



**SOLOMON ISLANDS NATIONAL UNIVERSITY  
School of Nursing and Allied Health  
Sciences**

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**NU 612  
APPLIED SCIENCES**

**EXAMINATION**

**SEMESTER 1, 2017**



NAME:

STUDENT I.D.:

SOLOMON ISLANDS NATIONAL UNIVERSITY

SCHOOL OF NURSING AND ALLIED HEALTH SCIENCES

UNIT NAME: APPLIED SCIENCES

UNIT CODE NO: NU 613

COURSE NAME: DIPLOMA OF NURSING

This examination carries 40% of the total Assessment for this unit

Examination:

Current

Deferred/Supplementary

Internal

Examiners/Moderators: Reuben Maau

Time Allowed:

Perusal: Ten (10) minutes

Working: Three hours (3 hours)

Examination Date: 15<sup>th</sup> June 2017 Semester 1.

Time: 2 pm – 5 pm

**Special Instructions:**

Communication of any kind about any matter between students by any means whatsoever is strictly prohibited from the time that students enter the examination room until they exit at the completion of the examination. This includes any temporary absence from the examination room during the examination. Any such communication will be deemed to be cheating and treated as serious academic misconduct under SINU – School of Nursing & Allied Health Sciences Academic Regulation

The paper consists of Two Parts: MCQs & Short and Long Answer questions:

	Potential score	Score
MCQS	70	
Short & Long Answer Questions	50	
Total	120	
		%

1. Welcome to the NU 673 Examination
2. This is a **CLOSED** examination
3. Students **are permitted** to write on the examination paper during perusal time.
4. Students are only allowed to leave the examination room after one hour
5. Please write your **name** and **ID number** on the space provided
6. **Do not** use red pen and correctional fluids
7. **Attempt all questions**, should the space provided is not enough, use the back of the page and indicate it.

*~ Best of luck ~*

**PART A: MULTIPLE CHOICE QUESTIONS****(70 MARKS)**

1. **The study of living organisms is referred to as:**
  - a) Human biology
  - b) Serology
  - c) Microbiology
  - d) Bacteriology
2. **Which of the following is not included in the study of living organisms;**
  - a) Algae
  - b) Snail
  - c) Bacteria
  - d) Molds
3. **The first scientist who observed microorganisms using a magnifying glass is;**
  - a) Anton Van Leewenhoek
  - b) Louis Pasteur
  - c) Joseph Lister
  - d) Jenner
4. **When was the first vaccine introduced?**
  - a) 1798
  - b) 1827
  - c) 1912
  - d) 1895
5. **A host who has an infectious parasite and usually shows no clinical signs of the disease can transmit the disease to others. This is referred to as;**
  - a) Commensal
  - b) Carrier
  - c) Avirulent
  - d) Host
6. **A parasite capable of causing disease is referred to as;**
  - a) Parasite
  - b) Pathogen
  - c) Vector
  - d) Virulent
7. **An organism that provides a source of nutrient to another organism is referred to as;**
  - a) Commensal
  - b) Carrier
  - c) Avirulent
  - d) Host
8. **Which of the followings is used to classify bacteria?**
  - a) Shape
  - b) Need of oxygen
  - c) Feeding method
  - d) All of the above
9. **Fungal causing diseases are referred to as:**
  - a) Mycoses.
  - b) Mycology
  - c) Fungilitis
  - d) Both A and B
10. **All living things including microorganisms are composed of fundamental building blocks of a matter is called\_\_\_\_\_.**
  - a) Elements
  - b) Atoms
  - c) Compounds
  - d) All of the above
11. **Which of the following is a true statement about Staining Techniques to observe microorganisms?**
  - a) Microbial cytoplasm is usually transparent, it is necessary to stain microorganisms before they can be viewed with the light microscope
  - b) Used to determine the number of bacteria in a sample of contaminated water.
  - c) Microbes that are growing are increasing in number.
  - d) Both A and C
12. **The study of bacteria that includes their classification and the prevention of diseases that arise from bacterial infection is;**
  - a) Bacteriology
  - b) Virology
  - c) Taxomology
  - d) Both A and C
13. **Which of the followings is true about Bacterial reproduction?**
  - a) Reproduce sexual
  - b) Reproduce Asexual
  - c) Reproduce using spores
  - d) Both A and B

**14. Which of the following reproduction processes is used by yeast?**

- a) Budding
- b) Mitosis
- c) Meiosis
- d) All of the above

**15. A protein coat surrounding the nucleic acid of a virus is;**

- a) Capsmore
- b) Capsid
- c) Nucleic
- d) All of the above

**16. Which of the following is an infection caused by virus?**

- a) Malaria
- b) Pneumonia
- c) Chicken pox
- d) Dermatitis

**17. Which of the following disease is caused by a parasite?**

- a) Influenza
- b) Malaria
- c) Pneumonia
- d) Chicken pox

**18. A model used to understand the infection process is referred to;**

- a) Chain of infection
- b) Infection control
- c) Treatment guide
- d) Disease process

