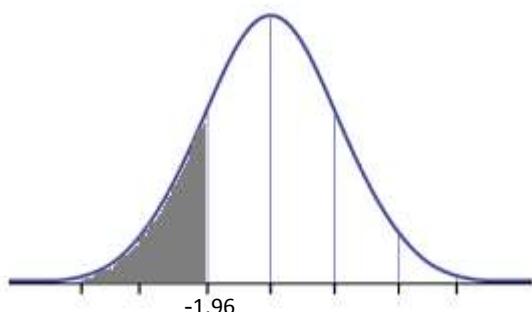


Q1:Displaying Data

(10 marks)

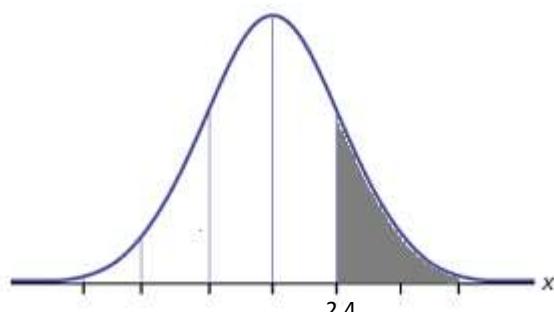
(a) From the Standard Normal Distribution Table, find the shaded Area ?

(1)



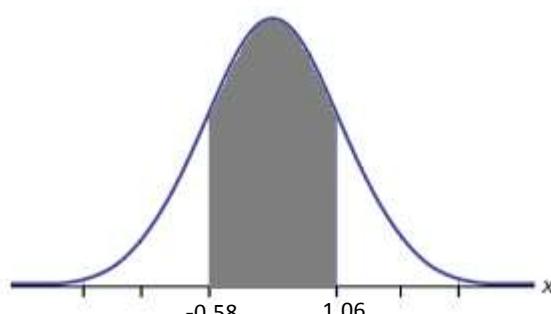
Area =(1)

(2)



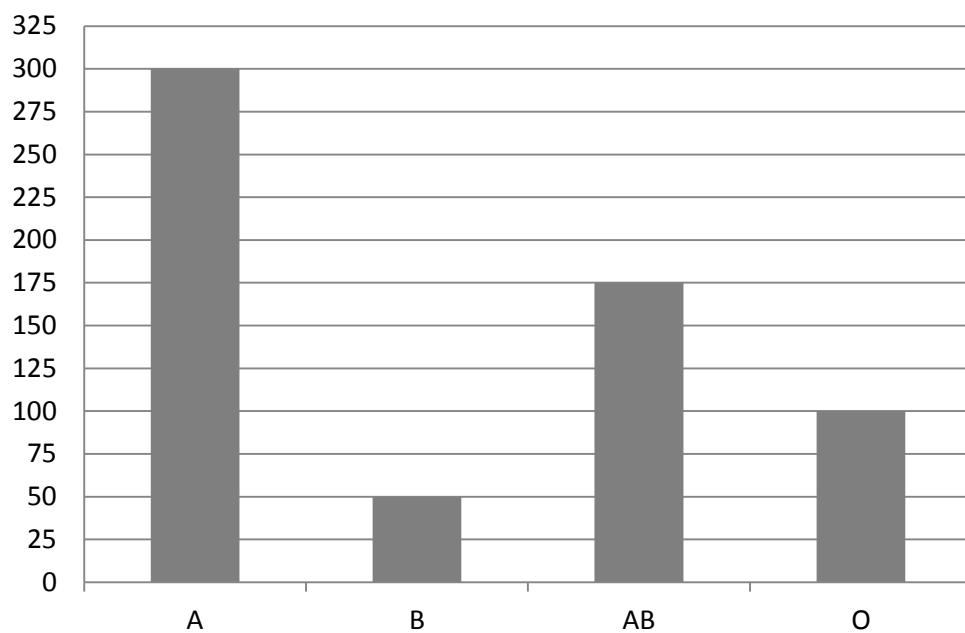
Area =(1)

(3)



Area =(2)

(b) Select the name of the graph and complete the table below ?



