

Chittagong Veterinary and Animal Sciences University

Faculty of Food Science and Technology

BFST 1st year 1st Semester Final Examination, 2015

Subject: Human Biology (Theory)

Course Code: HBL-101

Full Marks: 70

Time: 3 hours

(Figures in the right margin indicate full marks. Answer five (5) questions from each section. Use separate answer script for each section. Split answer is discouraged.)

Section-A

1. a) Describe the controlling system of human body. 5
b) Suppose a person loses so much blood due to an accident. His blood pressure drops from 120 mmHg to 100 mmHg. In the absence of regulatory mechanism the blood pressure would have possibly dropped to 60 mmHg. Calculate his regulation factor and gain. 2
2. a) Sketch an ideal cell and label it. 3
b) Define cell, tissue, organ and organ system. 2
c) Write the physiological functions of endoplasmic reticulum and mitochondria. 2
3. a) What is tropic hormone? Define hormone, receptor and target cell. 4
b) What are the hormones secreted from hypothalamus? Write their effects on human body. 3
4. a) Classify tissues. Write the functions of different types of tissues. 5
b) What are the non-living substances found in different tissues? 2
5. a) Define blood with its properties. 2
b) List the factors of blood coagulation with their functions. 3
c) List the name of some anti-coagulants. What is the function of heparin? 2
6. a) Name the chambers of heart. 2
b) List the valves of heart with their functions. 2
c) Write the functions of RBC, WBC and Platelets. 3

Section-B

7. a) What are accessory organ of digestive system? Write their functions. 5
b) What are the normal functions of the gastrointestinal system? 2
8. a) Sequentially write the different organs of respiratory system. 2
b) Explain the mechanism of gaseous exchange through lung. 5
9. a) What is neuron? Draw and label a typical neuron. 4
b) Define and classify nervous system with its functions. 3
10. a) What do you mean by immune system? Classify the system. 3
b) Define antibody, antigen and kinins. 2
c) Describe innate defense system. 2
11. a) List the reproductive organs of male and female with their functions. 4
b) Define spermatogenesis and spermiogenesis. Describe the events of spermiogenesis. 3
12. a) Write the functions of kidney. What is the basic functional unit of kidney? 2
b) Write the normal composition of urine. What is the normal daily production of urine? 5

Chittagong Veterinary and Animal Sciences University

Faculty of Food Science and Technology

BFST 1st year 1st Semester Final Examination, 2015

Subject: Introductory Human Nutrition (Theory)

Course Code: IHN-101

Full Marks: 70

Time: 3 hours

(Figures in the right margin indicate full marks. Answer five (5) questions from each section. Use separate answer script for each section. Split answer is not allowed.)

Section-A

1. a) Define Food and Nutrition. Why nutritional knowledge is so important to lead a healthy life? 4
b) Indicate the components of food and classify the food according to their functions. 3
2. a) Define amino acid and fatty acid with example. 2
b) Briefly describe the classification of protein. 5
3. a) What is health? Point out the indicators to diagnose a good health. 3
b) What is balanced diet? What are the requirements of balanced diet? 3
c) Indicate different food groups. 1
4. a) What do you mean by Low birth Weight (LBW)? Indicate the risk factors of LBW. 3
b) What is colostrum? Write its composition and importance of colostrum feeding. 4
5. a) What is weaning period? Why weaning food is important for securing baby's health? 4
b) Briefly describe the nutrients in weaning food. 3
6. a) What are the nutritional implications of aging? 2
b) Indicate the physiological changes occur during old age. 5

Section-B

7. a) What is PUFA? Differentiate between PUFA and MUFA. 3
b) How does the human body get water as nutrient? 2
c) Which are the protective food components? Where we get it? 2
8. a) What is maternal nutrition? What kind of complications may arise during pregnancy? 4
b) Why extra nutrients are required during pregnancy and lactation? 3
9. a) Indicate the RDA of different nutrients for an adult male. 2
b) Why breast milk is considered the standard food for newborn? 3
c) What are the difference between colostrum and mature milk? 2
10. a) What is complementary feeding and supplementary feeding? 3
b) State the ages of introducing weaning food, complementary feeding and supplementary feeding. 2
c) Narrate the general criteria of weaning. 2
11. a) Briefly describe the different physiological changes during pregnancy. 5
b) Why protein requirement increases during pregnancy? 2
12. a) Write short notes on the followings (any two) 3.5x2
 - i. Milk sugar
 - ii. RDA at old age
 - iii. Web influences on pregnancy outcome

(Figures in the right margin indicate full marks. Answer any Five (5) questions from each section. Use separate answer script for each section. Split answer is not allowed.)

