BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Registration No.: .....

School of Health Care and Paramedics

Session: 2019-20 (Summer Semester)

B. Voc. Program, 3rd Semester,

End-Sem. Examination

Course Code: SHP1301 **Time: 2 Hours**

Course Name: Communication and Techniques **Max. Marks: 50**

Instruction:

1. **SECTION-A:** Answer all questions from section A. Each question carries 01 mark
2. **SECTION-B:** Answer all questions from section B. Each question carries 04 marks
3. **SECTION-C:** Answer all questions from section C. Each question carries 06 marks

Section – A

10X01 = 10 Marks

Q.1. **Nonverbal communication includes all the following except:**

a) Facial expression b) Gesture

c) Vocabulary d) Posture and gait

Q.2. **The origin of the word "communication" is:**

a) Communicare b) To impart

c) To participate d) All of above

Q.3. **Johari window created by:**

a) Joseph luft b) Harrington Ingham

c) Both a and b d) Harrington Instagram

Q.4. **The factor which is not included in essential communication:**

a) Receiver b) Response

c) Sender d) Noise

Q.5. **How many elements are there in communication?**

a) Five b) Six

c) Seven d) Eight

Q.6. **.....means to impart of understanding of the massage:**

a) Encoding b) Receiver

c) Decoding d) Feedback

Q.7. **Psychological barriers are:**

a) Lack of attention b) Language

c) Smile d) Place

Q.8. **Communication process is influenced by except:**

a) Motivation b) Attitude

c) Anger d) Culture difference

Q.9. **Why to use "Johari Window" in communication?**

a) For fashion
b) Attitude
c) Personal and group information
d) All of above

Q.10. **Tick the right answer of example active listening:**

a) Patient always accepted & respected
b) Help to patient for their condition
c) You seem upset when I said
d) Don't over load the partial

Section – B

04X04 = 16 Marks

Q.1. Explain the four think of verbal communication.
Q.2. Define communication. Explain the place in barrier to effectiveness of communication.
Q.3. What do you mean nonverbal communication?
Q.4. What are greatest challenges to good communication.

Section – C

04X06 = 24 Marks

Q.1. Explain the psychological barriers in communication.
Q.2. Describe the 7C communication.
Q.3. What do you mean by "Johari window"?
Q.4. What are the style of good communication between the health care personal and patient

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Section – B

04X04 = 16 Marks

Q.1. **Explain the four think of verbal communication.**

What	Is it I want to learn about the patient or for the patient to understand, for example, an aspect of their illness or treatment?
Think	What is the clearest and most concise way i can communicate with this patient, for example, breaking down information into manageable chunks.
Need	What information or resources do i then need to give that will result in this understanding?
Aware	Are they likely to be stressed or anxious or have other issues that mean they may not be able to take in the information.
Repeat	Therefore, I may have to repeat or rephrase what i said a number of times.
Check	How am I going to check that the patient has grasped clearly the information given when verbally communicating with the patient be aware of.
Tone	The way you say something; the tone you use will influence how your message is received by the patient. if your tone is too aggressive the patient may feel intimidated and less inclined to ask questions or respond. if your tone is too soft, then the patient may not take seriously what you are saying.
Speak	With confidence: if you speak with confidence then you speak with a self-assurance which conveys knowledge and understanding of what you are saying.
Be Clear	You need to be clear about what you want to say. if you are vague or uncertain this may cause confusion.
Prior Knowledge	Ask what they already know about the topic for discussion. 'what do you already understand about.
Be Concise	Ask yourself: 'is the patient looking confused and getting lost in my words?'
Don't Talk Too Much	If you give the patient too much information in one go, they may not be able to take it all in. always check that the patient is clear about each aspect of what is being said before moving on.
Focus	On your body language: when speaking face to face with a patient your body language can play a more significant role than you imagine and can communicate far more than the words you use.
Listen	Not only listen to what the patient says to you but also listen for the message the patient may give either through the questions they ask or through any comment they may make. remember even if the patient says nothing and asks no questions, this is a communication which may be significant and therefore should be checked out. a possible question could be; can you recall what it is i said to you?

Q.2. Define communication. Explain the place in barrier to effectiveness of communication.

According to "Oxford dictionary "The Imparting or exchanging of Information by Speaking, writing, or using some other medium...The Successful conveying or sharing if ideas and feeling. Thus we can say that communication is the process of transmitting the information or ideas from one person to another person in such a way that the other person, who receives the information can understand it easily.

Keith Davis	Communication is a process of passing information and understanding from one person to another.
John Adair	Communication is essentially the ability of one person to make contact with another and make himself or herself understood.
William Newman Charles Summer	Communication is an exchange of ideas, facts, opinions or emotions of two or more persons.
Louis Allen	Communication is a bridge of meaning. It involves a systematic and continuous process of telling, listening and understanding.
Peter Little	Communication is a process by which information is transmitted between individuals and / or organizations so that an understanding response results.
Murphy, Hildebrandt & Thomas	Communication is a process of transmitting and receiving verbal and non-verbal messages. It is considered effective when it achieves the desired response or reaction from the receiver.

Place-

- Information given within a hospital context can often inhibit good communication. For many patients going to hospital makes them anxious making them poor listeners and limiting their capacity to retain the information given.
- The patient's diagnosis and treatment can affect their self-image. Frequent hospital visits will impact both on their capacity to communicate and to take in information given.

Q.3. What do you mean nonverbal communication?

Nonverbal communication is mediated through the language of our body. Posture, eye contact, facial expressions are examples of nonverbal communication. Nonverbal communication is complex and is influenced by many factors. It is a powerful means of communication that has the capacity to reinforce what is said. Nonverbal communication is part and parcel of all communication and in some cases is far more powerful than the words used. A question to ask is; when I am with a patient how sensitive am I and how aware am I of my body language and how is this contributing or interfering with what I want the patient to hear?

Q.4. What are greatest challenges to good communication.

- people who think communication is about what you say, versus how you say it
- people who focus too much on being heard, instead of listening to others
- people who use the wrong channel to send a message, such as choosing to discuss a difficult situation with someone else through a weak channel such as text, email, or through someone else
- not re-evaluating whether effective communication is happening, checking to see if people actually understood what was said.

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Section – C

04X06 = 24 Marks

Q.1. Explain the psychological barriers in communication.

Psychological Barriers

The **Psychological or Emotional Barriers** refers to the psychological state i.e. Opinions, attitudes, status consciousness, emotions, etc. of a person that deeply affects the ability to communicate. Communication largely depends on the mental condition of a person, if the person is not mentally or emotionally sound, then he cannot communicate effectively either as a sender or a receiver

Lack of Attention	When the person is pre-occupied by some other things and do not listen carefully what the other person is speaking, then arises the psychological barrier in the communication. When the person does not listen to others, then he won't be able to comprehend the message as it was intended and will not be able to give proper feedback.
Premature Evaluation	Many people have a tendency to jump to the conclusions directly and form judgments without considering all the aspects of information. This is generally done by the people who are impatient and resort to a selective listening. This premature evaluation of the information acts as a barrier to the effective communication and lowers the morale of the sender.
Poor Retention	The retention refers to the capacity of a brain to retain or store things in the memory. The brain does not store all the information came across but in fact, retain only those which deems to be helpful in the future. Therefore, much of the information gets lost during the retention process, and this acts as a barrier to the effective communication.
Loss by Transmission	The loss by transmission means, whenever the information exchanges hand its credibility reduces. It is most often observed in the case of an oral communication where people handle information carelessly and transmits the information which has lost some of its truth. Thus, the improper and lack of information being transmitted to others acts as a hindrance in the communication process.
Distrust	To have an effective communication, it is must that both the communicators (sender and receiver) trust each other. In case there is a lack of trust between both the parties, then they will tend to derive negative meaning out of the message and often ignore what has been communicated. If the receiver has no trust, then he will not listen to whatever is being said by the sender, and this will result in a meaningless communication.
Emotion	The communication is greatly influenced by the emotions of a person. If a person is not in a good temperament, then he would not listen properly to whatever is said and might say things offending the sender. Several other emotions such as anger, nervousness, confusion, restlessness, etc. affects the communication process.

Q.2. Describe the 7C communication.

1 7 C's of Communication

The **7 C's of Communication** is a checklist that helps to improve the professional communication skills and increases the chance that the message will be understood in exactly the same way as it was intended.

Clear

The message should be clear and easily understandable to the recipient. The purpose of the communication should be clear to sender then only the receiver will be sure about it. The message should emphasize on a single goal at a time and shall not cover several ideas in a single sentence.