(1)

- a. polygon b. bar chart c. histogram d. Pie chart e. none of them

Complete the Table

(5)

Blood Group	A	B	AB	O	Total
No. of Patients					

Q2: Write down True or False

(12 marks)

- 1– The mean is not affected by extreme values. ()
- 2– If x_1, x_2, \dots, x_n are ordered sample values, then the median is $x(\frac{n}{2})$ if n is odd. ()
- 3– We can classify the qualitative variable to discrete and continuous variable. ()
- 4– Population size is the number of elements in the sample. ()
- 5– Stem and leaf display provides information contained in the individual data. ()
- 6– If X is a continuous random variable, then $p(X \geq b) = 1 - p(X < b)$. ()
- 7– Normal distribution is symmetric about μ . ()
- 8– If A and B are two independent events then $P(A|B) = P(B)$ ()
- 9– In the sampling distribution the standard error defined by : $\sigma_{\bar{x}} = \frac{\sigma}{\sqrt{n}}$ ()
- 10– Estimation for population mean $\mu = \bar{x} \pm z_{1-\alpha/2} (\frac{\sigma}{\sqrt{n}})$ ()
- 11– The Normal Distribution determined by μ and σ . ()
- 12– The standard deviation is the square root of the mean. ()

Q3 : Choose the best answer :

(10 Marks)

- 1- Collection , organization ,summarization and analysis of data is :
(a) Data (b) variable (c) statistics (d) population (e) none of them
- 2- Which of the following is an example of quantitative variable:
(a) Nationality (b) Disease (c)The patient (d) the hemoglobin level
- 3- From sources of the data:
(a) variables (b) surveys (c) populations (d) samples (e) none of them
- 4- If $P(A) = 0.2$, $P(A \cap B) = 0.14$ then $P(B|A) =$
(a) 0.3 (b) 0.4 (c) 0.28 (d) 0.7 (e) none of them
- 5- Given the following sample: 5, 17, 9, 12, 10, 13, 21, 17: find the Median?
(a)13 (b)13.5 (c)12.5 (d)17 (e) none of them
- 6- Given the following sample: 5, 17, 9, 12, 10, 13, 21, 17: find the Mean?
(a)13 (b)5.15475 (c)12.57143 (d)26.57143 (e) none of them
- 7- In organizing data we use true class interval to display :
(a) pie chart (b) polygon (c) bar chart (d) histogram (e) none of them
- 8- Maximum value – Minimum value =
(a) domain (b) Range (c) mark (d) frequency (e) degree
- 9- Biostatistics information obtained from :
(a) education (b) agriculture (c) economic (d) medicine (e) none of them
- 10- The True class Limit for the class (12.25 – 13.44) is
(a) 12-13 (b) 12.245 – 13.445 (c) 12.55 – 12.435 (d) none of them

Q4: (a) Consider the following distribution of the age of 80 Patients:

(10 marks)

Class Interval	Mid-Point	Frequency	Cumulative Frequency
- 10	8	3	
-		8	
16 -			21
-		15	
-			48
-		18	
-		9	
-		5	
	Total	80	

$$\sum mf = 2140$$

$$\sum m^2 f = 63970$$

1. complete the table above . (4)

2. Find The Mean age for this sample?

(2)

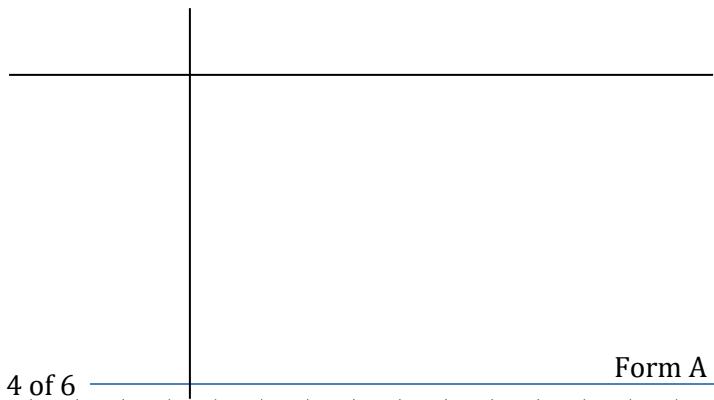
3. Find the sample Variance ?

(2)

(b). The following are the ages of 15 patients seen in the emergency room of a hospital on a Friday night (2)

36 42 57 10 22
 20 22 11 43 37
 17 37 39 37 25

Construct a Stem and Leaf Display ?



Q5:

(8 marks)

1. The probability that a Saudi man aged 40-50 has Diabetic is 0.23, If we randomly select 8 Saudi men.

Using Binomial Distribution complete out?

$$P(X) = nCx p^x q^{n-x} \quad , \quad p=..... , \quad n=..... \quad (2)$$

a. find the probability of having exactly 3 with diabetic ?

b. find the Expected number ?

2. Suppose we have a normal population with a variance of 144. A sample of size 15 selected from this population with mean 84.3

Construct a 95 percent confidence interval for the mean of the population ?

..(2)

Table of the standard normal distribution values ($z \geq 0$).

Giving $p(Z \leq a)$.

