E*T	{E.val:=E.val*T.val}
E->T	{E.val:=T.val}
T->T-F	{T.val:=T.val-F.val}
T->F	{T.val:=F.val}
F->2	{F.val:=2}
F->4	{F.val:=4}

Using the above SDTS, construct a parse tree for the expression: 4-2-4*2

QUESTION NO.-5: ATTEMPT ANY TWO PARTS. (2*7=14)

a) Consider the grammar G:
E->E+T/T
T->T*F/F
F->(E)/id
Perform SLR parsing?

b) What are the different kinds of Parsers. Differentiate between LALR AND CLR Parser.

c) Consider the following grammar- S → aB / bA

S → aS / bAA / a

B → bS / aBB / b

And string is aaabbabbba,construct leftmost derivation and right most derivation tree.

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26-05-25

Printing Pages : 1 Paper Code : - BCSE-611 (A) (SVSU) : 2024-2025/R

Enrollment No. | | | | | | | | | | | | | |

B.TECH (CSE/IT)
III YEAR VI SEMESTER EXAMINATION
INTRODUCTION TO ARTIFICIAL INTELLIGENCE

[Time : 3:00 Hours] [Max. Marks : 70]

NOTE: - ATTEMPT ALL THE QUESTIONS AS PER GIVEN INSTRUCTIONS

QUESTION NO.-1: ATTEMPT ANY FOUR PARTS. (4*3=12)

a) What are the three Components of the Pattern Recognition?
b) Write a note on NLP.
c) Differentiate between Forwarding Chaining and Backward Chaining
d) Explain the working mechanism of LDA.
e) Describe Hyperplane and Support Vectors in the SVM algorithm.

QUESTION NO.-2: ATTEMPT ANY THREE PARTS. (3*4=12)

a) What are decision tree nodes and symbols? How can we make a decision tree step-by-step?
b) List down the elements of Reinforcement learning. Also explain them in detail.
c) State the components of Hidden Markov Model. How does this model work?
d) What do you mean by Ensembling? What are various ensemble techniques?

QUESTION NO.-3: ATTEMPT ANY THREE PARTS. (3*6=18)

a) Explain the working principle of Genetic Algorithm in detail.
b) "Principal Component Analysis is mainly concerned with identifying correlations in the data". Justify the statement.
c) Describe the structure of AI Agents.
d) Differentiate between Supervised and Unsupervised Learning.

QUESTION NO.-4: ATTEMPT ANY TWO PARTS. (2*7=14)

a) Discuss the implementation of two holdout techniques.
b) Explain MinMax algorithm with the help of an example.
c) What is KRR? What steps are followed during this process? Explain with concerned diagrams and flowcharts.

QUESTION NO.-5: ATTEMPT ANY TWO PARTS. (2*7=14)

a) Describe Local beam search with an example.
b) There are 15 coordinate points provided.
A1=(2,10); A2=(2,6); A3=(11,11); A4=(6,9); A5=(6,4); A6=(1,2); A7=(5,10); A8= (4,9); A9=(10,12); A10=(7,5); A11=(9,11); A12=(4,6); A13=(3,10); A14=(3,8); A15=(6,11).
You have to make 5 clusters using K-Means Algorithm.
c) Depict Depth First Search Algorithm using an example. Write all necessary steps.

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26-05-25

Printing Pages : 1 Paper Code : - BCSE -623 (C) (SVSU) : 2023-2024/R

Enrollment No. | | | | | | | | | | | | | |

B.Tech (CSE/IT)
III YEAR, VI SEMESTER EXAMINATION
COMPUTER GRAPHICS

[Time : 03:00 Hours] [Max. Marks : 70]

NOTE:- ATTEMPT ALL THE QUESTIONS AS PER GIVEN INSTRUCTIONS.

