

2021

PHYSIOLOGY

[**Honours**]

PAPER – VIII

Full Marks : 100

Time : 4 hours

Answer any **two** questions

The figures in the right hand margin indicate marks

*Candidates are required to give their answers in their own words
as far as practicable*

Illustrate the answers wherever necessary

1. What are BOD and COD ? Describe the principle and procedure of determination of BOD of a water sample. State the significance of the measurement of BOD. Describe the principle and procedure of determination of light intensity by lux meter. 5 + (5 + 15) + 5 + (5 + 15)
2. Write down the differences of the cell membrane of Gram positive and Gram negative bacteria with suitable diagram. Describe the principle and procedure of Gram staining. State the importance of this staining procedure. Give two examples of gram positive and negative bacteria. Describe the principle and procedure of a suitable method for isolation of DNA from blood. Write a note on acid fast staining. 10 + (5 + 10) + 6 + 4 + (4 + 6) + 5
3. Mentioning the principle describe the procedure and calculation of measurement of sperm count. What is oligospermia ? Mention the abnormal constituents of urine. Describe the different waves of ECG drawing a normal ECG and mention the significance of P wave. How will you compute 'median' and 'standard error of mean' ? State the significance of nutritional assessment by using dietary survey. (2 + 5 + 5) + 3 + 5 + (10 + 3) + (6 + 6) + 5
4. Describe the principle and procedure of blood glucose determination by Nelson Somogyi method. State the clinical significance of the method. What are hyperglycemia and glucosuria ? State the principle and procedure of cholesterol by FeCl₃ method. Mention the significance of measuring blood cholesterol. What are LDL and HDL ? State the normal range of human total cholesterol, LDL, HDL and triglyceride. (5 + 5) + 5 + 5 + (4 + 6) + 5 + 5 + 10