**19. The way pathogens get from the reservoir to the host is known as;**

- a) Infectious agent
- b) Susceptible host
- c) Portal of exit
- d) Mode of transmission

**20. An ..... is when the number of people who become infected increases well beyond what is expected within a country or a part of a country.**

- a) Epidemic
- b) Pandemic
- c) Locality
- d) Endemic

**21. The Study of the interactions of drugs with living organism is a broad definition of:**

- (a) Drug
- (b) Pharmacokinetics
- (c) Pharmacology
- (d) None of these

**22. Which of the following drug name is used mostly in professional literature and prescription?**

- (a) Generic name
- (b) Proprietary name
- (c) Trade name
- (d) All of them

**23. The study of the principles involved in the absorption, distribution, metabolism and excretion of drugs is called :**

- (a) Pharmacodynamics
- (b) Pharmacokinetics
- (c) Pharmacology
- (d) pharmacotherapeutics

**24. Drugs may also be grouped as penicillins, tetracyclines and aminoglycosides. This grouping or classification is based on :**

- (a) Chemical composition
- (b) Clinical use
- (c) Organs affected
- (d) Source of drug

**25. Which of the following describes the movement of a solvent from an area of low solute concentration to an area of high solute concentration?**

- (a) Active transport
- (b) Simple diffusion
- (c) Osmosis
- (d) Pinocytosis

**26. Most absorption of drugs taken orally occurs in the:**

- (a) Middle of small intestine.
- (b) Lower portion of small intestine.
- (c) Stomach
- (d) Upper portion of small intestine

**27. Absorption of a drug following subcutaneous or intramuscular injections occurs by:**

- (a) Active transport
- (b) Facilitated diffusion
- (c) Osmosis
- (d) Simple diffusion

**28. Which of the following influence the amount of drug distributed, amount of drug available at the site of action and the effectiveness of the drug?**

- (a) Drug binding
- (b) Drug storage
- (c) Drug barriers
- (d) All of them

**29. The combining of a metabolic product to another chemical substance is called:**

- (a) Conjugation
- (b) Hydrolysis
- (c) Oxidation
- (d) Reduction

**30. The ability of a drug to evoke a pharmacologic response is called:**

- (a) Affinity
- (b) Intrinsic activity
- (c) Intensity
- (d) potency

**31. The maximum or peak effect produced by a drug is called:**

- (a) Efficacy
- (b) Potency
- (c) Intensity
- (d) All of them

**32. The dose of a drug necessary to produce the desired intensity of effect is called:**

- (a) Maximum effective dose
- (b) Medium effective dose
- (c) Maximum toxic dose
- (d) Medium toxic

**33. Drug actions that are undesirable and potentially harmful are commonly called;**

- (a) adverse drug effects
- (b) innocuous drug effects
- (c) therapeutic drug effects
- (d) desired drug effects

**34. Which of the following drugs would be excreted more effectively from the body?**

- (a) water soluble drug
- (b) lipid soluble drug
- (c) protein binding drug
- (d) none of the above

**35. A drug interaction may also alter the way in which the second drug is**

- (a) Metabolized and eliminated
- (b) Digested and absorbed
- (c) Transported and excreted
- (d) None of the above

**36. Drug interactions may be used therapeutically for the benefit of -**

- (a) Doctors and nurses
- (b) Patients and families
- (c) Patients
- (d) All of the above

**37. Nurses need to know that a drug interaction**

- \_\_\_\_\_.
- (a) Is always safe
  - (b) May be fatal
  - (c) Seldom occurs
  - (d) Is always beneficial

**38. An instruction that the medication is to be given immediately and only once is called a:**

- (a) Stat order
- (b) Single order
- (c) Standing order
- (d) Prn order

**39. Which is the risk factor of poor nutrition?**

- (a) Gender
- (b) Alcohol Abuse
- (c) Lifestyle
- (d) All of above

**40. Fats will be digested in;**

- a) Mouth
- b) Stomach
- c) Gallbladder
- d) Small intestine

**41. Which of the following is the best source for Omega-3 Fatty acids?**

- a) Wheat products
- b) Pork
- c) Beef
- d) Sardines

**42. All of the followings are forms of carbohydrates, EXCEPT.**

- (a) Sugar
- (b) Protein
- (c) Starch
- (d) Fiber

**43. Which of the following is TRUE explanation?**

- (a) Low Density Lipoprotein is Good Cholesterol
- (b) High Density Lipoprotein is needed rather than Low Density Lipoprotein
- (c) Trans –Saturated Fat increases High Density Lipoprotein
- (d) Trans-Saturated Fat is natural fat in vegetables

**44. Carbohydrates provide the major source of our energy intake. Which of the following are rich in carbohydrates?**

- (a) Bread and rice
- (b) Beef and pork
- (c) Eggs and cheese
- (d) Chicken and fish

**45. Carbohydrates will be digested in;**

- (a) Mouth by Amylase in Saliva
- (b) Small intestine by Maltose and Dextrose
- (c) Small intestine by Amylase
- (d) Both A and B