Section-A

1. a) Write down the symptoms, causes and preventive ways of vit-A deficiency. 4
b) write the chemical name of the following vitamins 3

i. Vit-A	iv. Vit-D
ii. Vit-C	v. Vit-B ₂
iii. Vit-E	vi. Vit-B ₆
2. a) What do you know about human growth and growth retardation? 3
b) Write the basic causes of growth failure in childhood. 4
3. a) What is food security? Write the recognized standard for food security. 4
b) Briefly describe the good ways to change food habit. 3
4. a) What is food enrichment? Why it is necessary in food industry? 2
b) Briefly describe a successful food fortification program. 5
5. a) Which micronutrients are responsible to develop anemia? Write their daily requirements, sources and functions. 5
b) What are the differences between macro and micro nutrients? 2
6. a) What is BMI? How can you calculate it? Write the classification of BMI. 3
b) Which factors have influence on RDA of human being? 4

Section-B

7. a) Define the following terms 3
i. Wasting ii. Stunting iii. growth dwarfism
b) What types of nutritional problem arise due to the deficiency of following nutrients 2
i. Iodine ii. Thiamine iii. Niacin iv. Vitamin-D
c) How do you prevent nutritional deficiency problem? 2
8. a) What is hidden hunger? Why people suffer from hidden hunger? 3
b) Write the identifiable signs and symptoms of micro-nutrient malnutrition. 4
9. a) What is protein? Write the biological functions of protein in details. 4
b) Define fatty acid. Discuss the classification of fatty acid. 3
10. a) What do you know about symbolic food? Give some example of symbolic food. 3
b) What is intra-household food distribution system? Which factors are involved in intra-house food distribution? 4
11. a) Explain- "The ways of energy expenditure". What is SDA? 4
b) Give a comparison between RDA and BMR. 3
12. a) Explain-" Vitamins act as guard for health. 4
" "
b) Write the importance of water as a nutrient. 3

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Chittagong Veterinary and Animal Sciences University
Faculty of Food Science and Technology
BFST 1st year 1st Semester Final Examination, 2015
Subject: Physical Chemistry (Theory)
Course Code: PCM-101

Full Marks: 70

Time: 3 hours

(Figures in the right margin indicate full marks. Answer **Four (4)** questions from each section where question 1 & 6 are compulsory. Use separate answer script for each section. Split answer is not allowed.)

Section-A

1. a) Define weight average molecular weight and number average molecular weight. 4
b) Write the effect of temperature on vapour pressure. 1
2. a) What are gels? Classify them. 2
b) Write down the properties of gels. 3
c) Describe the optical properties of sols. 5
3. a) Briefly discuss about the Tyndall effect of solutions. 3
b) What do you mean by Brownian movement? Why suspensions do not show Brownian movement? 3
c) Discuss in detail about the Bredic's arc method of sol solution preparation. 4
4. a) State Raoult's law of lowering of vapour pressure. 3
b) How can you determine the molecular mass from lowering of vapour pressure? 3
c) Calculate the boiling point of glucose solution that contains 0.3 mol glucose in 400 gm of water. (Note: $K_b = 0.52$) 4
5. a) What is pH? 1
b) Derive Henderson-Hasselbalch equation. 4
c) Write down the Lewis concept of acids and bases. 3
d) Determine the pH of 0.10 M NaOH solution. 2

Section-B

6. Briefly discuss about diffusion, osmosis and reverse osmosis. 5
7. a) Write down the order of a reaction and zero order reaction. 2
b) Describe the pseudo-order reactions. 3
c) Explain the integrated rate equation for a second order reaction. 3
d) The half-life of a substance in a first order reaction is 15 minutes. Calculate the rate constant. 2
8. a) Define heat of neutralization and heat of combustion. Discuss with example. 3
b) State and explain Hess's law. 3
c) Calculate the molarity and normality of Na_2CO_3 solution if 40 gm of it is dissolved in 600 ml water. 4
9. a) What do you mean by equilibrium constant? Derive the relation between K_p and K_c . 4
b) Derive the relation between free energy change and equilibrium constant. 6
10. a) State La Chatelier's principle. Discuss the effect of concentration, pressure and temperature variables in chemical equilibrium. 5
b) The standard free energy change for the reaction : 5
$$\text{N}_2(\text{g}) + \text{O}_2(\text{g}) \rightleftharpoons 2\text{NO}(\text{g}) + 173.1 \text{ kJ}$$

Calculate K_p for the reaction at 25° C.

