

VINAYAKA MISSION'S RESEARCH FOUNDATIONS, SALEM
(Deemed to be University)

B. OPTOMETRY DEGREE EXAMINATION – September 2021
Second Year

STATISTICS AND OCCUPATIONAL OPTOMETRY

Time: Three hours

Maximum: 80 marks

Use Separate answer books for Part A and Part B

PART – A - STATISTICS

Time: One and half an hour

Maximum: 40 marks

SECTION – A

I. Answer ALL Questions:

(5 x 1 = 5)

1. The mean of the data a, a, a, a will be _____.
2. Test of association; _____.
3. Probability values range between is _____.
4. What is the relationship between SD and variance: _____.
5. The area under normal distribution curve is _____.

II. Match the following:

(5 x 1 = 5)

1. Discrete variable – A preventative measure
2. Paired T test – Graphical presentation of data
3. Sample – Number of children
4. Histogram – Pre and post comparison
5. Screening – A portion of the population

SECTION – B

III. Write short notes on any TWO of the following:

(2 x 5 = 10)

1. Construct the frequency distribution table for the data on heights (cm) of 20 boys using the class intervals 130-135, 135-140 and so on. The heights of the boys in cm are: 140,138,133,148,160, 153, 131, 146, 134, 136, 149, 141, 155, 149, 165, 142, 144, 147, 138, 139. Also, find the range of heights of the boys.
2. Types of bias.
3. The following observations are arranged in ascending order: 17, x, 24, x+7, 35, 36, 46. The median of the data is 25 find the value of x. Also substitute the value of x in the observation and find the mean of the given data.
4. Positive and negative correlation.

SECTION – C

IV. Write an essay on any TWO of the following:

(2 x 10 = 20)

1. Association and causation.
2. Compare and contrast case control and cohort study in a table.
3. Steps of Hypothesis testing.
4. Natural history of disease and epidemiological triad.

PART – B – OCCUPATIONAL OPTOMETRY

Time: One and half an hour

Maximum: 40 marks

SECTION - A

I. Answer All questions:

(5 x 1 = 5)

1. Following can be health related problems for a computer user EXCEPT
 - a. Carpal Tunnel Syndrome
 - b. Dry Eye Syndrome
 - c. Malaria
 - d. Piles
2. According to Grundy, the visual acuity necessary for a demanding task should be approximately _____ the minimum value.
 - a. Thrice
 - b. Four times
 - c. Once
 - d. Twice
3. International labour organization is a tripartite of the following EXCEPT
 - a. Worker
 - b. Work
 - c. Employer
 - d. Government
4. "100" in color rendering Index means
 - a. No colour distortion
 - b. Partial colour distortion
 - c. Incomplete colour distortion
 - d. Complete colour distortion
5. Ideal illuminance lux for a consulting room of an optometrist
 - a. 500
 - b. 400
 - c. 300
 - d. 200

II. State whether the following statements are TRUE or FALSE:

(5 x 1 = 5)

1. National institute of occupational health (NIOH) started in Ahmedabad.
2. Tripping, falling and striking hazards are in red colour.
3. Increasing the contrast of a target can increase performance.
4. Oscillating electric circuits are gamma rays.
5. Pulmonary Fibrosis is caused by mushroom compost.

III. Fill in the blanks:

(5 x 1 = 5)

1. An eye injury in boxing can result in _____ ring.
2. A discharge lamp has a _____ lamp life.
3. _____ is the amount of light given by a lamp for each watt of power consumed.
4. _____ health aims at prevention rather than cure.
5. Main motto of _____ is 'Making World Safer'.

SECTION – B

IV. Answer any THREE of the following:

(3 x 5 = 15)

1. When are they picked up to use as a PPE: Face shields, cup goggles.
2. Write about 2 biological, 2 chemical and 2 physical agents that cause occupational related diseases.
3. What is an incident? What is an accident pyramid?
4. Methods of colour vision testing and their principles.
5. Contact lens and work.

SECTION – C

V. Discuss in detail on any ONE of the following questions:

(1 x 10 = 10)

1. Write on illumination – definition, measurements and standards and types of lighting.
2. Write on Electromagnetic radiation under the subgroups – ionizing and non-ionizing radiations.

(Sl.No.M21113)