QUESTION NO.-1: ATTEMPT ANY FOUR PARTS. (4*3=12)

a) What is frame buffer? What is video-controller? Explain them.
b) What do you understand by Basic Illumination Model? Explain it.
c) What do you mean by reflection transformation in 3D? What is matrix representation?
d) What is random scan display? When do we prefer?
e) Explain 2D scaling transformation with its matrix representation
f) What is Text clipping? What are possible cases of Text Clipping? Explain it with example.

QUESTION NO.-2: ATTEMPT ANY THREE PARTS. (3*4=12)

a) What is the purpose of Phong Illumination Model? How does it work?
b) What is 3D Shearing transformation? What is its matrix representation.
c) What do you mean by Z-buffer method? What are the steps of the Z-buffer method?
d) What do you mean by Depth Buffer Method? Explain it.

QUESTION NO.-3: ATTEMPT ANY THREE PARTS. (3*6=18)

a) Differentiate between Bresenham's line algorithm and DDA line algorithm. Explain advantages and disadvantages of Bresenham's line algorithm over DDA line algorithm and vice-versa.
b) What do you understand by Mid-point's circle algorithm? What are the steps of Mid-point's circle algorithm?
c) What is clipping in computer graphics? Write line clipping algorithm using Cohen-Sutherland Line algorithm?
d) How 3D clipping is different from 2D clipping? Explain the concept of 3D clipping and how to obtain intersection point in 3D clipping.

QUESTION NO.-4: ATTEMPT ANY TWO PARTS. (2*7=14)

a) What do you understand Bezier curve method? Describe steps to draw the curve by taking the sample points.
b) Find out pixel coordinate to draw a line using Bresenham's line algorithm for given two points (22, 12) and (32, 18).
c) Write the steps of Polygon clipping? Describe it by Cohen- Sutherland-Hodgeman Polygon clipping algorithm by taking any example.

QUESTION NO.-5: ATTEMPT ANY TWO PARTS. (2*7=14)

a) What do understand by Curve Clipping algorithm? Explain the possible cases of Curve Clipping algorithm with the help of suitable example.
b) Determine the pixel coordinate to draw a circle by applying Mid-point circle algorithm. The center of circle is given (0, 0) and radius is 14.
c) What do you understand by Point- Source illumination? Explain how to obtain the expression of diffuse reflection.

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22-05-25

Printing Pages : 2 Paper Code : - BCSE-601 (A) (SVSU) : 2024-2025/R

Enrollment No. | | | | | | | | | | | | | |

B.TECH (CSE)
III YEAR VI SEMESTER EXAMINATION
COMPILER DESIGN

[Time : 3:00 Hours] [Max. Marks : 70]

NOTE: - ATTEMPT ALL THE QUESTIONS AS PER GIVEN INSTRUCTIONS

QUESTION NO.-1: ATTEMPT ANY FOUR PARTS. (4*3=12)

a) What are the properties of Operator Grammar? Check whether the following Grammar is operator precedence or not,where grammar is

S→SYS/ab
Y→aSZSa
Z→b.

b) Differentiate between token and lexeme. Find the number of tokens in printf("%d", a);

c) What is bootstrapping,using bootstrapping, the first two cross Compilers are (C_NS and N_MM) ,generate the third compiler?

d) Differentiate between syntax tree, parse tree and annotated parse tree?

e) Draw the control flow graph for the following code:

```
if A = 10 then
if B > C
A = B
else A = C
endif
endif
print A, B, C
```

QUESTION NO.-2: ATTEMPT ANY THREE PARTS. (3*4=12)

a) Find the FIRST & FOLLOW of the grammar given below:

S→ xXYy
X→ Zz
Y→ p/ ϵ
Z→ q / ϵ

b) Considering the string "10201", design a shift-reduce parser for the following grammar-

$S \rightarrow 0S0 \mid 1S1 \mid 2$

c) Discuss Constant Propagation and constant folding.

d) What do you understand by lexical error and syntactic error? Also suggest methods for recovery of errors?