Faculty of Food Science and Technology
BFST 1st year 1st Semester Final Examination, 2015

Subject: Physics-I (Theory)

Course Code: PHC-101

Full Marks: 70

Time: 3 hours

(Figures in the right margin indicate full marks. Answer four (4) questions from each section where question no. 1 and question no. 6 are compulsory. Use separate answer script for each section. Split answer is discouraged.)

Section-A

1. a) What do you mean by 'infrasonic' and 'ultrasonic'? 2
 b) Define elasticity. Justify that glass is more elastic than rubber. 3

2. a) Write the physical significance of capillarity in our daily life. 3
 b) Show that, the surface tension of a liquid is equal to the mechanical part of its surface energy. 3
 c) Show that the excess pressure inside a liquid bubble of radius 'r' over the atmospheric pressure outside it is equal to $2T/\sigma$, where T is the surface tension of the liquid bubble. 4

3. a) Derive an expression for surface tension of a liquid inside a capillary tube according to capillary rise method. 5
 b) Water stands at a depth 'H' in a large open tank whose side walls are vertical. A hole is drilled into one of the walls at a depth 'h' below the water surface. Find 5
 - i) The velocity of Efflux
 - ii) At what distance 'R' from the foot of the wall does the emerging stream of water strike the floor?

4. a) Define isothermal, adiabatic and isobaric process. 3
 b) During an adiabatic process, show that $PV^\gamma = \text{constant}$, where the symbols have their usual meaning. 3
 c) Air at 27°C is compressed adiabatically to half its volume. Calculate the change in its temperature. ($\gamma=1.4$) 4

5. a) Obtain a general solution for the differential equation of simple Harmonic oscillator. 4
 b) Show that the total mechanical energy of a simple harmonic oscillator is constant and is proportional to the square of the amplitude. 4
 c) The displacement of an oscillating particle at an instant 't' is given by 2

$$Y = a\cos\omega t + b\sin\omega t$$
 show that it is executing simple harmonic motion.

Section-B

6. a) Define the term 'angle of contact'. 1
 b) State the zeroth law of thermodynamics. 2
 c) What do you mean by the principle of superposition of waves? 2

7. a) Define steady flow and turbulent flow. 3
 b) Derive an expression for the terminal velocity of a body falling through a viscous medium. 4
 c) Distinguish between a reversible and irreversible process with examples. 3

8. a) State second law of thermodynamics and hence show that the efficiency of a Carnot engine using an ideal gas as working substance depends upon the temperature of the source and sink. 6
 b) Show that the velocity of sound in an isotropic solid is directly proportional to the square root of the Young's modulus of the solid material. 4

9. a) Obtain an expression for the differential equation of a plane progressive wave and hence establish a relationship between particle velocity and wave velocity. 4
- b) What do you mean by Progressive wave and Stationary wave? Mention some major differences between progressive wave and stationary wave. 3
- c) What is black body radiation? State different laws of radiation. 3
10. a) Explain the factors affecting the velocity of sound. 4
- b) Derive an expression for the moment of couple required to twist one end of a cylinder while the other end is fixed. Show that, a hollow cylinder is stronger than a solid one of the same material, mass and length. 6

Chittagong Veterinary and Animal Sciences University
Faculty of Food Science and Technology
BFST 1st Year 1st Semester Final Examination, 2015
Subject: Mathematics-I
Course Code: MTH-101(T)

Full Marks: 70

Time: 3 hours

(Figures in the right margin indicate full marks. Answer **any Five (5)** questions from each section. Use separate answer script for each section. Split answer is discouraged.)

