

Roll No. //50/040002

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## 04BCS/ICS101

B.TECH.COMPUTER SCIENCE & ENGG.

IV-SEM Examination, May/June - 2017

SUB: PRINCIPLES OF PROGRAMMING LANGUAGES

	: 3 Hours] e of following supporting material	is permitted	[Total Marks 66 during examination.
1	Nil	2	Nil
Note:	1. Attempt any five question		-
	2. Each question carry equa	il marks.	
v.	What is language paradigm? Ex	plain the issu	es of language design.
/	Explain with example-		
	i) CFG		
	i) CFG ii) BNF		
		2	Hiji Kaha Mini

	iii) Parse tree		
	iv) Syntax		3 (33) V (94)
	v) Semantics		
	What are elementary an implementation.	d structured data	types. Also explain its
1	Explain the following-		
	i) Array		
	, ii) List		The state of
	ii) Struthers		
	iv) Union		
/	What is exception handl catch.	ing? Explain throu	igh a program- try and
	What is sub program? Als and parameter passing m	o explain simple an echanism.	d recursive subprogram
		-	
4B0	CS/ICS101	2	Contd

- 7. What are data types and abstract data types? Also explain the following a) Information hiding
- Describe the following

b) Encapsulation

- i) Static and stack based storage management.
- ii) Fixed and variable size heap storage management.
- a) Explain parallel processing and distributed processing.
  - b) Explain threads and difference between threads and process.
- 0
  - a) What are semaphore. What are its types.
  - b) Explain the mechanism of message passing.
  - c) Explain the need of semaphores.

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B.TECH.COMPUTER SCIENCE & ENGG.

IV- SEM Examination, May/June - 2017

SUB:MICROPROCESSOR AND INTERFACES

Time: 3 Hours

[Total Marks 60

· Use of following supporting material is permitted during examination.

NI NI

Note: 1. Attempt any five questions.

2. Each question carry equal marks.

#### UNIT-I

- What is bus? Explain different types of buses used in 8085 microprocessor.
  - Explain different types of addressing modes used in 8085 microprocessor with suitable example.

OR

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	U	NIT-II		
1	Explain following types of	instruction	n-	
	a) CMA	THE TO	W. Walt	No. of Parties
	b) CPI			
	c) RAR			
T Y	d) JPO and JPE			
	e) RST (Restart).			
		OR		
	Explain the timming diagra	am of a 2-	byte instruc	tion MVIA, 32H.
	UN	NIT-III		
/	Explain block diagram microprocessor.	of 8254	timer inte	rface with 8085
		OR		
	Explain block diagram microprocessor.	of PPI	8255 inte	rface with 8085
4B(	CS/ICS102	2	*	Contd

### UNIT-IV

 Explain block diagram of USART 8251 interface with 8085 microprocessor.

### OR

 Explain block diagram of interrupt controller 8259 A interface with 8085 microprocessor.

### UNIT-V

- a) Give the difference between 8085, 8086 and 8088.
  - b) Explain RS 232 C cable with suitable diagram.

### OR

10. Write the short note on (any two)

- a) Pentium processor
- b) MMX
- c) Dual core processor

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B.TECH.COMPUTER SCIENCE & ENGG.

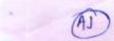
IV- SEM Examination, May/June - 2017

SUB:OBJECT ORIENTED PROGRAMMING

		Hours] following supporting	g material is permitte	[Total Marks 60 ed during examination.
1.		Nil	2.	Nil
Note:	1. 2.		questions. arry equal marks.	and the second
J.	W	hat are the classes a d destroying object	and objects? Explain s dynamically using	n the process of creating delete operation.
2./	op	hat is operator overlerations? Discuss b	oading? How will you oth processes with the	ou overload binary unary he help of programming
3.	De	fine the applet fund	amental with suitabl	e explain.
			3	intologi
04BCS	S/IC	S103	1	Contd

A.	Define inheritance. Explain single, multiple and multilevel inheritant with the help of block diagram. What ambiguity may arise in car of multiple inheritance and how it is resolved.
5,	What is the exception handling? Discuss the exception handlin mechanism. With example,
6.	Write short notes (any four)
	a) Composition of classes
	b) Templates
	c) Keyword "Using"
	d) Abstract class
	e) Function overloading and function overriding
/	f) Container and proxy classes.
V fi	What is the friend function in C++? Explain the characteristics of riend functions.
BCS/I	CS103
	Contd

Write shorts notesa) String buffer class b) Nested and inherit class c) Constructor d) Usage of super. Define the virtual function and virtual class with suitable example. Explain structure as a used defing data type in 'C' with the help of suitable example. ABCS/ICS103



