GURUDAS COLLEGE
INTERNAL EXAMINATION ,2020
B.Sc (SEMESTER IV) CBCS
MICROBIOLOGY
(HONOURS)
PAPER : CC 8

TIME : 2 HOURS   **FULL MARKS 50**

GROUP A(THEORY)
<u>Answer any five questions</u>

1. What are the basic differences between self-transmissible and mobilisable plasmid?
   Define plasmid incompatibility.
   What is the size of *Escherichia coli* genome?   2+2+1

2. What is plasmid partitioning?
   What is Sexduction?   2+3

3. What is IS element?
   How does a merozygote formed?
   What is the significance of Ames test?   2+2+1

4. How does an Hfr cell differ from an F^+ cell?
   Describe how would you isolate a mutant that requires histidine for growth and is
   resistant to penicillin.   2+3

5. What are counterselective markers? Give examples.
   Distinguish between Transition mutation and Transversion mutation.   3+2

6. How the copy number of a plasmid is regulated inside the host cell?
   Differentiate between generalized transduction and specialized transduction.
   What are the different modes of replication may be used by plasmid?   2+2+1

7. What is silent mutation?
   UV light causes what type of mutation? Describe the mechanisms in order of
   efficiency that can repair the damage. Mention the enzymes involved.   1+4

8. What is composite transposon?
   What are HFT and LFT?   2+3

GROUP B(PRACTICAL)
Q1. Define auxotroph for plasmid isolation from *E.coli*.   2
Q2. What is the function of Solution 1 and write down the composition of Solution 1. 5
Q3. What is the function of agarose?   2
Q4. What do you mean by transformation efficiency?   4
Q5 Why heat-shock is necessary for artificial transformation of plasmid in *E.coli*? 2

GROUP C. (IA)

Q1. Suppose you have two different plasmid of size 3.2kb and 5kb. How would you
differentiate these two plasmids by a single test?   5

Q2. An Hfr transfers gene in an alphabetical order. Would you expect F'(b) plasmid
   lacking gene a or F'(z) lacking gene z.   5

Submit your answer scripts from your own email id to infomcbasem4@gmail.com