OR

ATP §ý kv ¡qi¹¦Âà §ýà ytIà¢¥ ñ

Explain hydrolysis of ATP.

ZàÎÂà-2. Zàà¹¦âÂà §ý ¡½àsàÊ Öààm §ýÊÂà §ýL ¡q§ýÂô½à âwâo §ýà w½ààÂà §ýLâk¥ ñ

Describe centrifugation method of determination of molecular weight of protein.

OR

pH tàqÂà §ýL ¥§ý âwâo §ýà w½ààÂà §ýLâk¥ ñ

Describe a method for pH determination.

ZàÎÂà-3. kw Êyàuâà ¡Áuuààà t ZàuQý ÑàÂà wàv â§ýÂÑà Àà ytÐnààÂà§ýà §ý ¡ÂàZàuàªà rmvà¢¥ ñ

Write applications of any two isotopes in biochemical studies.

OR

kãw kÂm¡à qÊ Êâ»uà âw§ýÊ½àà §ý ÀÏZàsàw §ýà rmvà¢¥ ñ

State hazardous effects of radiation on living animals.

ZàÎÂà-4. ªày âvâ¨w»¦ §ýàt¹¦àªààÄýL m§ýÂàã§ý §ýà âwwÊ½à Àââk¥ ñ

Give description of gas liquid chromatography.

OR

PAGE qÊ ¥§ý â¹¦Äq½àã âvâh¥ ñ

Write a note on PAGE.

ZàÎÂà-5. ôÍutààÂà Ðq¨¹¦àÐ§ýàqã §ýà ây÷àm w £quàªà rmvà¢¥ ñ

Write principle and use of mass spectroscopy.

OR

ELISA qÊ ¥§ý â¹¦Äq½àã âvâh¥ ñ

Write a note on ELISA.

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Annual Examination - 2017

B.Sc.-I

BIOCHEMISTRY

Paper - II

BIOPHYSICAL AND BIOCHEMICAL TECHNIQUES

Max.Marks : 50

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

¹âq ß h½»¦'¡' t Ày ¡âmvi ÙàÊã ZàÎÂà Ñ¦, âkÂÑ Ñv §ýÊÂàà ¡ââwàu Ñ ñ h½»¦'r' t vi ÙàÊã ZàÎÂà h½»¦'y' t Ààãi £ÙàÊãu ZàÎÂà Ñ ñ h½»¦'¡' §ýà yry qÑv Ñv §ýÊ ñ

Note : Section 'A' is objective type, containing 10 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')

âÂàÈÂààâ§ým ¡âm vi£ÙàÊãu ZàÎÂàà §ý £ÙàÊ ¥§ý uà Àà qâQýuà t Àý ñ

(Answer the following very short-answer-type questions in one or two lines.) **(1x10=10)**

ZàÎÂà-1. rmvà¢u â§ý $Fe^{+3} \rightarrow Fe^{+2} + e$ ¡â¨yâ§ýÊ½à Ñ uà ¡qjuÂà ñ

State whether is oxidation or reduction.

ZàÎÂà-2. ÐnÊ Ààr qÊ ¥ÂnàÌqã w ¡ààmâÊ§ý £kà §ý tÁu yÈro §ýà âvâh¥ ñ

Write relationship between enthalpy and internal energy at constant pressure.

ZàÎÂà-3. 0.0001 tàvÊ âwvuÂà §ýà tàÂà ¨uà Ñàªàà?

What will be of 0.0001 molar solution?

ZàÎÂà-4. 0.00001 tàvÊ âwvuÂà §ýà tàÂà ¨uà Ñàªàà ?

What will be of 0.00001 molar solution?

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ZàÎÂà-5. kw Êyàuà ¡Áuuà t¦ ZàuQý Ñàà wàv mãà ytÐnààuà¦ §ý y§ým âvâh¥ ñ

Write symbol of three isotopes used in biochemical studies.