Section-A

1. a) Define the following terms with example. 3
 i) Singular matrix
 ii) Non-singular matrix
 iii) Invertible matrix
 b) Find the inverse of the following matrix, if exists. 4
- $$A = \begin{pmatrix} 3 & 2 & -1 \\ 1 & 6 & 3 \\ 2 & -4 & 0 \end{pmatrix}$$
2. a) Discuss the real life application of linear programming problem. 2
 b) Solve the following linear programming graphically 5
 Minimize $Z = 3x_1 - 2x_2$
 subject to $3x_1 + 4x_2 \geq 12$
 $x_1 - 3x_2 \leq 6$
 $x_1 - 2x_2 \leq -4$
 and $x_1, x_2 \geq 0$
3. a) A firm manufactures three products A, B, C. The profits are Tk. 6, Tk. 4 and Tk. 8 respectively. The firm has two machines and below is the required processing time (in mins) for each machine on each product. 4
- | Machine | Products | | |
|---------|----------|---|----|
| | A | B | C |
| X | 8 | 6 | 10 |
| Y | 4 | 4 | 8 |
- Machine X and Y have 4000 and 5000 machine minutes respectively. The firm must manufacture 200 A's, 400 B's and 100 C's but no more than 300 A's. Set up a linear programming problem to maximize profit.
- b) Define inverse function. Find the inverse of the function $f(x) = \sqrt{x-3}$ where it exists. Sketch roughly the graph of f and f^{-1} on the same co-ordinate axes. 3
4. a) Give the statement of Leibnitz theorem. If $(1+x)y = \ln(1+x)$ then show that $(1+x)^2 y_{n+2} + (2n+3)(1+x)y_{n+1} + (n+1)^2 y_n = 0$ 3
 b) Find the differential coefficient of $y = (\cot x)^{\tan x} + (\sin x)^{\log x}$ 4
5. a) Consider the function $f(x) = 2x^3 - 9x^2 + 12x - 3$, find 7
 i) The interval(s) of increase and decrease of f
 ii) The values of f for which f has a local maximum and a local minimum
 iii) The interval of concavity and inflection points.
6. a) A closed top cylindrical container is to hold a volume of 1.874 litres. The material used for the top and bottom parts of the container costs twice as much as per unit area as the material used for the cylindrical tube. Find the dimension of the most economical container. 5
 b) Draw the graph of $y = (x-2)^2 + 2$ 2

Section-B

7. a) Write down the Taylor's series and Maclaurin's series for a function $f(x)$. 3
b) Use fourth degree Taylor polynomial of $\cos(2x)$ to find the exact value of $\lim_{x \rightarrow 0} \frac{1 - \cos(2x)}{3x^2}$. 4
8. a) Integrate 4
i) $\int \frac{dx}{(e^x - 1)^2}$ and
ii) $\int \frac{x^2 \tan^{-1}(x)}{1+x^2} dx$
by using method of substitution.
b) Integrate the definite integral $\int_0^{\frac{\pi}{2}} \log(\sin x) dx$ 3
9. a) Define Gamma and Beta functions. Show that $\Gamma(n + 1) = n\Gamma(n)$, $n > 0$ 3
b) Using Beta function and Gamma function, solve the following definite integrals (any two): 4
i) $\int_0^1 x^3(1-x)^5 dx$
ii) $\int_0^{\frac{\pi}{2}} \sin^5 x \cos^6 x dx$
iii) $\int_0^1 x^4(1-x^2)^{\frac{7}{2}} dx$
10. a) Determine the area of the region bounded by $y = 2x^2 + 10$, $y = 4x + 16$, $x = -2$ and $x = 5$. 7
11. a) Explain how you can find the area between two curves. 3
b) Evaluate $\iint_R 2xy^2 dA$ over the region R enclosed between $y = \frac{x}{2}$, $y = \sqrt{x}$, $x = 2$ and $x = 4$. 4
12. a) What do you know about direction cosine and direction ratio of a line? 3
b) Find the direction cosines of the line which is equally inclined to the axes. 4

(Figures in the right margin indicate full marks. Answer All the questions from each section. Use separate answer script for each section. Split answer is not allowed.)

Section-A

1. Use right form of verb in the following sentences: 5
 - a) It is right time they (change) their livelihood.
 - b) He went to Dhaka and (stay) with his father.
 - c) I am working hard with a view to (top) the merit list.
 - d) He (leave) for Paris yesterday.
 - e) I'm just (go) out to the shop.

