ZàÎÀà-2. yà¢â¹¦§ý ¡Èv j§ý §ýà ytl àm Ñu ¢y§ýà tÑ¾w rmà¢¥ ñ

Explain citric acid cycle and its significance.

OR

wyà §ý £qàqju qÊ ¥§ý vh âvâh¥ ñ

Write a note on lipid metabolism.

ZàÎÀà-3. âwxà½à §ý vuÂà j§ý §ýà ytl à¢¥ ñ

Explain the lytic development cycle of virus.

OR

ZàâmkâwS§ý ZàâmÊàoS§ýmà §ýL â§ýuàâwâo §ýà ytl à¢¥ ñ

Explain the mechanism of antibiotic resistance.

ZàÎÀà-4. ¡Âàwàâ§Îà§ý qÂàuàkÂà §ý ¡à0½w§ý ¡àoàÊ §ýL j j à §ýLâk¥ ñ

Discuss the molecular basis of genetic recombination.

OR

kãwà½à t¦ yu³tÂà §ýL â§ýuàâwâo §ýà âwÐmm w½àÂà §ýLâk¥ ñ

Describe in detail the conjugation process in bacteria.

ZàÎÀà-5. kãwà½à t¦ áÊÐ¹¦ä¨yÂà ¥w taà»¦âÄý§ý§ÎàÂà mØà §ýà ytl àm Ñ¥, ¢y§ý tÑ¾w §ýL j j à §ýLâk¥ ñ

Explain the restriction and modification system of bacteria and discuss its significance.

OR

âwâsÂÂà Zà§ýàÊ §ý áÊÐ¹¦ä¨ÎàÂà ¥Âkà¢t §ýà £ÀàÑÊ½à yâÑm w½àÂà §ýLâk¥ ñ

Describe different types of restriction enzyme with example.

----x----

Roll No.....

Total No. of Section : 03

Total No. of Printed Pages : 04

Code No. : B-249(A)

Annual Examination - 2017

B.Sc.-II

MICROBIOLOGY

Paper - I

MICROBIAL PHYSIOLOGY AND GENETICS

Max.Marks : 50

Time : 3 Hrs. **Min Marks : 17**

¹¦äq ß h½»¦'¡'t¦ Ày ¡âmvi¦ÙàÊã ZàÎÀà Ñ¦, âkÂÑ¦ Ñv §ýÊÀàà ¡âÂàwàu¦ Ñ¦ ñ h½»¦'r't¦ vi¦ÙàÊã ZàÎÀà mnà h½»¦'y't¦ Àâi¦ £ÙàÊãu ZàÎÀà Ñ¦ ñ h½»¦'¡'§ýà yry¦ qÑv¦ Ñv §ýÊ¦ ñ

Note : Section 'A', containing 10 very short answer type questions, is compulsory. Section 'B' consists of short answer type questions and Section 'C' consists of long answer type questions. Section 'A' has to be solved first.

h½»¦-'¡'(Section-'A')

âÎàÈÎàà¦â§ým ¡âm vi¦£ÙàÊãu ZàÎÀà¦ §ý £ÙàÊ ¥§ý uà À¦ wà¨uà¦ t¦ À¦ ñ (Answer the following very short-answer-type questions in one or two sentences) (1x10=10)

ZàÎÀà-1. uâÀ wàmàwÊ½à t¦ qàx§ý m¾w §ýL tàØàà rÑm §ýt Ñà, mr ¢y§ý qáÊwÑÂà t¦ §ýàÂà yà qáÊwÑÂà mØà kãwà½à§ý âv¥ ywàâo§ý £quà³àä Ñ¦ ñ

Which transport system is best suited for the transportation of nutrient present in the environment at extremely low level?

ZàÎÀà-2. kãwà½à t¦ »¦àuâq§ýàâvâÂà§ý ¡Èv §ýÑà qàuà kàmà Ñ?

Where is dipicolinic acid found in bacteria?

ZàÎÀà-3. ³v§ýàk §ý ¥§ý ¡½à§ý yÈq½à ¡à¨yã§ýÊ½à y¦ â§ýmÂà ¥.¹¦ä.qã. §ýà £¾qàÀÂà Ñàmà Ñ?

How many ATP are derived from complete oxidation of one molecule of glucose.

ZàÎÀà-4. ³và¢§ýàâvâyy §ýà ¡âmt £¾qàÀ ¨uà Ñ?

What is the end product of glycolysis?

P.T.O.