**46. Which of the following foods is a complete source of protein?**

- (a) Bread
- (b) Fish
- (c) Dried Beans
- (d) Fruits

**47. Protein:**

- (a) Is large biological molecules consisting of one or more chains of amino acids
- (b) Is the major structural component of all cells in the body
- (c) Needs to grow and maintain for human body.
- (d) All of the above

**48. What are the 2 conditions related with protein deficiency?**

- (a) Kwashiorkor, Rickets
- (b) Marasmus, Rickets
- (c) Kwashiorkor, Marasmus
- (d) Rickets, Beriberi

**49. What mineral is needed for strong bones?**

- a) Calcium
- b) Potassium
- c) Sodium
- d) Iodine

**50. Which is the deficiency for Iron (Fe)?**

- (a) Anemia
- (a) Muscular and neurologic disorders
- (b) Osteoporosis
- (c) Rickets

**51. Iron supplements are frequently recommended for all, EXCEPT:**

- (a) Women who are pregnant
- (b) Infants and toddlers
- (c) Teenage girls
- (d) Teenage boys

<p><b>52. Night blindness is due to _____ deficiency.</b></p> <p>(a) Vitamin A (b) Vitamin B (c) Vitamin C (d) Vitamin D</p> <p><b>53. _____ is a mineral that helps the thyroid hormones. The main source of this mineral is from Seaweed and Seafood. What is this mineral?</b></p> <p>(a) Iodine (b) Magnesium (c) Potassium (d) Sodium</p> <p><b>54. We get _____ from the sun to aid in absorption of calcium for skeleton</b></p> <p>a) Vitamin A b) Vitamin B c) Vitamin C d) Vitamin D</p> <p><b>55. This nutrient is needed for a healthy immune system and strong connective tissue:</b></p> <p>(a) Fiber (b) Vitamin K (c) Vitamin C (d) Fat</p> <p><b>56. _____ means that a person regularly consumed food and drink or it can mean regulating food intake to lose or gain weight.</b></p> <p>(a) Diet (b) Nutrition Facts (c) Metabolism (d) Nutrition</p> <p><b>57. What is the requirement of food labeling?</b></p> <p>(a) Name and address of manufacturer, packer, or distributor (b) Net weight or net contents (c) Servings or portions size and servings or portions per container (d) (a), (b), and (c)</p>	<p><b>58. A product contains less than 0.5 g of sugar per serving. Which term is used for food labeling?</b></p> <p>(a) Free Sugar (b) Low Sugar (c) High Sugar (d) Reduced Sugar</p> <p><b>59. Glucose is broken down into pyruvate in a process called;</b></p> <p>(a) Gluconeogenesis (b) Glycolysis (c) Glycogenolysis (d) Glycogenesis</p> <p><b>60. An enzyme that digest CHOs in the mouth is;</b></p> <p>(a) Sucrase (b) Pancreatic amylase (c) Maltase (d) Salivary amylase</p> <p><b>61. A hormone that increases the uptake of blood glucose by body cells is;</b></p> <p>(a) Glucagon (b) Epinephrine (c) Insulin (d) Cortisol</p> <p><b>62. What does “reduced fat” mean on the food label?</b></p> <p>(a) No calories (b) At least 25% less fat per serving when compared with a similar food (c) Contains trace amounts of fat (d) 0 % Fat</p> <p><b>63. Which of following is to explain this; “cannot be legally sold nor should be consumed after this date”</b></p> <p>(a) Sell date (b) Expiry date (c) Opening date (d) Best before date</p>
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**64. Which of following is to explain this; “still safe to eat after this date but may have lost quality and some nutrition”**

- (a) Sell date
- (b) Expiry date
- (c) Opening date
- (d) Best before date

**65. What are the factors for diet plan principles?**

- (a) Lifestyle
- (b) Activity
- (c) Nutritional needs
- (d) All of the above

**66. The Body Mass Index (BMI) of your patient is 26. It means?**

- (a) Healthy
- (b) Overweight
- (c) Obesity
- (d) Under weight



**1. Explain the following methods or criteria used to classify bacteria. (6 Marks)**

**a. Shape:**

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**b. Need of oxygen:**

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**c. Feeding method:**

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**2. Define the following terms: (6 Marks)**

**a. Sterilization:**

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**b. Disinfection**

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**c. Aseptic:**

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3. **List and explain the six (6) components of Chain of Infection. (12 Marks)**

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4. There are 4 methods of nutritional status assessment.  
Fill in the table to make a complete nutritional status assessment. (8 Marks)

No	Name of Method	Purpose	Types of Tools
1	Anthropometric		
2	Biochemical		
3	Clinical studies		
4	Dietary		

5. Define the term "Drug"? (1 Marks)

6. Explain what absorption of drug refers to? (2 Marks)

7. a) Where in the Gastro Intestinal Tract (GIT) does most absorption of drug occurs? (2 Mark)

b) State the reasons for (a) above: (5 Marks)

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_
- e. \_\_\_\_\_

16. List the six (6) rights of giving medications (3 Marks)

- a)
- b)
- c)
- d)
- e)

**17. List the routes for the administration of drugs**

**(5 Marks)**

- a)
- b)
- c)
- d)
- e)