ZàÎÂà-6. ªàÿ ¡àuÂàã§ýÊ½à âwâo t¦ ZàuQý Ñàà wàvã ªàÿ §ýà Âààt âvâh¥ ñ

Write the name of gas used in gas ionization method.

ZàÎÂà-7. qqÊ §ýàt¹àªààÄýL t¦ §ýàÂà-yà qqÊ ZàuQý Ñàmà Ñ ?

Which paper is used in paper chromatography?

ZàÎÂà-8. §ýà âwÐmààÊm Úq âvâh¥ ñ

Write full form of .

ZàÎÂà-9. qÊà-rªàÂàã Õàøà §ýà qÊàÿ âvâh¥ ñ

Write range of ultraviolet region.

ZàÎÂà-10. §ýàÂà y j§ý½à (spin) wàv Âààs§ý t¦ Âààs§ýLu jÈr§ýLu ¡ÂàÂààÀ §ýà ªà½à ysw Ñ?

Which spin is required for a nucleus to show nuclear magnetic resonance?

h½»|-'r' (Section-'B')

âÂàÈÂààâ§ým vi¦ £ÙàÊãu ZàÎÂàà¦ §ý £ÙàÊ 150-200 ÎàÆÀ-yàtà t¦ À¦ ñ

(Answer the following short-answer type questions with word limit 150-200) (3x5=15)

ZàÎÂà-1. £Ïtà ªààm§ýL §ý Zànt w âÕmãu Âàutà¦ §ý §ýnÂà âvâh¥ ñ

Write statements of first and second laws of thermodynamics.

OR

ATP ¨uà Ñ ? ¢y§ýà Êàyàuâà§ý yÊjÂàà½t§ý yøà âvâh¥ ñ

What is ATP ? Write its chemical structural formula.

ZàÎÂà-2. pH qqÊ qÊ ¥§ý â¹Äq½ã âvâh¥ ñ

Write a note on pH paper.

OR

§ývàtv ¢v¨¹à»| §ýà w½àÂà §ýLâk¥ ñ

Describe a Calomel electrode.

ZàÎÂà-3. ¢Âà yàwoââÂàuà¦ §ýà §ýàÊ½à yâÑm rmvà¢u¦ kà Êâ»¦uà ytÐnààÂà§ýà¦ §ý £quàªà §ýÊm Ñ¥ rÊmÂàã jààÑ¥ ñ

Write precautions with reason, which must be taken in handling radio isotopes.

OR

ªàà¢ªàÊ-tvÊ ªàâ½àØà §ýà âjØà rÂàà¢¥ ñ

Draw a diagram of Gieger Muller Counter.

ZàÎÂà-4. ¡à¢yà¢v¨¹àÄýà§ýàyª §ý tÑ½w §ýà ytIà¢¥ ñ

Explain the importance of isoelectrofocussing.

OR

¡àuÂà ¥¨yj¦k §ýàt¹àªààÄýL §ý ây÷àm §ýà ytIà¢¥ ñ

Explain the principle of ion exchange chromatography.

ZàÎÂà-5. râuÊ-vÈr¹ âÂàut §ýà rmvà¢u¦ ñ

HPLC

State Beer-Lambert law.

OR

ÅvàÊyÂ¹ Ðq¨¹àÐ§ýàqã qÊ â¹Äq½ã âvâh¥ ñ

Write a note on fluorescent spectroscopy.

h½»|-'y' (Section-'C')

âÂàÈÂààâ§ým Àãi¦ £ÙàÊãu ZàÎÂàà¦ §ý £ÙàÊ 300-350 ÎàÆÀ-yàtà t¦ À¦ ñ

(Answer the following long-answer type questions with word limit 300-350) (5x5=25)

ZàÎÂà-1. tÂà§ý tQý ¤ýkà qáÊwmÂà ¥w tÂà§ý ¡qjuÂà âwsw §ý tÁu yro §ýà Íu½qÂàà §ýLâk¥ ñ

Derive relationship between standard free energy change and standard reduction potential.