QUESTION NO.-3: ATTEMPT ANY THREE PARTS. (3*6=18)

a) Discuss the rules for eliminating the left recursion. Eliminate the left recursion from the following grammar

A→ A+B/B
B→ B*C/C
C→ 7

b) Construct the DAG for the following expression
((x+y)−((x+y)*(x−y))) and ((x+y)*(x−y))

c) Explain various loop optimization techniques with example?

d) Give A [illegible]

QUESTION NO.-4: ATTEMPT ANY TWO PARTS. (2*7=14)

a) Evaluate the three address code for the following given code fragment:

```
while(p<q and r>s)do
  if p=1 then q=q+1
else
while(p<=s)do
  p=A+3
```

b) Consider Syntax Directed Translation Scheme (STDS):

E->E*T	{E.val:=E.val*T.val}
E->T	{E.val:=T.val}
T->T-F	{T.val:=T.val-F.val}
T->F	{T.val:=F.val}
F->2	{F.val:=2}
F->4	{F.val:=4}

Using the above SDTS, construct a parse tree for the expression: 4-2-4*2

c) Write the quadruple, triple and indirect representation of the expression a = b x – c + b x – c.

QUESTION NO.-5: ATTEMPT ANY TWO PARTS. (2*7=14)

a) Consider the following grammar- S → aB / bA
S → aS / bAA / a
B → bS / aBB / b
And string is aaabbabbba,construct leftmost derivation and right most derivation tree.

b) What are the different kinds of Parsers. Differentiate between LALR AND CLR Parser.

c) Consider the grammar G:
E->E+T/T
T->T*F/F
F->(E)/id
Perform SLR parsing?

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22-05-25

Printing Pages : 1 Paper Code : - BIT-601 (C) (SVSU) : 2024-2025/R

Enrollment No. | | | | | | | | | | | | | |

B.TECH (IT)
III YEAR VI SEMESTER EXAMINATION
SOFTWARE PROJECT MANAGEMENT

[Time : 3:00 Hours] [Max. Marks : 70]

NOTE: - ATTEMPT ALL THE QUESTIONS AS PER GIVEN INSTRUCTIONS

QUESTION NO.-1: ATTEMPT ANY FOUR PARTS. (4*3=12)

a) Define different phases of a project planning.
b) Define the term project vision and scope document.
c) Enumerate the authorities of a project manager?
d) What is a project? What are the benefits of Project Management?
e) Differentiate between test plan and test cases.
f) Elaborate the EVA.

QUESTION NO.-2: ATTEMPT ANY THREE PARTS. (3*4=12)

a) Discuss the 3 Common Types of Project Risks.
b) What is the role of computers in project management system? What are the things to be considered before using a software package for project management?
c) Discuss the differences between PERT and CPM.
d) Write a note on Software quality assurance activities.

QUESTION NO.-3: ATTEMPT ANY THREE PARTS. (3*6=18)

a) What is Project Management Information System? What is the role of a cost accounting system or a transaction processing system?
b) Explain all types of Risks which occur during software development.
c) What do you mean by Work breakdown structure in context of software project? Discuss with an example.
d) Describe the function point analysis

QUESTION NO.-4: ATTEMPT ANY TWO PARTS. (2*7=14)

(a) Define Budgeted Cost of Work Scheduled (BCWS). Describe all the steps to calculate BCWS.
(b) Define Pair programming. Explain differences between pair programming and Peer reviews.
(c) The Monitoring & Controlling process group includes eleven processes, what are those?

QUESTION NO.-5: ATTEMPT ANY TWO PARTS. (2*7=14)

(a) Write a detailed note on SEI Capability Maturity Model. How does it differ from ISO 9000?
(b) Why the Testing is important in the software development life cycle? Explain Black box and White box testing in detail.
(c) Discuss the following Progress indicators:
(i) Cost Variance
(ii) Cost Performance Indicator

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20-05-25

Printing Pages : 1 Paper Code : - BCSE-602 (B) (SVSU) : 2024-2025/R

Enrollment No. | | | | | | | | | | | | | |

B.TECH (CSE/IT)
III YEAR VI SEMESTER EXAMINATION
COMPUTER NETWORKS

[Time : 3:00 Hours] [Max. Marks : 70]

NOTE: - ATTEMPT ALL THE QUESTIONS AS PER GIVEN INSTRUCTIONS

QUESTION NO. 1: ATTEMPT ANY FOUR PARTS. (4*3=12)

a) What is the transmission time of a packet sent by a station if the length of the packet is 2 million byte and the bandwidth of the channel is 300 kbps?
b) How is flow control achieved in computer networks?
c) Briefly discuss data layer design issues.
d) What are the applications of firewalls?
e) How is the BOOTP different from DHCP?