Correct

The message should be correct, i.e. a correct language should be used, and the sender must ensure that there is no grammatical and spelling mistakes. Also, the message should be exact and well-timed. The correct messages have a greater impact on the receiver and at the same time, the morale of the sender increases with the accurate message.

Complete

The message should be complete, i.e. it must include all the relevant information as required by the intended audience. The complete information gives answers to all the questions of the receivers and helps in better decision-making by the recipient.

Concrete

The communication should be concrete, which means the message should be clear and particularly such that no room for misinterpretation is left. All the facts and figures should be clearly mentioned in a message so as to substantiate to whatever the sender is saying.

Concise

The message should be precise and to the point. The sender should avoid the lengthy sentences and try to convey the subject matter in the least possible words. The short and brief message is more comprehensive and helps in retaining the receiver's attention.

Consideration

The sender must take into consideration the receiver's opinions, knowledge, mindset, background, etc. in order to have an effective communication. In order to communicate, the sender must relate to the target recipient and be involved.

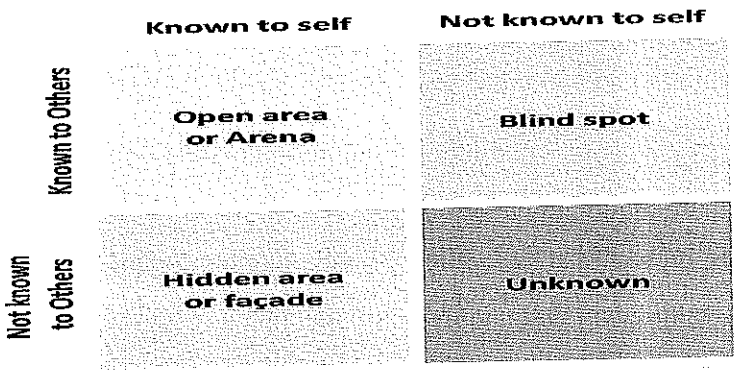
Courteous

It implies that the sender must take into consideration both the feelings and viewpoints of the receiver such that the message is positive and focused at the audience. The message should not be biased and must include the terms that show respect for the recipient.

Q.3. What do you mean by "Johari window"?

Johari Window

The **Johari window** is a technique that helps people better understand their relationship with themselves and others. It was created by psychologists Joseph Luft (1916–2014) and Harrington Ingham (1916–1995) in 1955, Luft and Ingham named their model "Johari" using a combination of their first names.



The Johari Window Model

The **JOHARI Window** provides a useful format for representing personal and/or group information such as feelings, experiences, views, attitudes, skills, intentions, motivation, etc. from four perspectives. The labels refer to 'self' and 'others': 'self' means oneself while 'others' means other people in the person's group or team. It is an excellent tool for comparing self-perception to public perception and becoming a guide map developmental improvements.

1.1 The Four Quadrants

Called 'regions' or 'areas' or 'quadrants'. Each contains and represents the information - feelings, motivation, etc. - in terms of whether the information is known or unknown by the person, and whether the information is known or unknown by others in the team

Open/self-area or arena

Here the information about the person his attitudes, behaviour, emotions, feelings, skills and views will be known by the person as well as by others. The arena is the information that you know about yourself and that others also know. It is the obvious things, e.g. race, name, height, weight, etc. It is those things that you told others when you introduced yourself to the class. It is also those feelings that you have shared during the "Thought for the Day," learning styles, communication process, and the personality lessons.

Hidden Area

The hidden area contains all that information that we don't want others to know about us. It's that closet of feelings, insecurities, and not-so-great experiences. It's the private information.

Blind Spot

The blind spot is the information that others know about you, but you don't know about yourself. A funny example is the female student whose husband told her she snores. She didn't think she did, but he knew she did.

Unknown Area

The unknown area contains information that you don't know and others don't know. It could be abilities and potentials that you have not discovered about yourself yet. An example could be that you might be a great salesperson or customer service representative, but for now you don't know whether you have that ability or not.

Q.4. What are the style of good communication between the health care personal and patient?

Style of Communication

Good communication is the basis of a good relationship'. Communication between health care personal and patient can be very varied depending on what is to be communicated. What also should be added in to the mix is what is described as 'patient's different histories and cultural backgrounds'. This will also dictate to a degree what style of communication is to be employed. In determining styles of communication, the following can be of help;

Assertive:

To communicate using this style does not mean being dogmatic or rigid, rather it involves understanding and self-assurance.

To communicate assertively includes;

- ✓ **Confidence:** In self, being positive while at the same time showing understanding of the patient's point of view.
- ✓ **Understanding:** Through active listening which conveys understanding.
- ✓ **Negotiation:** Reaching a point of agreement with the patient which includes respect for self and respect for the patient. If employing this style of communication, remember;
- Keep sentences short, clear and direct.
- Maintain eye contact.
- Keep a level tone of voice.
- Use appropriate gestures to emphasise what you are saying.

Informative

Be clear about what information is to be given. Pick a time and place that will allow for effective communication. Decide how much information needs to be given? Decide on what is the optimum way to give the information. Is it to be given face to face, by telephone, via email, or text?

Confrontational

Careful thought should be given if the intention is to challenge the attitude or behaviour that impacts on the patient's wellbeing. It should only be done in a way that is helpful to the patient. When would you consider this particular style of communication?

- ❖ When what is being said is at variance to the other cues; tone of voice, body language.
- ❖ It is obvious that the patient does not understand or is misinformed.
- ❖ There is a significant change in the patient's behaviour that is of concern. If this style is decided upon the following steps should be considered;
  - o Comment on what you have noticed, for example a comment like 'I notice recently that your behaviour is different, is there something the matter that I can help you with?'
  - o Ask direct questions.
  - o Use a tone of voice that conveys the importance of what you are saying.

Supportive

Supporting patients means accepting the patient as they are and not rushing to judgement. In this style of communication, the following may be of some help;

- Listen actively and give your undivided attention.

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Time: 2 Hours

Course Code: SHP1302

Max. Marks: 50

Course Name: Communicable Disease, Isolation measure and STD

Instruction:

1. **SECTION-A:** Answer all questions from section A. Each question carries 01 mark
2. **SECTION-B:** Answer all questions from section B. Each question carries 04 marks
3. **SECTION-C:** Answer all questions from section C. Each question carries 06 marks

Section – A

10X01 = 10 Marks

Q.1. **How are infectious disease, such as colds and influenza, most commonly spreads by?**

a) Breathing virus in air

b) Hand to face contact

c) Drinking infected water

d) Eating contaminated food

Q.2. **How does the H_1N_1 virus spread in human?**

a) Sneezing and coughing

b) Touching of object infected with the virus and then touching your nose or mouth

c) Being close contact with an infected person

d) All of above

Q.3. **Most common route of transmission of gonorrhea:**

a) Sexual transmitted disease

b) H_1N_1

c) Trepenoma pallidum

d) Skin disease

Q.4. **What is the symptom of pulmonary and pulmonary?**

a) Fever

b) Night sweats

c) Weight loss

d) All of above

Q.5. **Chicken pox is caused by...**

a) Mycobacterium tuberculosis

b) Varicella zoster

c) Varicella zoster bacteria

d) Vibrio cholera

Q.6. **Mantoux test is done to detect:**

a) Tuberculosis

b) Diphtheria

c) Typhoid

d) Tetanus

Q.7. **Influenza is caused by one of the following:**

a) Vector borne

b) Vehicle borne

c) Air borne

d) Fomite borne

Q.8. **"Rice water stool" is a typical finding in case of:**

a) Cholera

b) Typhoid

c) Ulcerative colitis

d) Amoebiasis

Q.9. **Which disease include in STD?**

a) Syphilis

b) Gonorrhea

c) Chlamydia

d) All of above

Q.10. **Droplet infection spreads by:**

a) Coughing

b) Touching

c) Use of utensils

d) By blood transfusion

Section – B

04X04 = 16 Marks

Q.1. Write down the four advantage and disadvantage if virus,

Q.2. Describe the sign and symptom of pulmonary and extra pulmonary tuberculosis.

Q.3. Define isolation measure. What is the benefit of IPV?

Q.4. What is the gonorrhea. How is it spread of gonorrhea?

Section – C

04X06 = 24 Marks

Q.1. Define syphilis. Describe the stage of syphilis.

Q.2. What do you mean swine flu? Explain the risk factor and treatment of swine flu.

Q.3. Define tuberculosis. Difference between the latent and active TB and which vaccine use in against tuberculosis

Q.4. Define chicken pox. Write down the four symptom, causes and complication of chicken pox.