ZàÎÀà-5. ¥§ýv yØàäu »¡ã.¥Àà.¥. kãwà½ài sà¦kã §ýà ¥§ý £ÀàÑÊ½à âvâh¥ ñ

Write an example of single stranded DNA bacteriophage.

ZàÎÀà-6. Àvà0Ðt»¦ §ýà ZàâmS¡ýâmS¡ýÊ½à ..... ârÂÀi y¦ ZàäÊs Ñà¦mà Ñ¦ ñ

Replication of plasmid initiate from ..... point.

ZàÎÀà-7. kãwà½ài t¦ £y ¡ Âàiwäâ Îà§ý qÂäuàkÂà §ýà Âàät rmà¢¥ kà â§ý âwxà½ài §ýL yÑàumà y¦ yÈqÂÂà Ñà¦mà Ñ?

Name the genetic recombination in bacteria which take place with the help of virus.

ZàÎÀà-8. kãwà½ài t¦ yuªtÂà §ýL hà¦k â§ýyÀà ¡ àÊ §ýr â§ýuà ?

Who and when discovered conjugation in bacteria?

ZàÎÀà-9. Äýà¹¦àáÊ¥¨¹¦ãwÎàÂà §ýL hà¦k â§ýyÀà §ýL?

Who discovered photoreactivation?

ZàÎÀà-10. »¦t âtnà¢vy »¡ã.¥Àà.¥. §ý â§ýy âwáÎà¯ ¡ Âà§ýt §ýà âtnà¢vä§ýÊ½à §ýÊmà Ñ?

Which specific sequence of DNA is methylated by dam methylase?

h½»¦-'r' (Section-'B')

âÀàÈÀàäâ§ým vi¦ £ÙàÊãu ZàÎÀàä¦ §ý £ÙàÊ 150-200 Îà£À-yîtà t¦ À¦ ñ
(Answer the following short-answer type questions with word limit 150-200) **(3x5=15)**

ZàÎÀà-1. âytqà¹¦, ¥Á¹¦ãqà¹¦ w uÂäãqà¹¦ t¦ ¡ mÊ Ðq¯ §ýLâk¥ ñ

Differentiate symport, antiport and uniport.

OR

§ýäâÎà§ýà §ývà §ý õàÊà ªä¦q ¹¦àyvà§ýÎàÂà §ýà ytl à¢¥ ñ

Explain the group translocation by plasma membrane?

ZàÎÀà-2. ªvà¢¡ à¨kv¹¦ j§ý §ýà ytl à¢¥ ñ

Explain glyoxalate cycle.

OR

ªv§ýäâÂàuàkÂäàyy ¨uà Ñ? ytl à¢¥ ñ

Explain, what is gluconeogenesis?

ZàÎÀà-3. ¹¦àÐqà¦kàÂà §ýL yÊj Âàà §ýà w½äÂà §ýLâk¥ ñ

Describe the structure of transposon.

OR

Àvàyât»¦ ¢Âà§ýÈqâ¹¦ârvä¹¦ã ¨uà Ñ?

What is plasmid incompatibility?

ZàÎÀà-4. yäÕàÅm â¹¦Áq½ääã âvâh¥ (§ýà¢ ¥§ý) ß

¡) âwáÎà¯ qàÊ§ýt½à r) kãwà½ài t¦ ¹¦àyÄýàtîàÂà

Write short note on any one :

a) Specialized transduction b) Transformation in bacteria

ZàÎÀà-5. yäÕàÅm â¹¦Áq½ääã âvâh¥ (§ýà¢ ¥§ý) ß

¡) âtyt¦j áÊquÊ mØà r) ¥y.¡à.¥y. áÊquÊ mØà

Write short note on any one :

a) Mismatch repair system b) SOS repair system

h½»¦-'y' (Section-'C')

âÀàÈÀàäâ§ým Àäi¦ £ÙàÊãu ZàÎÀàä¦ §ý £ÙàÊ 300-350 Îà£À-yîtà t¦ À¦ ñ
(Answer the following long-answer type questions with word limit 300-350) **(5x5=25)**

ZàÎÀà-1. kãwà½ài t¦ wâ÷ §ýL âwâSÂÀà ZàäwÐnà ¡ à¦ §ýà w½äÂà §ýLâk¥ ñ

Describe the different phases of growth in bacteria.

OR

kãwà½ài ¥½»¦àÐqàÊ §ýL yÊj Âàà rmàm¦ Ñ¥ ¢yS§ý âÂàtà½à §ýL ZàâS§yuà ytl à¢¥ ñ

Explain the structure of endospore and process of sporulation in bacteria?

P.T.O.