QUESTION NO. 2: ATTEMPT ANY THREE PARTS. (3*4=12)

a) Explain the encryption and decryption methods.
b) Describe the sliding window protocol.
c) Explain the working mechanism of the handshaking protocol.
d) What is the difference between network layer delivery and transport layer delivery?

QUESTION NO. 3: ATTEMPT ANY THREE PARTS. (3*6=18)

a) Explain different types of topologies used in computer networks and write the advantages and disadvantages of each.
b) What do you mean by Piggybacking?
c) Explain the working mechanism of stop and wait ARQ protocol.
d) Discus the Classful IPv4 Addressing ?

QUESTION NO. 4: ATTEMPT ANY TWO PARTS. (2*7=14)

a) Distinguish between Leaky Bucket algorithm and Token Bucket algorithm.
b) Illustrate shortest path routing algorithm with suitable example.
c) Explain the working of electronic mail. How is SMTP used in email applications?

QUESTION NO. 5: ATTEMPT ANY TWO PARTS. (2*7=14)

a) What is the OSI Model? Explain the functions of each layer.
b) With a neat diagram explain Distance Vectors Routing Protocol.
c) Explain any two error detection mechanism in details.

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23-04-25

Printing Pages : 1 Paper Code: BCSE-611-S (A) (SVSU) : 2024-2025/R/S

ENROLLMENT NO | | | | | | | | | | | | | |

B.TECH.(CSE/IT)
VI SEMESTER / III YEAR EXAMINATION
INTRODUCTION TO ARTIFICIAL INTELLIGENCE

[Time : 3:00 Hours] [Max. Marks : 70]

NOTE: - ATTEMPT ALL THE QUESTIONS AS PER GIVEN INSTRUCTIONS.

QUESTION NO.-1: ATTEMPT ANY FOUR PARTS. (4*3=12)

a) What is AI and what is the role of AI in Computer System?
b) What do you mean by Natural Language Understanding.
c) Explain the Turing test.
d) What is heuristic search with an example.
e) Discuss the syntax and semantics of first order logic.
f) Discuss the role of computer vision in artificial intelligence.

QUESTION NO.-2: ATTEMPT ANY THREE PARTS. (3*4=12)

a) Write a note on the foundations of artificial intelligence.
b) What are intelligent agents? How are computer programs different from agents.
c) Describe Depth-first search technique with example.
d) What is the difference between knowledge, belief, hypothesis and data?

QUESTION NO.-3: ATTEMPTANY THREE PARTS. (3*6=18)

a) Describe the properties of knowledge representation systems.
b) Convert the following English statements to statements in first order logic:
   (i) Every boy or girl is a child
   (ii) This information is not good
   (iii) John likes all kind of food
c) Describe A* algorithm. Prove that A* is complete and optimal.
d) Explain the Hidden Markov Models.

QUESTION NO.-4: ATTEMPT ANY TWO PARTS. (2*7=14)

(a) What is a Bayesian network? How is the Bayesian network used in representing the uncertainty about knowledge?
(b) What is machine learning? Describe types of machine learning in AI.
(c) Write a note on Support Vectors.

QUESTION NO.-5: ATTEMPT ANY TWO PARTS. (2*7=14)

(a) Illustrate decision trees learning technique using a suitable example.
(b) How does conventional computing differ from the intelligent computing? Give example.
(c) Explain Alpha-Beta pruning with an example.

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