



**School:** School of Science  
**Program/s:** BMS  
**Year:** 3<sup>rd</sup> **Semester:** 5<sup>th</sup>  
**Examination:** End Semester Examination  
**Examination year:** December 2022

**Course Code:** BM305 **Course Name:** Biostatistics  
**Date:** 07/12/2022  
**Time:** 2:30 pm to 4:30 pm

**Total Marks:** 40  
**Total Pages:** 02

QN	Details	Marks	COs'	BTL'
<b>Q.1</b>	<b>Answer the following objective type questions:</b>	<b>(10 Marks)</b>		
1.	The data collected from already published material is called .....			
	(i) Secondary data (ii) Primary data	1	CO1	BT1
	(iii) Population data (iv) Sample data			
2.	In bar diagram the base line is .....			
	(i) Horizontal (ii) Vertical	1	CO2	BT3
	(iii) False base line (iv) any of the above			
3.	Which one of the following is discrete data?			
	(i) She is 45.2 cm long. (ii) She is 22.3 cm high.	1	CO3	BT2
	(iii) She weighs 5.4 kg. (iv) She has 30 teeth.			
4.	A sample collects information about .....			
	(i) All members of the population. (ii) All adult members of the population.	1	CO4	BT3
	(iii) None of the population. (iv) Some, but not all, of the population.			
5.	Data represented through a histogram can help in finding graphically the .....			
	(i) mean (ii) mode	1	CO4	BT3
	(iii) median (iv) all the above			
6.	Data represented through arithmetic line graph help in understanding .....			
	(i) long term trend (ii) cyclicity in data	1	CO4	BT3
	(iii) seasonality in data (iv) all the above			
7.	A census collects information about .....			
	(i) All members of the population. (ii) All adult members of the population.	1	CO3	BT2
	(iii) A large sample of the population. (iv) A small sample of the population.			
8.	Width of bars in a bar diagram need not be equal (True/False).	1	CO2	BT3
9.	Width of rectangles in a histogram should essentially be equal (True/False).	1	CO3	BT2
10.	Histogram and column diagram are the same method of presentation of data. (True/False)	1	CO4	BT3
<b>Q.2</b>	<b>Answer the following:</b>	<b>(5 Marks)</b>		
1.	Write two such situations where biostatistics can be useful.	2	CO3	BT2
2.	Array the marks of 20 students in biostatistics and answer the following: Marks in biostatistics: 65, 48, 39, 57, 70, 49, 33, 72, 61, 42, 38, 66, 75, 57, 45, 59, 60, 47, 55, 68.			
	i. How many students have scored 60 and above?	3	CO2	BT3
	ii. How many students have scored below 50?			
	iii. Which is the highest score?			

**Q.3 Answer any five of the following:**

**(5 x 5 = 25 Marks)**

1. For the given data draw a bar chart.

Year	2016	2017	2018	2019	2020	2021
Rice (in tons)	4500	5700	6100	6500	4300	7800

5 CO1 BT1

2. What are the different types of data? Explain in brief.

5 CO2 BT3

3. Describe the various types of graphs in the form of charts and diagrams

5 CO3 BT2

4. What kind of diagrams are more effective in representing the following?

5 CO4 BT3

- (i) Monthly rainfall in a year
- (ii) Composition of the population of Vadodara by religion
- (iii) Components of cost in a factory

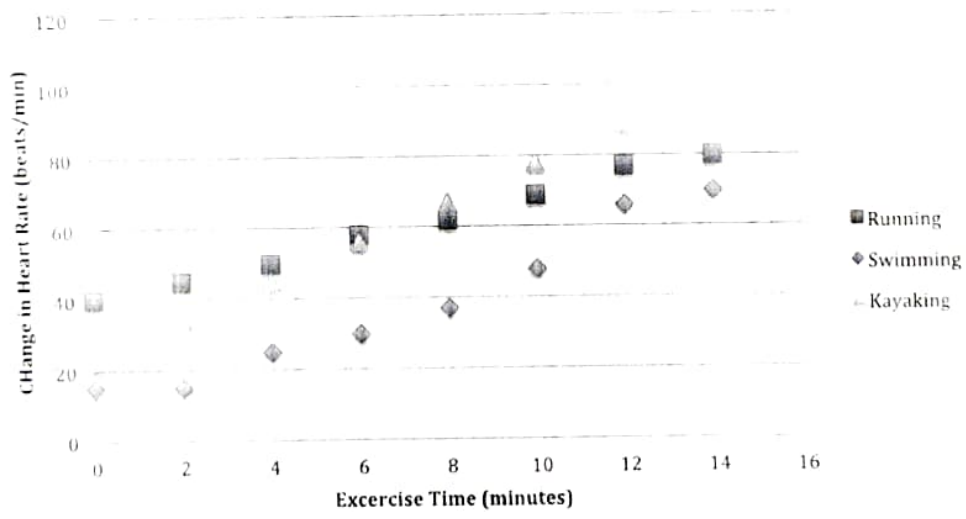
5. For the given data draw a bar chart.

Blood group	A	B	AB	O	Total
Frequency	15	25	20	30	90

5 CO1 BT1

6. A study was conducted to test the change in heart rate for different exercises and the results were graphed below:

**Change in heart rate for different sports**



5 CO3 BT2

State which of the following statements are **True/False**:

- Runners have a higher change in heart rate than swimmers.
- Runner have a higher change of the change in heart rate than kayakers.
- The gap between runner's and swimmer's heart rate decreases as exercise duration increases.
- Kayaker's have a more linear relationship between change in heart rate and exercise duration than swimmers.
- At time 0, the heart rate for a runner is 40 beats/min.

\*\*\*\*\*End of Question Paper\*\*\*\*\*