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Section – B

04X04 = 16 Marks

Q.1. Write down the four advantage and disadvantage if virus.

Advantages of Virus

Viruses like the bacteriophages have an important function in marine ecology and carbon cycling. Viruses are important in the field of molecular and cell biology. Viruses provide simple system that can be used to manipulate and investigate the functions of cells. Viruses have provided valuable information about the aspects of cell biology. For example: viruses have been useful in the study in the genetics and molecular genetics like DNA replication, RNA processing, transcription, translation protein transport and immunology. Virotherapy is another use of virus where they are used as vectors to treat various diseases. They are used in the treatment of cancer and in gene therapy. As viruses can cause devastating epidemics they can be weaponised for biological warfare. Viruses are used in gene therapy, they are used to genetically manipulate somatic cells of individuals and they are used in production of transgenic plants and animals.

Disadvantages of Virus

In human's viruses causes a wide range of diseases which include HIV, chickenpox, influenza, avian flu, cold, sores, and common cold. The strength of the virus is denoted by its virulence. Some viruses can cause chronic infections; like the virus can replicate the entire life of the host although there is the presence of the host's defense mechanisms. This sort of syndrome is common in Hepatitis viral infection and in HIV. Viruses can be transmitted from horizontally, i.e., from person to person, like from mother to child. They can be vertically transmitted like in the cased of hepatitis B and HIV. Viruses can cause cancer in humans and other species. Viruses that cause cancers in humans are included in the genotypes of human papillomavirus, hepatitis B virus. etc.

Q.2. Describe the sign and symptom of pulmonary and extra pulmonary tuberculosis.

1.1 Signs and symptoms of pulmonary and extrapulmonary TB

The symptoms of pulmonary and extrapulmonary TB may differ but some are common to both. Most people have only a few of these symptoms. It is recommended that anyone reporting a cough which has lasted for two or more weeks should have their sputum tested for TB. However, for patients living with HIV, it is recommended to test their sputum for TB if they have had a cough of any duration. As a general rule, the presence of three or more symptoms for two or more weeks increases the suspicion of any form of the disease. Common signs and symptoms of both pulmonary and extrapulmonary TB are detailed in Table.

General symptoms	Pulmonary symptoms	Extrapulmonary symptoms
Fever	Dry or productive cough	Localised pain/swelling (depending on site of disease)
Night sweats	Chest pain	
Weight loss	Shortness of breath	
Fatigue	Traces of blood are coughed up in the sputum (Haemoptysis)	
Loss of appetite		

Q.3. Define isolation measure. What is the benefit of IPV?

Isolation measures

Communicable diseases refer to diseases that can be transmitted and make people ill. They are caused by infective agents (pathogens), e.g. bacteria and viruses, which invade the body and multiply or release toxins to cause damages to normal body cells and their functions. In severe cases, they may lead to death. These infective agents can spread from a source of infection (e.g. patients, sick animals) to a person through various routes of transmission. Providing care and necessities to individuals in their homes through community volunteers and health and human service agencies. Educating residents in advance on how to prepare for an extended in-home isolation or quarantine by stockpiling food and preparing for periods without utilities and other services.

What is the benefit of IPV?	IPV provides important additional protection against polio, protecting both your child and children in our community.

Q.4. What is the gonorrhea. How is it spread of gonorrhea?

What is Gonorrhoea?

Gonorrhoea is a sexually transmitted infection (STI) caused by bacteria. In women, the infection may occur in the opening of the uterus, also known as the cervix, and fallopian tubes. In both men and women, the infection may occur in the rectum (the part of your intestine that ends at the anus), throat and the urethra (the tube that carries urine from the bladder).

How is it spread?

Gonorrhoea is passed from one person to another by contact with body fluids containing the bacteria during unprotected oral, vaginal and anal sex. Sometimes a person with gonorrhoea will have no symptoms. Even without symptoms, the infection passes easily to another person. A person with a gonorrhoea infection can pass the infection to others until they complete antibiotic treatment. Gonorrhoea can be passed to a baby's eyes during childbirth. This may lead to blindness if the baby is not treated. Gonorrhoea treatment does not protect you from getting it again. If you are treated and your sexual partner(s) are not, the bacteria will be able to pass back to you again.

Section – C

04X06 = 24 Marks

Q.1. Define syphilis. Describe the stage of syphilis.

Syphilis

What is syphilis?

Syphilis is a bacterial infection that is passed through the mucous membranes from a person who has an infection. The infection has 4 stages: primary, secondary, early latent and late latent.

Primary stage

During the primary stage, a painless sore can develop anywhere on your body that came into contact with a person who has a syphilis infection. The sore usually appears about 3 weeks after first contact, but can appear anywhere between 3 and 90 days after acquiring the infection. Sometimes, the sore will not be noticeable on your body. The sore will go away on its own within a few weeks, however the disease will continue to spread.

Secondary stage

The secondary stage usually starts about 2 to 12 weeks after getting a syphilis infection, but can start anywhere from 2 weeks to 6 months from infection. During this stage a non-itchy rash may develop. The rash can appear anywhere on your body, but it is most often found on your chest, belly, genitals, palms of your hands, and soles of your feet. You may not notice the rash, but you can still spread the disease to other people. The rash usually disappears but it can come back months later. Other symptoms may include headache, fever, hair loss, swollen lymph nodes and bumps or mucous patches inside the mouth, anus, penis or vagina.

Latent stages

After the rash goes away, and if you do not receive treatment, the disease will progress to the latent, or hidden, stages of syphilis. You may not have any symptoms for a period of time. The latent period can last up to 30 years.

- Early latent stage: when a person has acquired a syphilis infection in the past year. People who have 'early' syphilis can spread the infection more easily to their sex partners.

Late latent stage: when a person has a syphilis infection for more than 1 year. If you do not receive treatment, you can continue to have a syphilis infection for years without any signs or symptoms

Q.2. What do you mean swine flu? Explain the risk factor and treatment of swine flu.

Swine origin influenza was first recognized in the border area of Mexico and United States in April 2009 and during a short span of two months became the first pandemic. The currently circulating strain of swine origin influenza virus of the H1N1 strain has undergone triple reassortment and contains genes from the avian, swine and human viruses. It is transmitted by droplets or fomites. Incubation period is 2 to 7 days. Common clinical symptoms are indistinguishable by any viral respiratory illness, and include fever, cough, sore throat and myalgia. A feature seen more frequently with swine origin influenza is GI upset. Less than 10% of patients require hospitalization. Patients at risk of developing severe disease are – younger than five years, elderly, pregnant women, with chronic systemic illnesses, adolescents on aspirin. Of the severe manifestations of swine origin influenza,

pneumonia and respiratory failure are the most common. Unusual symptoms reported are conjunctivitis, parotitis, hemophagocytic syndrome. Infants may present with fever and lethargy with no respiratory symptoms. Diagnosis is based on RT PCR, Viral culture or increasing neutralizing antibodies. Principle of treatment consist of isolation, universal precautions, good infection control practices, supportive care and use of antiviral drugs. Antiviral drugs effective against H1N1 virus include: oseltamivir and zamanavir. With good supportive care case fatality is less than 1%. Preventive measures include: social distancing, practicing respiratory etiquette, hand hygiene and use of chemoprohylaxis with antiviral drugs

Risk factors

Risk factors for severe disease from pandemic (H1N1) 2009 virus infection reported to date are considered like those risk factors identified for complications from seasonal influenza. These include the following groups:

- Infants and young children, <2 years
- Pregnant women
- Persons of any age with chronic pulmonary disease (e.g. asthma, COPD)
- Persons of any age with chronic cardiac disease (e.g. congestive cardiac failure)
- Persons with metabolic disorders (e.g. diabetes)
- Persons with chronic renal disease, chronic hepatic disease, certain neurological conditions (including neuromuscular, neurocognitive, and seizure disorders), hemoglobinopathies, or immunosuppression, whether due to primary immunosuppressive conditions, such as HIV infection, or secondary conditions, such as immunosuppressive medication or malignancy.
- Children receiving chronic aspirin therapy
- Persons aged 65 years and older

General treatment considerations

To date, most people with pandemic (H1N1) 2009 virus infection have had self-limiting uncomplicated illness. Supportive care can be provided as needed, such as antipyretics (e.g. paracetamol or acetaminophen) for fever or pain and fluid rehydration. Salicylates (such as aspirin and aspirin-containing products) should NOT be used in children and young adults (aged <18 years) because of the risk of Reye's syndrome.