2. Change the following sentences as directed: 5
 - a) Paul will be sent to prison. (change voice)
 - b) "Can you lend me some money?" Jim said to his friend. (change speech)
 - c) You will be laughed at if you talk nonsense. (change voice)
 - d) Will John shoulder the responsibility for this? (change voice)
 - e) Will you let me to eat the ice-cream if I wear my jumper?" said the little girl to her mom. (change speech)

3. Suppose you are concerned about unhealthy eating habit of the people of your country; you see that people now eat more fast food than before which contains too much saturated and trans fats, cholesterol, sodium, added sugars and processed ingredients. As a result, various health problems are showing up including obesity and malnutrition. Now, write a letter to the editor of an English daily stating your concern and encouraging people to eat a balanced diet. 7

Section-B

4. Complete the following sentences: 5
 - a) If I had a lot of money, _____
 - b) _____ unless you practice speaking in English every day.
 - c) Bob went to London as _____
 - d) As long as you speak the truth _____
 - e) Some people go to bed late; so _____

5. Write a paragraph on any of the following: 5
 - a) Food Safety and food hygiene
 - b) Earth quake in Nepal and neighbouring countries

6. Read the passage bellow and answer the questions that follow: 8

First introduced in 1927, The Hardy Boys Mystery Stories are a series of books about the adventures of brothers Frank and Joe Hardy, teenaged detectives who solve one baffling mystery after another. The Hardy Boys were so popular among young boys that in 1930 a similar series was created for girls featuring a sixteen-year-old detective named Nancy Drew. The cover of each volume of The Hardy Boys states that the author of the series is Franklin W. Dixon; the Nancy Drew Mystery Stories are supposedly written by Carolyn Keene. Over the years, though, many fans of both series have been surprised to find out that Franklin W. Dixon and Carolyn Keene are not real people. If Franklin W. Dixon and Carolyn Keene never existed, then who wrote The Hardy Boys and Nancy Drew mysteries?

The Hardy Boys and the Nancy Drew books were written through a process called ghostwriting. A ghostwriter writes a book according to a specific formula. While ghostwriters are paid for writing the books, their authorship is not acknowledged, and their names do not appear on the published books. Ghostwriters can write books for children or adults, the content of which is unspecific. Sometimes they work on book series with a lot of individual titles, such as The Hardy Boys and the Nancy Drew series.

The initial idea for both The Hardy Boys and the Nancy Drew series was developed by a man named Edward Stratemeyer, who owned a publishing company that specialized in children's books. Stratemeyer noticed the increasing popularity of mysteries among adults, and **surmised** that children would enjoy reading mysteries about younger detectives with whom they could identify. Stratemeyer first developed each book with an outline describing the plot and setting. Once he completed the outline, Stratemeyer then hired a ghostwriter to convert it into a book of slightly over 200 pages. After the ghostwriter had written a draft of a book, he or she would send it back to Stratemeyer, who would make a list of corrections and mail it back to the ghostwriter. The ghostwriter would revise the book according to Stratemeyer's instructions and then return it to him. Once Stratemeyer approved the book, it was ready for publication.

Because each series ran for so many years, Nancy Drew and The Hardy Boys both had a number of different ghostwriters producing books; however, the first ghostwriter for each series proved to be the most influential. The initial ghostwriter for The Hardy Boys was a Canadian journalist named Leslie McFarlane. A few years later, Mildred A. Wirt, a young writer from Iowa, began writing the Nancy Drew books. Although they were using prepared outlines as guides, both McFarlane and Wirt developed the characters themselves. The personalities of Frank and Joe Hardy and Nancy Drew arose directly from McFarlane's and Wirt's imaginations. For example, Mildred Wirt had been a star college athlete and gave Nancy similar athletic abilities. The ghostwriters were also responsible for numerous plot and setting details. Leslie McFarlane used elements of his small Canadian town to create Bayport, the Hardy Boys' fictional hometown.

Although The Hardy Boys and Nancy Drew books were very popular with children, not everyone approved of them. Critics thought their plots were unrealistic and even far-fetched, since most teenagers did not experience the adventures Frank and Joe Hardy or Nancy Drew did. The way the books were written also attracted criticism. Many teachers and librarians objected to the ghostwriting process, claiming it was designed to produce books quickly rather than create quality literature. Some libraries—including the New York Public Library—even refused to include the books in their children's collections. Ironically, this decision actually helped sales of the books, because children simply purchased them when they were unavailable in local libraries.