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.,	IV-SI	EM Examination	on, May/Ju	une - 2017
	*1	SUB: SYSTEM	SOFTWA	RE
ne				
	: 3 Hours]			[Total Marks 6
Use	of following s	upporting materi	al is permitte	ed during examination.
_	Nil	1	2	Nil
ote:	1. Attempt	any five questio	ons.	The state of the s
	2. Each que	estion carry equ	ial marks.	
/	Explain CAS	E study of MS a	nd DOS link	ter.
/	What are the clanguage?	lifference between	en assembly	language and high leve
	Write a techni	cal note on		
	a) Design of	linker		
	b) Block stru	cture in symbol	table.	
	Define the gran	mmar and parse to	ee with the h	elp of suitable example.
BCS	/ICS104		1	Contd

- What is the system software? Define its characteristics.
- Differentiate between pass structure assembler and assemblers.
- a) What is the direct addressing mode and indirect addressing mode.
  - b) List the types of register used in system.
- a) Explain in detail HLL specification.
  - b) Define overflow technique.
- What is loader? Explain in detail machine dependent and independent features of loader's.
- 10. a) What is micro processor's
  - b) What is micro assembles
  - c) What is bootstrap?
  - d) What is translation and execution?
  - e) What is lexical analysis?

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### B.TECH.COMPUTER SCIENCE & ENGG.

IV-SEM Examination, May/June - 2017

## SUB:STATISTICS AND PROBABILITY THEORY

<b>Fime</b>	: 3 Hours]		[Total Marks 60
Use	of following supporting	material is permitte	d during examination.
	Nil	2	Nil
lote:	1. Attempt any five	questions. Attemp	t one each unit.
	2. Each question ca	erry equal marks.	
1			
		UNIT-I	
/	State and prove Baye'	s theorem.	
		OR	
	What is the chance that 53sundays?	at a leap year selecte	d at random will contain
		3	

### UNIT-II

Four bad apples are mixed accidentally with 16good apples. Find the probability distribution of the number of bad apples in a draw of two apples.

### OR

A coin is tossed until a head appears. What is the expectation of the number of tosses required?

#### UNIT-III

If a random variable X has linear failure rate function h(t) = a+bt.
 Find its distribution function and the failure density function.

### OR

Discuss the mean and various of binomial distribution.

#### UNIT-IV

 Six coin are tossed 6400times using the Poisson distribution, determine the approximate probability of getting six leads r- times.

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Contd...

In a normal distribution, 31% items are under 45 and 8% are under 64, what is the mean and standard deviation of the distribution.

### UNIT-V

Calculate the coefficient of correlation between x and y using the following data.

x 1 2 3 4 5 6 7 8 9

y: 9 8 10 12 11 13 14 16 15

OR

Show that the following data are uncorrelated-

1 2 3 4 5

y. 5 4 3 2 6

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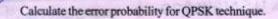
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### B.TECH.COMPUTER SCIENCE & ENGG.

IV-SEM Examination, May/June - 2017

SUB: ANALOGAND DIGITAL COMMUNICATION

Use	of following supporti	ing material is permitte	[Total Marks 60 ed during examination.
	Nil	2	Nil
lote:	1. Attempt any fi	ve questions.	
	2. Each question	carry equal marks.	
/	Explain the differen	t methods of generation	on of SSB signal.
		is2.4v the modulation	system is 400Hz and the index is 60, calculate the
	modulating voltage maximum deviation	is2.4v the modulation	index is 60, calculate the
_	modulating voltage maximum deviation Explain the working	is 2.4v the modulation	
/	modulating voltage maximum deviation Explain the working quantization noise r	is 2.4v the modulation	index is 60, calculate the
	modulating voltage maximum deviation Explain the working quantization noise r	is 2.4v the modulation g of pulse code modul ation in PCM.	index is 60, calculate the



- Explain generation and reception of FSK signal.
- 7. prove that

$$H(x,y) = H(x/y) + H(y)$$

$$H(x,y) = H(y/x) + H(x)$$

- 8. Explain in brief principle of light communication in fiber cable.
  - The parity check matrix of a (7,4). Hamming code is given as follows

$$H = \begin{bmatrix} 1 & 1 & 1 & 0 & : & 1 & 0 & 0 \\ 0 & 1 & 1 & 1 & : & 0 & 1 & 0 \\ 1 & 1 & 0 & 1 & : & 0 & 0 & 1 \end{bmatrix}_{3x7}$$

Calculate the syndrome vector for single bit errors.

 Contract a systematic (7,4) cyclic code using the generator polynomial-g(x)=x<sup>3</sup>+x+1. What are the error correcting capabilities of this code? Construct the decoding table and for the received code word 1101100, determine the transmitted data word.

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