CVM UNIVERSITY
M.Sc. (COURSE NAME) Semester-I Examination-2021
Wednesday, 3rd March – 2021
2:00 PM to 4:00 PM
PAPER CODE: 101360107
Name : Introduction to Human Physiology, Biostatistics and Epidemiology

Total Marks: 60

Note: (1) Attempt all questions.

(2) Figures to the right indicate marks.

Q. 1A	Answer the following multiple choice questions.	(08)
1	Function of basal ganglia is : i) Coordination ii) Sensory information iii) Planning and execution iv) Motor information.	
2	Vision is processed in : i) Occipital cortex ii) Motor cortex iii) Temporal cortex iv) Parietal cortex	
3	Nissl's granules are found in : i) Red blood cell ii) White blood cell iii) Platelets iv) Neuron.	
4	Rough endoplasmic reticulum forms : i) Protein ii) Carbohydrates iii) Fats, iv) Vitamins	
5	From the given graphical presentations below, which is the right graph to show relationship between two continuous variables? i) Bar chart ii) Histogram iii) Scatter plot iv) Box plot	
6	The trend over time for two quantitative variables can be best represented by: i) Pie chart ii) Bar diagram iii) Histogram iv) Line chart	
7	Weight in kg is a _____ variable : i) Discrete ii) Continuous iii) Nominal iv) Ordinal	
8	Mean height of 10 female students of a class is 160 cm and the mean height of 20 male students is 170 cm. What will be the mean height of all the 30 students of the class in cm? i) 159.4 ii) 166.6 iii) 169.8 iv) 172.7	

Q.1 B	Answer the following (Fill in the blanks and True or False)	(08)
1	Sertoli cells synthesise Testosterone	
2	Estrogen is responsible for the proliferation stage of menstrual cycle.	
3	Myopia is far sightedness	
4	Human hearing range is from 20 -20,000 hz.	
5	Cohort is the best study design for finding an incidence of a disease in a year. True/False	
6	Standard deviation of standard normal distribution is '0'. True/False	
7	Mean can be calculated for open ended classes data. True/False	
8	Mean, Median and Mode coincide for a Normally distributed data. True/False	

Q.2	Attempt **any six** of the following.	(12)
1	Functions of Gastrointestinal tract	
2	Erythropoeiesis	
3	Functions of respiratory system	
4	Micturition	
5	Define qualitative variables and give 2 examples of qualitative variables.	
6	Which test is appropriate to compare change in weight before and after a nutrition supplement given to 20 children for a month? Give reasons.	
7	The mean of 10 observations is 25 but later on it was found that an observation 24 was wrongly written as 14. What will be the mean of correct sample.	
8	List 2 advantages and 2 limitations of case-control studies.	
Q. 3	Functions of Liver	(08)
	OR	
Q.3	Heart rate	(08)
Q. 4	Functions of Kidney	(08)
	OR	
Q. 4	Functions of Thyroid gland	(08)
Q. 5	The following table shows the persons suffering with respiratory illness in different age groups:	(1+1+3+1+2=8)

Respiratory illness	Children	Adult	Total
Present	76	65	141
Absent	54	89	143
Total	130	154	284

Is the proportion of persons suffering from respiratory illness in children same as that in adults at 5% level of significance? (Table value 3.84 at 5% LOS and 1 df)

While framing your response state your null hypothesis, alternative hypothesis, name the relevant test statistic, calculate it and compare it with the relevant table value to conclude and interpret in the problem's context.

OR

Q. 5	For following data on coronary heart disease(CHD) present / absent with details of BMI of the participants (5 in each group):	(1+1+3+1+2=8)

CHD Present (BMI in kg/m^2)   : 28.87, 31.54, 29.76, 26.99, 29.98

CHD not present(BMI in kg/m^2) : 22.75, 25.12, 20.88, 23.18, 26.17

Test the hypothesis : Is BMI significantly different in cases of CHD than non CHD. While framing your response state your null hypothesis, alternative hypothesis, name the relevant test statistic, calculate it and compare it with the relevant table value to conclude and interpret in the problem's context.

Q. 6	What is sampling? Name the 2 types of sampling techniques. List 2 subtypes of each sampling technique.	(2+2+4=8)
	OR	
Q. 6	Explain the design of a cross sectional study. List 2 advantages and limitations of it. What measures of association can be calculated for a cross sectional study?	(2+4+2=8)

Note: Q 1 and Q 2 contains questions equally distributed from all units. Q 3, Q 4, Q 5 and Q 6 will be from Unit No. 1, 2, 3 & 4 respectively

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