Regardless of the debates about their literary merit, each series of books has exerted an undeniable influence on American and even global culture. Most Americans have never heard of Edward Stratemeyer, Leslie McFarlane, or Mildred Wirt, but people throughout the world are familiar with Nancy Drew and Frank and Joe Hardy.

- a) According to the passage, the Nancy Drew mystery series was introduced in
 - A. 1925
 - B. 1927
 - C. 1929
 - D. 1930
- b) Which of the following would be the best title for the passage?
 - A. Ghostwriting: A way of life
 - B. Who were Leslie McFarlane and Mildred A. Wirt?
 - C. The Hardy Boys and Nancy Drew: Ghostwriting a series
 - D. The dubious yet profitable practice of ghostwriting
- c) According to the passage, which of the following people was a real writer?
 - A. Carolyn Keene
 - B. Franklin W. Dixon
 - C. Leslie McFarlane
 - D. Tom Hardy
- d) A ghostwriter is someone who—
 - I. writes about mysterious or strange events
 - II. does not receive credit as the author
 - III. bases his or her books on predetermined guidelines
 - A. I only
 - B. I and II only
 - C. II and III only
 - D. I, II and III
- e) As used in paragraph 3, which is the best definition for **surmised**?
 - A. guessed
 - B. questioned
 - C. knew
 - D. proved
- f) Why did many teachers and librarians object to ghostwriting method?
- g) What was the result of objection of some teachers and librarians to ghostwritten books?
- h) What kind of character do Frank and Joe Hardy and Nancy Drew possess?

Figure in the right margin indicate full marks.

(Answer **FOUR** questions from each section where question no. 1 and 6 are compulsory. Use separate answer script for each section. Split answer is not allowed)

Section: A

1. a) Explain the term "Enthalpy". 2
b) Differentiate true solution, colloidal solution and suspension. 3
2. a) What is thermodynamical equilibrium constant? Derive the expression showing the effect of temperature on chemical equilibrium. 6
b) The equilibrium constant K_p for the reaction $2\text{NH}_3(\text{g}) = 3\text{H}_2(\text{g}) + \text{N}_2(\text{g})$ is 1.22×10^{-3} at 297K and 2.16 at 498K. Calculate ΔH for the reaction. 4
3. a) Write a short definition of each of the following terms: i) Rate of a reaction; ii) Order of a reaction; iii) Molecularity of a reaction; iv) Half-life 4
b) Deduce the rate expression for second-order reaction. 4
c) The half-life of a substance in a first order reaction is 15 minutes. Calculate the rate constant. 2
4. a) What are colloids? 2
b) Describe one method for the preparation of colloids with a neat diagram. 5
c) What is meant by peptization? Give a suitable example. 3
5. a) Write down short notes on: i) Hess's law of constant heat summation; ii) K_c and K_p 6
b) Given that energies for H-H, O=O and O-H bonds are 104, 118 and 111 Kcalmol⁻¹, respectively. Calculate the heat of reaction: $\text{H}_2(\text{g}) + \frac{1}{2}\text{O}_2(\text{g}) \longrightarrow \text{H}_2\text{O}(\text{g})$ 4

Section: B

6. a) Define surface tension. What is the effect of temperature on surface tension? 3
b) What is common ion effect? 2
7. a) How can you determine the molecular weight of a solute from elevation of boiling point? 5
b) Write down the Raoult's law of depression of freezing point? 2
c) The vapour pressure of ether (MW=74) is 442 mmHg at 293K. 3g of the compound 'A' is dissolved in 50g of ether and the vapour pressure is reduced to 426 mmHg. Calculate the mol mass of 'A'. Assume that the solution is very dilute. 3
8. a) Define molar conductance, equivalent conductance and specific conductance. What are the effects of concentration on them? 6
b) Define osmosis and dialysis. Write down the biological importance of osmosis. 4
9. a) Discuss in details the Faradays law of electrolysis. 5
b) Write down the Arrhenius theory of electrolytic dissociation. 3
c) Why the mobilities of hydrogen ion and hydroxyl ion in aqueous solution is abnormally high. 2
10. a) Derive the relation between emf and free energy. 5
b) What is buffer solution? Write down the mechanism of acidic and basic buffer solution. 5