

AGA KHAN UNIVERSITY EXAMINATION BOARD

HIGHER SECONDARY SCHOOL CERTIFICATE

CLASS XII

Business Statistics Paper I

Time: 30 minutes Marks: 20

Note: The MCQs in this model paper can also be used as examples and for practice for Annual and Re-sit Examinations 2022.

INSTRUCTIONS

1. Read each question carefully.
2. The MCQs in this model paper can be used as examples and for practice for Annual and Re-sit examinations 2022.
3. Answer the questions on the separate answer sheet provided. DO NOT write your answers on the question paper.
4. There are 100 answer numbers on the answer sheet. Use answer numbers 1 to 20 only.
5. In each question there are four choices A, B, C, D. Choose ONE. On the answer grid black out the circle for your choice with a pencil as shown below.

Correct Way	Incorrect Ways
1 <input type="radio"/> A <input type="radio"/> B <input checked="" type="radio"/> C <input type="radio"/> D	1 <input type="radio"/> A <input type="radio"/> B <input checked="" type="radio"/> C <input type="radio"/> D
	2 <input type="radio"/> A <input type="radio"/> B <input checked="" type="radio"/> C <input type="radio"/> D
	3 <input type="radio"/> A <input type="radio"/> B <input checked="" type="radio"/> C <input type="radio"/> D
	4 <input type="radio"/> A <input type="radio"/> B <input checked="" type="radio"/> C <input type="radio"/> D

Candidate's Signature

6. If you want to change your answer, ERASE the first answer completely with a rubber, before blacking out a new circle.
7. DO NOT write anything in the answer grid. The computer only records what is in the circles.
8. You may use a scientific calculator if you wish.

Note: The MCQs in this model paper can be used as examples and for practice for Annual and Re-sit examinations 2022.

1. A school wants to estimate the average mathematics' score of a group of 500 students for a 75 marks test. For a random sample of 50 students, the average score is 40 marks. The total number of students in the group represents a
- A. sample.
 - B. statistic.
 - C. parameter.
 - D. population.

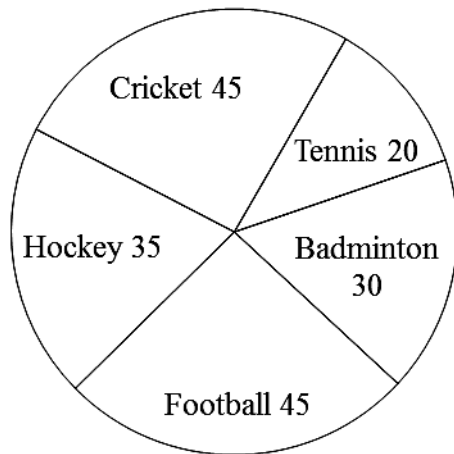
Use the given information to answer Q.2 and Q.3.

The price and the number of books sold at a bookstore in the month of June is recorded in the given table.

Price Range (Rs)	Number of Books Sold	Relative Frequency (%)
150 – 199	66	13.2
200 – 249	?	30
250 – 299	159	31.8
300 – 349	?	?
350 – 399	40	8
Total	500	

2. The percentage of books sold, whose price range is from Rs 300 to 349
- A. is 10%
 - B. is 17%
 - C. is 83%
 - D. cannot be determined.
3. The number of books sold, whose price range is from Rs 150 to 299
- A. is 150
 - B. is 225
 - C. is 375
 - D. cannot be determined.

4. The given pie chart represents information about the sports festival of a school. It shows the number of students who participated in different sports. The angle of the sector representing hockey is



- A. 22°
 B. 36°
 C. 72°
 D. 90°
5. The given table shows information about the weight of students at the Higher Secondary School Certificate (HSSC) level.

	HSSC-I	HSSC-II
Mean Wight (kg)	53	60
Number of Students	30	25

The total weight of all HSSC students is

- A. 6,215 kg.
 B. 3,125 kg.
 C. 3,090 kg.
 D. 113 kg.
6. The mean weight of twenty objects was calculated to be 196 grams. However, it was found later that due to an error in the weighing machine, the weight of each object had been recorded with an increase of 3 grams. The correct mean weight of twenty objects, therefore, will be
- A. 136 grams.
 B. 193 grams.
 C. 196 grams.
 D. 199 grams.