Risk factors in previously healthy persons that predict increased risk of progressive disease or severe complications are incompletely understood. Patients with suspected pandemic (H1N1) 2009 virus infection, including patients presenting with uncomplicated illness, should be given information and guidance on signs for deterioration of illness and instructed on how to seek immediate medical attention (see Signs and symptoms of progressive disease). Clinicians should also take into account any underlying co- morbidities and other risk conditions.

Pregnant women, especially those with co-morbidities, are at increased risk for complications from influenza virus infection. Influenza in pregnancy is associated with an increased risk of adverse pregnancy outcomes, such as spontaneous abortion, preterm birth, and fetal distress. Consequently, pregnant women with suspected or confirmed pandemic (H1N1) 2009 virus infection warrant closer observation and early antiviral treatment (see below section on antivirals). Paracetamol (acetaminophen) is recommended to ease fever and pain in pregnant women, as non-steroidal anti-inflammatory are, therefore, contraindicated in pregnancy.

Infants and young children (notably those <2 years of age) have the highest rate of hospitalization, especially those with underlying chronic medical conditions. Newborns and young children often present with less typical ILI symptoms, such as apnoea, low grade fever, fast breathing, cyanosis, excessive sleeping, lethargy, feeding poorly, and dehydration. Such symptoms are non-specific and diagnosis cannot be made based on these signs alone. Clinicians should exercise a high index of suspicion during circulation of the pandemic (H1N1) 2009 virus and should be aware of occurrence of ILI in contacts of the child to assist clinical diagnosis and to avoid delay in antiviral treatment. Parents should be advised to watch for signs and report their observations, if any of these warning symptoms appear.

Q.3. Define tuberculosis. Difference between the latent and active TB and which vaccine use in against tuberculosis.

Tuberculosis

TB is a bacterial infection caused by *Mycobacterium tuberculosis* (*M. tuberculosis*) also referred to as tubercle bacilli. The *M. tuberculosis* is a Gram-positive aerobic bacterium. It is a small rod-like bacillus with a complex cell wall, which can withstand weak disinfectants and survive in a dry state for weeks, but can only grow in a host organism.

It most commonly affects the lungs, producing pulmonary TB. However, transported by the blood or lymphatic system, the TB bacilli can infect almost any part of the body, including lymph glands, joints, kidneys, and bone - extrapulmonary TB. It is critical to understand the disease, its aetiology and its epidemiology to develop a strong TB control programme. Early symptoms of pulmonary TB are often vague and easily attributable to other conditions, with the result that many cases of active, infectious TB can remain undetected for some time. Thus, the disease spreads from one person to another.

TB is spread when an infectious person coughs, sneezes, talks or sings, releasing droplets containing the bacilli into the air. However, TB can also be spread when TB bacilli are aerosolised by treatments, such as irrigating a wound that is infected with TB, organ transplants, or bronchoscopy. In either case, a susceptible person inhales the airborne droplets, which then traverse the upper respiratory tract and bronchi to reach the alveoli of the lungs. Once in the alveoli, alveolar macrophages take up the TB bacilli, holding some in the lungs, and transporting others throughout the body. Usually within 2-10 weeks, the immune response limits further multiplication and spread of the bacilli.

Some patients may go on to active disease from this stage while others may be able to contain the infection and may never develop active TB. In the patients who contain the infection some may eliminate all the bacteria; however, in many of the patients, the bacilli remain dormant and viable for many years, resulting in a condition referred to as latent TB infection (LTBI). Persons with LTBI usually have positive TB skin tests but have no symptoms of the disease and are not contagious (see table). In fact, most people who are infected with TB never go on to develop active disease and therefore present no risk to the people around them.

Latent TB infection	TB disease (active TB)
No symptoms	Symptoms are present, which may include: • Bad cough that lasts >2 weeks • Pain in the chest • Coughing up blood of sputum • Weightloss • Fever • Night sweats • Weakness or fatigue

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Registration No.: .....

School of Health Care and Paramedics

Session: 2019-20 (Summer Semester)

B. Voc. Program, 3rd Semester,

End-Sem. Examination

Course Code: SHP1303 **Time: 2 Hours**

Course Name: Blood Collection / Drug Administration / Observation **Max. Marks: 50**

Instruction:

1. **SECTION-A:** Answer all questions from section A. Each question carries 01 mark
2. **SECTION-B:** Answer all questions from section B. Each question carries 04 marks
3. **SECTION-C:** Answer all questions from section C. Each question carries 06 marks

Section – A

10X01 = 10 Marks

Q.1. **The preferred site for giving IM injection to infant is:**

a) Gluteal b) Deltoid

c) Vastus lateralis d) Umbilicus

Q.2. **In subcutaneous injection, the skin is pinched between thumb and forefinger of left hand and needle inserted at:**

a) 45^0 b) $5\text{-}10^0$

c) 40^0 d) 90^0

Q.3. **Subcutaneous injection is administered:**

a) Epidermally b) Hypodermally

c) In the muscle d) Intradermally

Q.4. **Which size of the yellow color cannula?**

a) 14 gauge b) 18 gauge

c) 22 gauge d) 24 gauge

Q.5. **A glucose tolerance test would require which colour vacutainer tube?**

a) Gray b) Red

c) Black d) Green

Q.6. **The intravenous site can be scrubbed with one of the following antiseptics prior to venipuncture:**

a) Povidon- Iodine 7% b) Sterillium

c) 70% alcohol d) 5% Savlon

Q.7. **The..... of the vein puncture is the most common:**

a) Vaccume container method b) Butterfly method

c) Syringe & needle d) Caterpillar method

Q.8. **which is not an infection control method?**

a) Protective container b) Biohazard container

c) Sphygmomanometer d) Hand washing

Q.9. **Full form of EDTA vial:**

a) Ethylenediamondtetraactic acid
b) Ethylenediaminetetreacetic alcohol
c) Ethylenediaminetetraacetic acid
d) None of above

Q.10. **Why should an intramuscular injection be given at a 90-degree angle?**

a) To ensure medication reaches the muscle
b) Because the IM route allows a relatively quick uptake of the drug
c) To avoid the need for skin cleansing
d) It increase the chance of giving the drug intravenous

Section – B

04X04 = 16 Marks

Q.1. Difference between the ESR and Citrate vial.

Q.2. Write the four disadvantage of capillary blood collection.

Q.3. What do you mean by intrathecal route?

Q.4. What can happen needle stick injury

Section – C

04X06 = 24 Marks

Q.1. Describe the eight right of medication administration.

Q.2. Difference between the oral route and sublingual route.

Q.3. Define capillary blood sampling and How to collection of capillary blood sampling.

Q.4. Explain the intravenous route.

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

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Section – B

04X04 = 16 Marks

Q.1. Difference between the ESR and Citrate vial.

Citrate Vial/PT-INR The PT test are prothrombin time and pro time. INR stands for international normalized ratio. The PT/INR test is usually done when you are taking a blood thinner (anticoagulant) medicine, such as warfarin (Coumadin), to prevent blood clots.
ESR Vial ESR test measures how quickly red blood cells settle to the bottle of a test tube. Inflammation or infection can lead to extra proteins in the blood, which can make the red blood cells settle faster.

Q.2. Write the four disadvantage of capillary blood collection.

1. Capillary blood collection can sometime rupture the blood cells.
2. Over use of same area for collection can cause scarring.
3.problem with bleeding and infection can occur with either method.
4. Not all tests can be run on capillary samples.
5. Patient may feel faint after any type of blood drawing.

Q.3. What do you mean by intrathecal route?

Intrathecal administration is a route of administration for drugs via an injection into the spinal canal, or into the subarachnoid space so that it reaches the cerebrospinal fluid (CSF) and is useful in spinal anaesthesia, chemotherapy, or pain management applications.

Q.4. What can happen needle stick injury.

Some people, such as health care workers are at increased risk of needle stick injury, which occurs when the skin is accidentally punctured by a used needle. Blood-borne diseases that could be transmitted by such an injury include human immunodeficiency virus (HIV), hepatitis B (HBV) and hepatitis C (HCV). Needle stick injuries still occur, however, and it is important that individuals in the health care field become well informed about the exposure risks and educated regarding the appropriate response.

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Section – C

04X06 = 24 Marks

Q.1. Describe the eight right of medication administration.

