

**Second Year B. Physiotherapy Examination  
Biostatistics and Research Methodology**

**Date : 15-09-2022, Thursday]****[Max. Marks : 40****Time : 2 Hours]**

- Instructions :** (1) Answer to the point.  
(2) Figure to the right indicates marks.  
(3) Draw diagrams wherever necessary.  
(4) Write legibly.

**Q.1 A)** Define Epidemiology. Classify different types of Epidemiological studies. Describe case-Control Study in detail. (2+2+5=9 Marks)

**B)** Determine if there is association between attack of measles disease and vaccination against measles, in a sample of 200 children of a school. Out of 100 vaccinated children 10 get measles disease and out of 100 unvaccinated children 26 got the measles disease. Apply statistical test and give your comments about protective value of measles vaccine. (6 Marks)  
( $\chi^2 = 3.84$ , DF=1 and P=0.05)

**OR**

**Q.1 A)** Define Sampling. Enumerate different sampling techniques, explain random Sampling technique in detail (2+2+5=9 Marks)

**B)** Weight (in Kg) of 20 students was as follows:  
55, 50, 46, 48, 59, 57, 65, 63, 61, 48, 45, 53, 67, 65, 68, 62, 60, 56, 51, 54  
Calculate Mean, Median and Standard Deviation (SD) for above data (6 Marks)

**Q.2 Write notes on (Any Three)** (5×3=15 Marks)

- a) Incubation period
- b) Attributable risk (AR) and Relative risk (RR)
- c) Qualitative data
- d) Confidence level and confidence interval

**Q.3 Write notes on (Any Two)** (5×2=10 Marks)

- a) Normal distribution curve
  - b) Paired t-test
  - c) Pandemic
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