

Daffodil International University

Department of Computer Science and Engineering Faculty of Science and Information Technology

Mid Term Examination, Semester: Spring - 2019

Course Code: CSE 224

Course Title: Electronics Devices and Circuits

Section: All

r.m.s. value of load current.

series resistance R.

Q4.

Q5.

b.

C.

a.

b.

C.

Write down the name of diodes of a transistor?

1mA, determine the value of base current.

What are the name of Field Effect Transistors?

Course Teacher: All

2.5

2.5

	Tim	ne: 01:30 Hours	Full Marks: 25		
		Answer any Four out of Five questions (including question no Q	1)		
Q1.	1.	The forbidden energy gap is very small; being	for silicon and	7 x 1 =7	
	II.	The process of adding impurities to a semiconductor is known as			
	iii.	The peak inverse voltage of a half wave and a centre tap rectifier are			
	iv	hammonly used filter circuits are canacitor filter,	andis lightly		
	v.	The of a transistor is heavily doped, the			
		The basic amplifying action in transistor is produced by transitioning			
	vii.	FET that can be operated in the depletion-mode only is called operated also in the enhancement-mode is called			
Q2.	a.	Define Knee voltage and breakdown voltage. Define Knee voltage and breakdown voltage.		2.5	
	b.	i il a attact of Philipciator		2.5	
	c.	Describe the biasing condition of pro-		1	
OB.	a.	What is the function of a Zener diode? Show that the efficiency of a centre tap rectifier is double than the harman that the efficiency of a centre tap rectifier is double than the harman that the efficiency of a centre tap rectifier is double than the harman tap resistance of each of the contract that the efficiency of a centre tap rectifier is double than the harman tap rectifier is double than tap rectifier is double to the harman tap rectifier is double than tap rectifier is double to the harman tap rectifier is double than tap rectifier is double to the harman tap rectifier is double to the harman tap rectifier in tap rectifier is double to the harman tap rectifier in tap rectifier is double to the harman tap rectifier in tap recti	If wave rectifier.	2.5 d 2.5	
98.	b.	the officiency of a certific and	tro tan to each end o	f	
	c.	Show that the efficiency of the internal resistance of each Ω A full-wave rectifier uses two diodes, the internal resistance of each Ω constant at 25 Ω . The transformer r.m.s. secondary voltage from cer secondary is 70.71 V and load resistance is 975 Ω . Find : (i) the mean secondary is 70.71 V and load resistance is 975 Ω .	load current (ii) the		
		secondary is 70.71 V and load resistant		1	

Describe the input-output characteristics of common emitter connection of transistor.

In a common base connection, current amplification factor is 0.9. If the emitter current is

In a circuit, two Zener diodes, each rated at 25 V, 100 mA. If the circuit is connected to a 50-volt uprogulated.

60-volt unregulated supply, determine: (i) The regulated output voltage (ii) The value of series resistance P



Daffodil International University

Department of Computer Science and Engineering Faculty of Science and Information Technology Mid-term examination, Semester: Spring 2019

Course Title: Algorithms

Time: 1.5 hours Course Code: CSE 221 Total Marks: 25

Answer all the questions

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(The figure of the right margin indicates the full marks)
Compute the time complexity of the following code using Big-O notation:
main(){
    int i, j, n;
    seanf("%d",&n);
    for(i=1;i<=n; i++){
        printf("DIU");
    for(i=1;i<=n; i++){
       for(j=1;j<=n;j++){
         if(i= = 5) break:
          printf("CSE");
```

Write the output of the following recursive code:

```
main(){
       funct(4);
  void funct(int n){
       if(n<=0) return;
       funct(n-);
       printf("%d".n);
```

Demonstrate a scenario where Linear Search performs better than Binary Search. b)

If anyone wants to sort the following array in ascending order, between Insertion Sort and Quick Sort which one will give better performance in terms of time complexity. ? Give proper explanation.

Apply the Greedy approach and Dynamic approach of Coin Change Algorithm (3+5+2) separately to the following separately to the following set of coins and amount Coin = [1,5,8,10,20], amount =14, minmun coin required =? Which one gives better performance in Jerms of time complexity and in terms of accuracy (minimum coin)? accuracy(minimum coin)?

Daffodil International University

Department of Computer Science and Engineering (CSE) Faculty of Science and Information Technology (FSIT) Midterm Examination, Semester: Spring'2019 Course Code: STA133, Course Title: Statistics and Probability

Course Teacher: ALL

Time: 1.5 hrs

Answer any three of the following questions including question # 1:

Full Marks: 25

10

- An electronics company manufactures power supply for a personal computer. They produce several hundred power supplies each shift and each unit is subjected to a 12-hours burn-in test. The number of 35 units failing during this 12-hours test each shift is shown below: 3.4.19,18,22,20,2,26,12,7,8,12,11,26,19,17,13,2,8,21,14,6,1,7,5,9,12,9,13,14,0,10,12,19,7
 - Construct Frequey table and from that calculate Mean, Qi, and Mode.
 - From the table calculate standard deviation and coefficient of variation.
 - When we use line graph? The Following data represents the distribution of expenditure in different sectors of a company.

Sectors	(Tk lakhs)
Employees	543
Manufacturing expenses	582
Raw materials	1689
Dividends	75
Retained income	51

- i. Find the mode sector ii. Draw pie chart
- A record was kept over a period of 5 months by a sales manager to determine the average number 3 of calls made per day by FIVE salesmen. The result shown below:

Salesmen	A	В	C	D	E
	4.4	-	-	12	7
Average number of calls per day	8	10	3	12	

Is the distribution symmetrical? Comment on that.

Write down the difference between:

Statistics and Statistic with an example,

Ordinal and Ratio level with an example. One travel agent claims that less than 1% of its scheduled flights of Shahajalal 2 International Airport depart late. From a random sample of 200 flights, 1.5% was found to depart later than the scheduled time. In this situation, Identify The population is. The sample iii. Parameter and iv. Statistic.

/2.	`a.	The high temperatures (in degree) for 11-days during September in Dhaka were: 29, 21, 27, 29, 20, 23, 28, 21, 20, 29, and 30. Find 2 nd percentile, 8 th decile and Mean deviation. executives,	
	b.	Following is the number of minutes to commute from home to work for a group of automobile 18,5,40,37,21,19,0,26,31,26,21,32,15,12.	
		i. Which mean we can apply to calculate mean time and why?	
		ii. Calculate mean time and median.	
3/	a.	University authority needs the following information about the students before making decision whether the student is eligible for any financial aid:	3
		GPA of H.S.C. examination, Number of family members of the applicant, Gender of applicant, Parent's income, Age of applicant. From these variables- i. Define population and sample. ii. Identify variables and mention the corresponding scale of measurements.	
	b.	Define different types of skewness. If value of skewness is 0, -2.75 and 4.2 comment on it.	2
4.	a.	Test scores for a class of 7 students of three sections are as follows: Section A: 15,7,22,20,2,12,19 Section B: 10,18,12,15,6,11,10 Which section's students have more variation in test score?	4
	b.	Write down the properties of mode.	

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