

Reg.No. _____

**Karunya UNIVERSITY**(Karunya Institute of Technology & Sciences)
(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)**End Semester Examination – Nov/Dec – 2016**

Code : 15BI3013
Sub. Name : Next Generation Sequencing

Semester : 2016-17 ODD
Duration : 3hrs
Max. marks : 100

ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)

Q. No.	Sub Div.	Questions	Course Outcome	Marks
1.	a.	A bioinformatics scientist has been asked to develop a protocol for rice genome RNA Seq data analysis, kindly frame out the whole protocol.	CO3	20
(OR)				
2.	a.	Pen down the different tools used in NGS technology.	CO3	3
	b.	A scientist is interested in sequencing of DNA binding regions of H2 protein. Which approach will be benefitted for this type of research? Explain	CO2	17
3.	a.	A gastric patients second generation sequencing data is been given to a bioinformatics company, plan out the whole methodology how the data will be analyzed with open tools.	CO3	20
(OR)				
4.	a.	Mention the genome assembly steps used during the NGS technology.	CO3	15
	b.	Make a note on 454 pyro sequencing machine.	CO1	5
5.	a.	Explain the overall approach used in NGS chemistry and its analysis?	CO1	20
(OR)				
6.	a.	Mention two advantages of next generation sequencing approach towards microarray.	CO2	6
	b.	Mention the steps involved in bridge polymerase chain reaction including the steps involved in Polymerase Chain Reaction.	CO1	14
7.	a.	Make a flow chart for Amplicons generated workflow under target sequencing.	CO3	20
(OR)				
8.	a.	What is the significance of adaptors in sequencing approach?	CO1	4
	b.	Explain genomics based approach used for NGS sequence analysis.	CO2	16
<u>Compulsory:</u>				
9.	a.	Write important points of Nano pore sequencing approach.	CO2	8
	b.	Make a comparative representation of DNASE/MNASE/ATAQ sequencing approach.	CO2	12

ALL THE BEST