<i>z</i>	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.50000	0.50399	0.50798	0.51197	0.51595	0.51994	0.52392	0.52790	0.53188	0.53586
0.1	0.53983	0.54380	0.54776	0.55172	0.55567	0.55962	0.56356	0.56749	0.57142	0.57535
0.2	0.57926	0.58317	0.58706	0.59095	0.59483	0.59871	0.60257	0.60642	0.61026	0.61409
0.3	0.61791	0.62172	0.62552	0.62930	0.63307	0.63683	0.64058	0.64431	0.64803	0.65173
0.4	0.65542	0.65910	0.66276	0.66640	0.67003	0.67364	0.67724	0.68082	0.68439	0.68793
0.5	0.69146	0.69497	0.69847	0.70194	0.70540	0.70884	0.71226	0.71566	0.71904	0.72240
0.6	0.72575	0.72907	0.73237	0.73565	0.73891	0.74215	0.74537	0.74857	0.75175	0.75490
0.7	0.75804	0.76115	0.76424	0.76730	0.77035	0.77337	0.77637	0.77935	0.78230	0.78524
0.8	0.78814	0.79103	0.79389	0.79673	0.79955	0.80234	0.80511	0.80785	0.81057	0.81327
0.9	0.81594	0.81859	0.82121	0.82381	0.82639	0.82894	0.83147	0.83398	0.83646	0.83891
1.0	0.84134	0.84375	0.84614	0.84849	0.85083	0.85314	0.85543	0.85769	0.85993	0.86214
1.1	0.86433	0.86650	0.86864	0.87076	0.87286	0.87493	0.87698	0.87900	0.88100	0.88298
1.2	0.88493	0.88686	0.88877	0.89065	0.89251	0.89435	0.89617	0.89796	0.89973	0.90147
1.3	0.90320	0.90490	0.90658	0.90824	0.90988	0.91149	0.91308	0.91466	0.91621	0.91774
1.4	0.91924	0.92073	0.92220	0.92364	0.92507	0.92647	0.92785	0.92922	0.93056	0.93189
1.5	0.93319	0.93448	0.93574	0.93699	0.93822	0.93943	0.94062	0.94179	0.94295	0.94408
1.6	0.94520	0.94630	0.94738	0.94845	0.94950	0.95053	0.95154	0.95254	0.95352	0.95449
1.7	0.95543	0.95637	0.95728	0.95818	0.95907	0.95994	0.96080	0.96164	0.96246	0.96327
1.8	0.96407	0.96485	0.96562	0.96638	0.96712	0.96784	0.96856	0.96926	0.96995	0.97062
1.9	0.97128	0.97193	0.97257	0.97320	0.97381	0.97441	0.97500	0.97558	0.97615	0.97670
2.0	0.97725	0.97778	0.97831	0.97882	0.97932	0.97982	0.98030	0.98077	0.98124	0.98169
2.1	0.98214	0.98257	0.98300	0.98341	0.98382	0.98422	0.98461	0.98500	0.98537	0.98574
2.2	0.98610	0.98645	0.98679	0.98713	0.98745	0.98778	0.98809	0.98840	0.98870	0.98899
2.3	0.98928	0.98956	0.98983	0.99010	0.99036	0.99061	0.99086	0.99111	0.99134	0.99158
2.4	0.99180	0.99202	0.99224	0.99245	0.99266	0.99286	0.99305	0.99324	0.99343	0.99361
2.5	0.99379	0.99396	0.99413	0.99430	0.99446	0.99461	0.99477	0.99492	0.99506	0.99520
2.6	0.99534	0.99547	0.99560	0.99573	0.99585	0.99598	0.99609	0.99621	0.99632	0.99643
2.7	0.99653	0.99664	0.99674	0.99683	0.99693	0.99702	0.99711	0.99720	0.99728	0.99736
2.8	0.99744	0.99752	0.99760	0.99767	0.99774	0.99781	0.99788	0.99795	0.99801	0.99807
2.9	0.99813	0.99819	0.99825	0.99831	0.99836	0.99841	0.99846	0.99851	0.99856	0.99861
3.0	0.99865	0.99869	0.99874	0.99878	0.99882	0.99886	0.99889	0.99893	0.99896	0.99900
3.1	0.99903	0.99906	0.99910	0.99913	0.99916	0.99918	0.99921	0.99924	0.99926	0.99929
3.2	0.99931	0.99934	0.99936	0.99938	0.99940	0.99942	0.99944	0.99946	0.99948	0.99950
3.3	0.99952	0.99953	0.99955	0.99957	0.99958	0.99960	0.99961	0.99962	0.99964	0.99965
3.4	0.99966	0.99968	0.99969	0.99970	0.99971	0.99972	0.99973	0.99974	0.99975	0.99976
3.5	0.99977	0.99978	0.99978	0.99979	0.99980	0.99981	0.99981	0.99982	0.99983	0.99983

Good luck.