1. Right Patient	• Check the name on the order and the patient • Use 2 identifiers • Ask patient to identify himself/herself • When available, use technology (for example, bar-code system)
2. Right medication	• Check the medication label • Check the order
3. Right dose	• Check the order • Confirm appropriateness of the dose using a current drug reference • If necessary, calculate the dose and have another nurse calculate the dose as well
4. Right route	• Again, check the order and appropriateness of the route ordered. • Confirm that the patient can take or receive the medication by the ordered route.
5. Right time	• Check the frequency of the ordered medication • Double-check that you are giving the ordered dose at the correct time • Confirm when the last dose was given
6. Right documentation	• Document administration AFTER giving the ordered medication. • Chart the time, route, and any other specific information as necessary. For example, the site of an injection or any laboratory value or vital sign that needed to be checked before giving the drug.
7. Right reason	• Confirm the rationale for the ordered medication. What is the patient's history? Why is he/she taking this medication? • Revisit the reasons for long-term medication use.
8. Right response	• Make sure that the drug led to the desired effect. If an antihypertensive was given, has his/her blood pressure improved? Does the patient verbalize improvement in depression while on an antidepressant? • Be sure to document your monitoring of the patient and any other nursing interventions that are applicable.

Q.2. Difference between the oral route and sublingual route.

Oral Route

It is the most common and acceptable route for drug administration. Dosage forms are tablet, capsule, syrup, mixture, etc., e.g., paracetamol tablet for fever, omeprazole capsule for peptic ulcer are given orally.

Advantages	Disadvantages
Safer	Not suitable for emergency as onset of action of orally administered drugs is slow.
Cheaper	Uncooperative and unreliable patients.
Painless	Patients with severe vomiting and diarrhoea.
Convenient for repeated and prolonged use	It is not suitable for/in: • Unpalatable and highly irritant drugs. • Unabsorbable drugs (e.g. aminoglycosides). • Drugs that are destroyed by digestive juices (e.g. insulin). • Drugs with extensive first-pass metabolism (e.g. lignocaine). • Unconscious patients
Can be self-administrated	

Sublingual Route

The preparation is kept under the tongue. The drug is absorbed through the buccal mucous membrane and enters the systemic circulation directly, e.g. nitroglycerin for acute anginal attack and buprenorphine for myocardial infarction.

Advantages	Disadvantages
Quick onset of action.	Irritant and lipid-insoluble drugs
Action can be terminated by spitting out the tablet	Drugs with bad smell and taste
Bypass first-pass metabolism	
Self-administration is possible	

Q.3. Define capillary blood sampling and How to collection of capillary blood sampling.

Capillary blood sampling, which refers to **sampling blood** from a puncture on the finger, heel or an earlobe, is increasingly common in medicine. It enjoys several advantages over venous **blood sampling**: it is less invasive, it requires smaller amounts of **blood** volume and it can be performed quickly and easily.

Capillary blood is obtained by pricking a finger in adults and a heel in infants and small children. The specimen is then **collected** with a pipette, placed on a glass slide or a piece of filter paper, or is absorbed by the tip of a microsampling device.

Q.4. Explain the intravenous route.

Bolus

Single, relatively large dose of a drug injected rapidly or slowly as a single unit into a vein. For example, i.v. ranitidine in bleeding peptic ulcer.

Slow intravenous injection

For example, i.v. morphine in myocardial infarction

Intravenous infusion

For example, dopamine infusion in cardiogenic shock; mannitol infusion in cerebral oedema; fluids infused intravenously in dehydration.

Advantages	Disadvantages
Bioavailability is 100%	Once the drug is injected, its action cannot be halted
Quick onset of action; therefore, it is the route of choice in emergency, e.g. intravenous diazepam to control convulsions in status epilepticus	Local irritation may cause phlebitis
Large volume of fluid can be administered, e.g. intravenous fluids in patients with severe dehydration	Self-medication is not possible
Highly irritant drugs, e.g. anticancer drugs can be given because they get diluted in blood	Strict aseptic conditions are needed
Hypertonic solution can be infused by intravenous route, e.g. 20% mannitol in cerebral oedema	Extravasation of some drugs can cause injury, necrosis and sloughing of tissues
By i.v. infusion, a constant plasma level of the drug can be maintained, e.g. dopamine infusion in cardiogenic shock	

Precautions

- Drug should usually be injected slowly
- Before injecting, make sure that the tip of the needle is in the vein.

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School of Health Care and Paramedics

Session: 2019-20 (Summer Semester)

B. Voc. Program, 3rd Semester,

End-Sem. Examination

Course Code: SHP1304 **Time: 2 Hours**

Course Name: Nutrition & Elimination II **Max. Marks: 50**

Instruction:

1. **SECTION-A:** Answer all questions from section A. Each question carries 01 mark
2. **SECTION-B:** Answer all questions from section B. Each question carries 04 marks
3. **SECTION-C:** Answer all questions from section C. Each question carries 06 marks

8/11/2020
10:00-12:00

Section – A

10X01 = 10 Marks

Q.1. **What is the most common carbohydrate used for TPN?**

a) Dextrose b) Fructose

c) Lactose d) Potassium

Q.2. **Which food is naturally rich in carbohydrate?**

a) Peas b) Apple

c) Brown rice d) All of above

Q.3. **Which food is rich in protein?**

a) Eggs b) Rice

c) Banana d) Wheat

Q.4. **Fat soluble vitamin is:**

a) Vitamin A b) Vitamin B

c) Vitamin C d) All of above

Q.5. **A deficiency of thiamine (Vitamin B1) in the diet cause...**

a) Osteopenia b) Beri - beri

c) Protein Malnutrition d) Scurvy

Q.6. **A loop colostomy can also be called as...**

a) Double barrel colostomy b) Temporary ostomy

c) End ostomy d) Ascending colostomy

Q.7. **Applying powder or lotion around the catheter insertion site is recommended...**

a) True b) False

Q.8. **The collection bag should be emptied at least every.....**

a) Eight to 12 hours b) 24 hours

c) Two to three hours d) 30 – 45 Minutes

Q.9. **A person with which condition may need a Foley catheter?**

a) Heart burn b) Diarrhea

c) Spinal cord injury d) Bone fracture

Q.10. **Total parenteral nutrition is delivered in which manner?**

a) By placing a tube into the stomach

b) A placing a needle inserted into a small vein

c) By placing a catheter into a large blood vessel

d) By placing a tube inserted through the nose into the stomach

Section – B

04X04 = 16 Marks

Q.1. Describe fat soluble vitamin.

Q.2. What do mean magnesium and sodium.

Q.3. Difference between the intermittent catheters and indwelling catheters.

Q.4. Explain the four complication of liver cirrhosis.

Section – C

04X06 = 24 Marks

Q.1. Define liver cirrhosis. Write down four symptoms, causes and prevention of liver cirrhosis.

Q.2. How to care of colostomy?

Q.3. Define parenteral nutrition. Write down six side effect of parenteral nutrition.

Q.4. Explain E. coli.

K. Kaur

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

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Section – B

04X04 = 16 Marks

Q.1. Describe fat soluble vitamin.

Fat-soluble vitamins are stored in the fatty tissues of the body and the liver. Vitamins A, D, E, and K are fat-soluble. These are easier to store than water-soluble vitamins, and they can stay in the body as reserves for days, and sometimes months. Fat-soluble vitamins are absorbed through the intestinal tract with the help of fats, or lipids.

Q.2. What do mean magnesium and sodium.

Sodium is a mineral found in most natural foods. Most people think of salt and sodium as interchangeable. Salt, however, is actually a compound of sodium and chloride. Foods we eat may contain salt or they may contain sodium in other forms. Processed foods often contain higher levels of sodium due to added salt. Sodium is one of the body's three major electrolytes (potassium and chloride are the other two). Electrolytes control the fluids going in and out of the body's tissues and cells.

Magnesium is a mineral that is important for normal bone structure in the body. People get magnesium from their diet, but sometimes magnesium supplements are needed if magnesium levels are too low. Dietary intake of magnesium may be low, particularly among women. Magnesium deficiency is also not uncommon among African Americans and the elderly. Low magnesium levels in the body have been linked to diseases such as osteoporosis, high blood pressure, clogged arteries, hereditary heart disease, diabetes, and stroke.

Q.3. Difference between the intermittent catheters and indwelling catheters.

- **intermittent catheters** – catheters that are temporarily inserted into the bladder and removed once the bladder is empty
- **indwelling catheters** – catheters that remain in place for many days or weeks and are held in position by a water-filled balloon in the bladder.

Many people prefer to use an indwelling catheter because it's more convenient and avoids the repeated catheter insertions associated with intermittent catheters. However, indwelling catheters are more likely to cause problems such as infections. Inserting either type of catheter can be uncomfortable, so anaesthetic gel is used to reduce any pain. You may also experience some discomfort while the catheter is in place, but most people with a long-term catheter get used to this over time.

Q.4. Explain the four complication of liver cirrhosis.