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7. The table shows information about the height of 120 buildings in a locality.

Height (ft)	Number of Buildings
26 – 35	9
36 – 45	17
46 – 55	30
56 – 65	40
66 – 75	14
76 – 85	10

The frequency of the median class is

- A. 96
 B. 56
 C. 40
 D. 30
8. The arithmetic mean of a , b , c , d and e is 23. If $a + b + c = 90$, then $d + e$ is equal to
- A. 23
 B. 25
 C. 44
 D. 67
9. The following table shows the heights of 25 students of a class.

Height (cm)	Number of Students
156 – 160	7
161 – 165	5
166 – 170	9
171 – 175	2
176 – 180	2

The third quartile of the data lies in the class interval

- A. 176 – 180
 B. 171 – 175
 C. 166 – 170
 D. 161 – 165

10. $\text{Var}(5aX)$, where a is a constant, is equal to
- $5a \text{Var}(X)$.
 - $25a \text{Var}(X)$.
 - $5a^2 \text{Var}(X)$.
 - $25a^2 \text{Var}(X)$.
11. If the standard deviation of a, b, c, d and e is 4, then the standard deviation of $2a-5, 2b-5, 2c-5, 2d-5, 2e-5$ will be
- 3
 - 4
 - 8
 - 16
12. The sum of deviation of a data set about its mean is
- zero.
 - negative.
 - variance.
 - standard deviation.
13. A data set consists of ten numbers. If the sum of these numbers is 55 and sum of square of these numbers is 385, then the variance in the data set will be
- 2.87
 - 8.25
 - 8.30
 - 68.75
14. The table shows the train fare from Karachi to Lahore of economy class for a certain train.

Year	Price (Rs)
2010	2,900
2011	3,100
2012	3,250
2013	3,500
2014	3,800

Taking 2010 as the base period, the price index of year 2013 indicates that the train fare is increased by

- 17.14%
- 20.69%
- 82.86%
- 120.69%

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15. The given table provides information about the prices of two commodities and their quantities sold in 2017 and 2018, respectively.

Commodity	2017			2018		
	Price (P_0) (Rs)	Quantity (Q_0) (kg)	P_0Q_0	Price (P_1) (Rs)	Quantity (Q_1) (kg)	P_1Q_1
P	1	3	3	3	2	9
Q	2	3	6	4	3	12
Total	3	6	9	7	5	21

The Laspeyre's weighted index will be

- A. 42.86
 B. 83.33
 C. 120
 D. 233.33
16. The number of possible ways to choose 3 students from a class of 18 will be
- A. 54
 B. 816
 C. 5,832
 D. 4,896
17. Ali and Sara are interested in buying a computer. They have the following options to choose from
- 3 types of keyboards
 - 5 types of monitors
 - 5 types of desktops
 - 2 types of mouse

The number of possible choices for them to buy a computer is

- A. 15
 B. 15!
 C. 150
 D. 150!

18. A box contains 10 slips of identical size. The slips are numbered from 1 to 10.

If a slip is drawn at random from the box, then the probability of getting a slip containing a number that is even and a multiple of three will be

- A. 0
- B. $\frac{1}{10}$
- C. $\frac{5}{10}$
- D. $\frac{6}{10}$

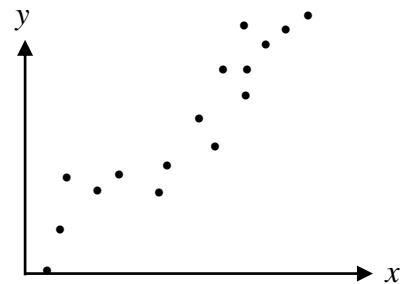
19. If $P(A \cup B) = P(A)$, then $P(A \cap B)$ is equal to

- I. 0
- II. $P(A)$
- III. $P(B)$

- A. I only.
- B. II only.
- C. I and III.
- D. II and III.

20. For the given scatter diagram, the liner correlation between x and y could be

- A. 0
- B. 0.4
- C. 0.8
- D. 1



Please use this page for rough work

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