1.1 Complications

Complications of cirrhosis can include:

- **High blood pressure in the veins that supply the liver (portal hypertension).**
    - Cirrhosis slows the normal flow of blood through the liver, thus increasing pressure in the vein that brings blood to the liver from the intestines and spleen.

- **Swelling in the legs and abdomen**
  - The increased pressure in the portal vein can cause fluid to accumulate in the legs (edema) and in the abdomen (ascites). Edema and ascites also may result from the inability of the liver to make enough of certain blood proteins, such as albumin.
- **Enlargement of the spleen (splenomegaly)**
  - Portal hypertension can also cause changes to and swelling of the spleen, and trapping of white blood cells and platelets. Decreased white blood cells and platelets in your blood can be the first sign of cirrhosis.
- **Bleeding**
  - Portal hypertension can cause blood to be redirected to smaller veins. Strained by the extra pressure, these smaller veins can burst, causing serious bleeding. Portal hypertension may cause enlarged veins (varices) in the esophagus (esophageal varices) or the stomach (gastric varices) and lead to life-threatening bleeding. If the liver can't make enough clotting factors, this also can contribute to continued bleeding.
- **Infections**
  - If you have cirrhosis, your body may have difficulty fighting infections. Ascites can lead to bacterial peritonitis, a serious infection.
- **Malnutrition**
  - Cirrhosis may make it more difficult for your body to process nutrients, leading to weakness and weight loss.
- **Buildup of toxins in the brain (hepatic encephalopathy)**

A liver damaged by cirrhosis isn't able to clear toxins from the blood as well as a healthy liver can.

These toxins can then build up in the brain and cause mental confusion and difficulty

Section – C

04X06 = 24 Marks

Q.1. Define liver cirrhosis. Write down four symptoms, causes and prevention of liver cirrhosis.

Liver Cirrhosis

Cirrhosis is a late stage of scarring (fibrosis) of the liver caused by many forms of liver diseases and conditions, such as hepatitis and chronic alcoholism. Each time your liver is injured — whether by disease, excessive alcohol consumption or another cause — it tries to repair itself. In the process, scar tissue forms. As cirrhosis progresses, more and more scar tissue forms, making it difficult for the liver to function (decompensated cirrhosis). Advanced cirrhosis is life-threatening. The liver damage done by cirrhosis generally can't be undone. But if liver cirrhosis is diagnosed early and the cause is treated, further damage can be limited and, rarely, reversed.

1.2 Symptoms

Cirrhosis often has no signs or symptoms until liver damage is extensive. When signs and symptoms do occur, they may include:

- Fatigue
- Easily bleeding or bruising
- Loss of appetite
- Nausea
- Swelling in your legs, feet or ankles (edema)

- Weight loss
- Itchy skin
- Yellow discoloration in the skin and eyes (jaundice)
- Fluid accumulation in your abdomen (ascites)
- Spiderlike blood vessels on your skin
- Redness in the palms of the hands
- For women, absent or loss of periods not related to menopause
- For men, loss of sex drive, breast enlargement (gynecomastia) or testicular atrophy
- Confusion, drowsiness and slurred speech (hepatic encephalopathy)

Causes

A wide range of diseases and conditions can damage the liver and lead to cirrhosis. Some of the causes include:

- Chronic alcohol abuse
- Chronic viral hepatitis (hepatitis B, C and D)
- Fat accumulating in the liver (nonalcoholic fatty liver disease)
- Iron buildup in the body (hemochromatosis)
- Cystic fibrosis
- Copper accumulated in the liver (Wilson's disease)
- Poorly formed bile ducts (biliary atresia)
- Alpha-1 antitrypsin deficiency
- Inherited disorders of sugar metabolism (galactosemia or glycogen storage disease)
- Genetic digestive disorder (Alagille syndrome)
- Liver disease caused by your body's immune system (autoimmune hepatitis)
- Destruction of the bile ducts (primary biliary cirrhosis)
- Hardening and scarring of the bile ducts (primary sclerosing cholangitis
- Infection, such as syphilis or brucellosis
- Medications, including methotrexate or isoniazid

Prevention

Reduce your risk of cirrhosis by taking these steps to care for your liver:

- **Do not drink alcohol if you have cirrhosis**
  - If you have liver disease, you should avoid alcohol.
- **Eat a healthy diet**
  - Choose a plant-based diet that's full of fruits and vegetables. Select whole grains and lean sources of protein. Reduce the amount of fatty and fried foods you eat.
- **Maintain a healthy weight**
  - An excess amount of body fat can damage your liver. Talk to your doctor about a weight-loss plan if you are obese or overweight.
- **Reduce your risk of hepatitis**
  - Sharing needles and having unprotected sex can increase your risk of hepatitis B and C. Ask your doctor about hepatitis vaccinations.

Q.2. How to care of colostomy?

Colostomy Care

Emptying your colostomy bag. Once you have recovered from surgery, you will need to empty the colostomy bag several times per day. You will not be able to control when stool and gas move into the pouch. It is best to empty it when the bag is less than half full.

Colostomy pouches come in many sizes and shapes, but there are 2 main types:

- One-piece pouches attach directly to the skin barrier.
- Two-piece pouches include a skin barrier and a pouch that can detach from the body.

Other options include open-end or drainable and closed-end or disposable pouches. Ask your health care team about which type of colostomy pouch you will receive.

Caring for your skin. The skin surrounding the stoma is called peristomal skin. It will always look red and may bleed occasionally, which is normal. But bleeding should not continue for long.

It is important to make sure your pouch is correctly connected to your stoma. Pouches that do not fit well can irritate the skin. You should also keep this area clean and dry. If this skin appears wet, bumpy, itchy, or painful, contact your health care team. It is possible that the area may be infected.

Q.3. Define parenteral nutrition. Write down six side effect of parenteral nutrition.

Parenteral Nutrition

Parenteral nutrition (PN) is intravenous administration of nutrition, which may include protein, carbohydrate, fat, minerals and electrolytes, vitamins and other trace elements for patients who cannot eat or absorb enough food through tube feeding formula or by mouth to maintain good nutrition status. Achieving the right nutritional intake in a timely manner can help combat complications and be an important part of a patient's recovery. Parenteral nutrition is sometimes called Total Parenteral Nutrition (TPN).

1.3 Side effect and Risks of Parenteral Nutrition include

- infection
- hypoglycaemia (low blood sugar)
- hyperglycaemia (high blood sugar)
- fluid overload
- blood clotting
- air embolism
- inflammation of the gallbladder (cholecystitis)
- collapsed lung (parenteral nutritioneumothorax)
- bone disease (osteoporosis)
- parenteral nutrition-induced liver disease or liver failure
- weakening of gastrointestinal cells (gastrointestinal atrophy)

Q.4. Explain E. coli.

Escherichia coli (E. coli)

Certain E. coli strains can cause a serious complication called hemolytic uremic syndrome. This syndrome damages the lining of the tiny blood vessels in the kidneys, sometimes leading to kidney failure. Older adults, children younger than 5 and people with weakened immune systems have a higher risk of developing this complication. If you're in one of these risk categories, see your doctor at the first sign of profuse or bloody diarrhea.

1.4 Prevention

To prevent food poisoning at home:

Wash your hands, utensils and food surfaces often

Wash your hands well with warm, soapy water before and after handling or preparing food. Use hot, soapy water to wash utensils, cutting boards and other surfaces you use.

Keep raw foods separate from ready-to-eat foods

When shopping, preparing food or storing food, keep raw meat, poultry, fish and shellfish away from other foods. This prevents cross-contamination.

Cook foods to a safe temperature

The best way to tell if foods are cooked to a safe temperature is to use a food thermometer. You can kill harmful organisms in most foods by cooking them to the right temperature. Cook ground beef to 160 F (71.1 C); steaks, roasts and chops, such as lamb, pork and veal, to at least 145 F (62.8 C). Cook chicken and turkey to 165 F (73.9 C). Make sure fish and shellfish are cooked thoroughly.

Refrigerate or freeze perishable foods promptly

Within two hours of purchasing or preparing them. If the room temperature is above 90 F (32.2 C), refrigerate perishable foods within one hour.

Defrost food safely

Don't thaw food at room temperature. The safest way to thaw food is to defrost it in the refrigerator. If you microwave frozen food using the "defrost" or "50 percent power" setting, be sure to cook it immediately.

Throw it out when in doubt

If you aren't sure if a food has been prepared, served or stored safely, discard it. Food left at room temperature too long may contain bacteria or toxins that can't be destroyed by cooking. Don't taste food that you're unsure about — just throw it out. Even if it looks and smells fine, it may not be safe to eat.

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Registration No.: .....

School of Health Care and Paramedics

Session: 2019-20 (Summer Semester)

B. Voc. Program, 3rd Semester,

End-Sem. Examination

Time: 2 Hours

Max. Marks: 50

Course Code: SHP1305

Course Name: Mobilization & Movement

Instruction:

1. **SECTION-A:** Answer all questions from section A. Each question carries 01 mark
2. **SECTION-B:** Answer all questions from section B. Each question carries 04 marks
3. **SECTION-C:** Answer all questions from section C. Each question carries 06 marks

Section – A

10X01 = 10 Marks

Q.1. **Complete fracture is:**

a) Bone is broken in one place into two pieces

b) Bone is broken or crushed into three or more pieces

c) Bone collapses under pressure

d) Bone breaks into pieces that stay in their normal alignment

Q.2. **A contracture is a ..... of tissue, affecting movement:**

a) Shorting

b) Lengthening

c) Decomposing

d) Build up

Q.3. **Incomplete fracture where one side of the bone breaks and the other side bends; occurs only in children.**

a) Impact fracture

b) Close fracture

c) Green stick fracture

d) colle's fracture

Q.4.**The longest and strongest bone of the human body is:**

a) Humerus

b) Tibia

c) Radius

d) Femur

Q.5. **A fracture in which the broken end of the bone comes out through the skin is known as:**

a) Simple

b) Communicated

c) Compound

d) Impacted

Q.6. **What are the most common risk factor for a fall?**

a) Inappropriate footwear

b) Weak muscle and poor balance

c) Consuming too much alcohol

d) All of above

Q.7. **A cast used in a fracture:**

a) To keep the bones in position while the fracture heals

b) To keep the fracture site warm

c) Both a and b

d) None of above

Q.8. **All of the following are types of fractures except:**

a) Simple
b) Impacted
c) Lacerated
d) Complicated

Q.9. **When a large bone is affected, such as the pelvis or femur:**

a) The suffer may look pale and clammy
b) Feeling faint
c) feeling with nausea
d) All of above

Q.10. **Raising the bed to a comfortable position helps prevents:**

a) Arm strain
b) Back strain
c) Neck strain
d) Leg strain

Section – B

04X04 = 16 Marks

Q.1. How prevention of fracture?

Q.2. Describe the four fall prevention strategies with safety measure.

Q.3. Difference between the tendon and ligament.

Q.4. Define contracture. Write down the form of contracture.

Section – C

04X06 = 24 Marks

Q.1. Define fall. Describe the intrinsic factors of fall.

Q.2. Explain the mores fall scale.

Q.3. Define immobility. Describe the level of assistance.

Q.4. Define fracture. Write down the four symptom, causes and diagnosis of fracture.

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Registration No.: .....

School of Health Care and Paramedics

Session: 2019-20 (Summer Semester)

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End-Sem. Examination

Course Code: SHP1305 **Time: 2 Hours**

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Section – A

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a) Arm strain
b) Back strain
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d) Leg strain

Section – B

04X04 = 16 Marks

Q.1. How prevention of fracture?

Prevention

You can't prevent all fractures. But you can work to keep your bones strong so they'll be less susceptible to damage. To maintain your bone strength, consume a nutritious diet, including foods that are rich in calcium and vitamin D. It's also important to exercise regularly. Weight-bearing exercises are particularly helpful for building and maintaining bone strength. Examples include walking, hiking, running, dancing, and weight training. Many broken bones occur because of accidents in the home, at work or at play, and not all may be preventable. Using proper safety equipment and precautions may minimize the risk of injury, but it cannot be completely eliminated. As we age, there is an increased risk for falls at homes and some preventive steps may help reduce fall risks. These include:

- Make sure that lighting is adequate
- Shoes should not be slippery
- Loose carpet or irregular floors should be repaired
- High traffic areas like from the bed to the bath or from the kitchen to the living area need to be clear from hazards like excess furniture, extension cords, or boxes
- Bathrooms should have nonslip mats on the floor and in the bathtub or shower
- Install handrails for stairs and grab bars in the bathroom
- Bones also get old as we age and the management of osteoporosis is a life-long commitment. Increasing calcium content in bone will decrease the risk of spontaneous fracture, and also may make bone strong enough to potentially withstand an injury that otherwise would result in a fracture. Ways to prevent osteoporosis include:
- Increase weight bearing exercise
- Make sure you are getting the right amount of calcium and Vitamin D
- Make sure you are getting the right amount of calcium and Vitamin D in the diet. Take supplements if necessary.
- Do not smoke
- Avoid excess alcohol intake

Q.2. Describe the four fall prevention strategies with safety measure.

1.1 Fall Prevention Strategies

All clients should be assessed for risk factors, and necessary prevention measures should be implemented as per agency policy. In this table lists factors that affect patient safety and general measures to prevent falls in health care. Prior to ambulation consider the following risk factors:

- Age (elderly)
- Sensory-perception alteration
- Cognitive impairment (decreased LOC, confusion)
- Poly-pharmacology
- Urinary incontinence
- Ability to communicate (language barriers)
- Lack of safety awareness (height of bed, attachments and tubes)
- Environmental factors (dim light, tripping hazards, uneven floors)

Prevention Strategies	Safety Measures
Look for fall risk factors in all patients.	Identifying specific factors helps you implement specific preventive measures. Risk factors include age, weakness on one side, the use of a cane or walker, history of dizziness or light-headedness, low blood pressure, and weakness.
Follow hospital guidelines for transfers.	Transfer guidelines provide a good baseline for further patient risk assessments.
Orient patient to surroundings.	Orient patients to bed, surroundings, location of bathroom and call bell, and tripping hazards in the surrounding environment.
Answer call bells promptly.	Long wait times may encourage unstable patients to ambulate independently.
Ensure basic elimination and personal needs are met.	Provide opportunities for patients to use the bathroom and to ask for water, pain medication, or a blanket.
Ensure patient has proper footwear and mobility aids.	Proper footwear prevents slips.
Communicate with your patients.	Let patients know when you will be back, and how you will help them ambulate
Keep bed in the lowest position for sedated, unconscious, or compromised patients.	This step prevents injury to patients.
Avoid using side rails when a patient is confused.	Side rails may create a barrier that can be easily climbed and create a fall risk situation for confused patients.
Keep assistive devices and other commonly used items close by.	Allow patients to access assistive devices quickly and safely. Items such as the call bell, water, and Kleenex should be kept close by, to avoid any excessive reaching.

Q.3. Difference between the tendon and ligament.

1.2 Tendons, Joints, Ligaments

A tendon is a tough, flexible band made of fibrous connective tissue, and functions to connect muscle to bone. Joints are the bone articulations allowing movement. A ligament is a dense, white band of fibrous elastic tissue.

Ligaments connect the ends of bones together in order to form a joint. These help to limit joint dislocation and restrict improper hyperextension and hyper flexion.

Q.4. Define contracture. Write down the form of contracture.

Contractures

A functional posture and movement device makes it possible to keep upright, to move quickly and to differentiate with the upper extremity. Without thinking about it, people overcome obstacles in their daily lives. For example, high entry points on the bus, reach objects in the upper compartments of a shelf and bend down to pick something off the floor. Many people experience restricted mobility (contractures) in the course of life due to a variety of causes. These can take on such proportions that those affected depend on help from caregivers.

Definition

Contracture (lat. Contrahere = contracting) becomes a persistent joint stiffness or one more or less strong

marked loss of physiological mobility of a joint. It should not be confused with the term "contraction" (physiological contraction of a muscle)! A contracture can occur on all joints of the human body. Arm, leg, but also vertebral joints and pelvic and shoulder girdles can be affected. A contracture can either be severe, resulting in e.g. a knee joint from rigid extension position does not let bend, or only hinted at, so, for example, in an elbow joint only a few angular degrees are missing for full extension.

Forms of contracture

Based on the respective pulling direction, which can be more or less visible on a joint, different types of contra-forms are distinguished:

- Flexion (flexion) contracture, when e.g. the ankle is not sufficiently stretchable,
- Extension (extension) contracture, if e.g. the hip joint cannot be bent enough,
- Adduction contracture, if not 90 abductible, e.g. the upper arm
- External rotation contracture in the hip joint, if e.g. the leg can only be minimally rotated inward.

Section – C

04X06 = 24 Marks

Q.1. Define fall. Describe the intrinsic factors of fall.

2 Fall

The body's capacity for locomotion (a purposeful change in the position and posture of the body in space) under constantly disturbing environmental influences is the result of a functioning postural system. Locomotion means walking or running as well as acrobatic gymnastics exercises. "A fall is an event where the person inadvertently lands on the ground or at another lower level" (WHO, 2007).

Phase 1 (Initial Event)	The person's footprint shifts and the balance shifts while walking (e.g., muscle weakness and / or surrounding cables).
Phase 2 (loss of balance)	The upright posture can no longer be compensated by correcting the balance (e.g. neurological disorders).
Phase 3 (Impact Phase)	Upon impact of the falling person on the ground, the impact forces are transmitted to the body - injury is possible.

2.1 Intrinsic factors (internal causes)

With the intrinsic factors a subdivision into unpredictable (no presence of risk factors) and expected (characteristics and diagnoses that can be measured) factors possible. Internal factors include illness or age-related changes and conditions that, either individually or in combination, contribute to a change in mobility (= disorder of the brain) and thus to a fall.

2.2 Age-related changes

Age physiological deviations, such as changes in balance, vision, gait, musculoskeletal and cardiovascular systems as well as degenerative changes form a wide range of causes for falls. In children, it is not fully developed anatomical structures and physiological conditions that lead to falls. The younger the child, the greater the physiological restraints. A reduced performance, orientation,

coordination and communication ability as well as reaction time, such as age, e.g. In children, can also be causes of falls.

2.3 Disease-related changes

In the case of stress, depression, anxiety or dementia and other changes in the psyche and the cognitive-af- fective area, there is a risk of being able to perceive the environment in a changed way or to be unable to assess risks. A worsened sensory perception (e.g. cataract) reduces z. For example, the visual perception. Arrhythmias or bronchial asthma compromise the cardiovascular-respiratory system: impaired performance may result in a fall. The same applies to multimorbidity, underweight, fever and a generally poor state of health. Causal connections are also associated with changes in the metabolism (e.g., hypoglycaemia) and the musculoskeletal system (eg, osteoarthrosis, myopathies, contractures, or hallux valgus).

2.4 Neurological changes

Fall causes can also neurological changes such. As ischemic syncope, apoplexy, Parkinson's disease be because they are often associated with balance disorders or misinterpretation of environmental conditions.

Q.2. Explain the mores fall scale.

3 Morse Fall Scale

The Morse Fall Scale (MFS) is a rapid and simple method of assessing a patient's likelihood of falling. A large majority of nurses (82.9%) rate the scale as "quick and easy to use," and 54% estimated that it took less than 3 minutes to rate a patient. It consists of six variables that are quick and easy to score, and it has been shown to have predictive validity and interrater reliability. The MFS is used widely in acute care settings, both in the hospital and long term care inpatient settings.

Item	Scale	Scoring
1. History of falling; immediate or within 3 months	No 0 Yes 25	
2. Secondary diagnosis	No 0 Yes 15	
3. Ambulatory aid Bed rest/nurse assist Crutches/cane/walker Furniture	0 15 30	
4. IV/Heparin Lock	No 0 Yes 20	
5. Gait/Transferring Normal/bedrest/immobile Weak Impaired	0 10 20	
6. Mental status Oriented to own ability Forgets limitations	0 15	

The items in the scale are scored as follows

History of falling

This is scored as 25 if the patient has fallen during the present hospital admission or if there was an immediate history of physiological falls, such as from seizures or an impaired gait prior to admission. If the patient has not fallen, this is scored 0. Note: If a patient falls for the first time, then his or her score immediately increases by 25.

Secondary diagnosis

This is scored as 15 if more than one medical diagnosis is listed on the patient's chart; if not, score 0.

Ambulatory aids

This is scored as 0 if the patient walks without a walking aid (even if assisted by a nurse), uses a wheelchair, or is on a bed rest and does not get out of bed at all. If the patient uses crutches, a cane, or a walker, this item scores 15; if the patient ambulates clutching onto the furniture for support, score this item 30.

Intravenous therapy

This is scored as 20 if the patient has an intravenous apparatus or a heparin lock inserted; if not, score 0.

Gait

A normal gait is characterized by the patient walking with head erect, arms swinging freely at the side, and striding without hesitant. This gait scores 0. With a weak gait (score as 10), the patient is stooped but is able to lift the head while walking without losing balance. Steps are short and the patient may shuffle. With an impaired gait (score 20), the patient may have difficulty rising from the chair, attempting to get up by pushing on the arms of the chair/or by bouncing (i.e., by using several attempts to rise). The patient's head is down, and he or she watches the ground. Because the patient's balance is poor, the patient grasps onto the furniture, a support person, or a walking aid for support and cannot walk without this assistance.

Mental status

When using this Scale, mental status is measured by checking the patient's own self- assessment of his or her own ability to ambulate. Ask the patient, "Are you able to go the bathroom alone or do you need assistance?" If the patient's reply judging his or her own ability is consistent with the ambulatory order on the Kardex®, the patient is rated as "normal" and scored 0. If the patient's response is not consistent with the nursing orders or if the patient's response is unrealistic, then the patient is considered to overestimate his or her own abilities and to be forgetful of limitations and scored as 15.

Scoring and Risk Level

The score is then tallied and recorded on the patient's chart. Risk level and recommended actions (e.g. no interventions needed, standard fall prevention interventions, high risk prevention interventions) are then identified.

Important Note

The Morse Fall Scale should be calibrated for each particular healthcare setting or unit so that fall prevention strategies are targeted to those most at risk. In other words, risk cut off scores may be different depending on if you are using it in an acute care hospital, nursing home or rehabilitation facility. In addition, scales may be set differently between particular units within a given facility.

Risk Level	MFS Score	Action
No Risk	0 – 24	Good Basic Nursing Care
Low Risk	25 – 50	Implement Standard Fall Prevention Interventions
High Risk	➢ 50	Implement High Risk Fall Prevention Interventions

Q.3. Define immobility. Describe the level of assistance.

Immobility and Assisting Patients

When patients are recovering from illness, they may require assistance to move around in bed, to transfer from bed to wheelchair, or to ambulate. Changing patient positions in bed and mobilization are also vital to prevent contractures from immobility, maintain muscle strength, prevent pressure ulcers,

and help body systems function properly for best health and healing. The amount of assistance each patient will require depends on the patient's previous health status, age, type of illness, and length of stay.

3.1 Types of Assistance

At times, patients are assessed and given a "level of assistance" required for transferring. This is most common in residential care settings. The level of assistance is based on the patient's ability to transfer and stand. The terms describing different levels of assistance are used by health care providers to communicate with each other so everyone understands what type of assistance is required. The assistance needed is usually charted on the patient's file, above the head of the bed, and/or on the patient's chart. Below describe different types of assistance in the hospital and community setting.

Level of Assistance	Description
Independent	The patient can transfer independently and safely.
Standby supervision	The patient requires no physical assistance but may require verbal reminder. This type of patient may also be learning to transfer independently using a wheelchair, walker, or cane.
Minimal assist	The patient is cooperative but needs minimal physical assistance with the transfer.
One-person standing pivot	• The patient can bear weight on one or both legs and is cooperative and predictable. • The patient also can sit with minimal support on the side of the bed.
wo-person standing pivot	• The patient can assist with weight bearing, but may be inconsistent. • The patient is cooperative and predictable.
One-person assist with transfer board	• The patient is cooperative, follows directions, and has good trunk control. • The patient can use their arms, but cannot bear weight on both legs.
Two-person assist with transfer board	• The patient is cooperative and can follow directions. • The patient can use their arms, but cannot bear weight on both legs. The patient does not have good trunk control. • The patient's wheelchair has removable arms.
Mechanical stand	• The patient may have some ability to stand, but is unreliable. • The patient may be unpredictable (due to cognitive changes, medications). • The patient is a heavy two-person transfer and requires toileting or perineal care. • The patient does not have severe limb contractures or injuries where movement is medically contraindicated (e.g., spinal injury). • Use of a mechanical lift.

Q.4. Define fracture. Write down the four symptom, causes and diagnosis of fracture.

Introduction

A fracture is a broken bone. It can range from a thin crack to a complete break. Bone can fracture crosswise, lengthwise, in several places, or into many pieces. Most fractures happen when a bone is impacted by more force or pressure than it can support. If you suspect you have a fracture, take medical help immediately.

3.2 Symptoms of a Fracture

Most fractures are accompanied by intense pain when the initial injury occurs. It may become worse when you move or touch the injured area. In some cases, you may even pass out from the pain. You may also feel dizzy or chilled from shock. Other potential symptoms of a fracture include:

- Pain
- Swelling

- Bruising
- Discoloured skin around the affected area
- The patient is unable to put weight on the injured area
- The patient cannot move the affected area
- The affected bone or joint may have a grating sensation
- If it is an open fracture, there may be bleeding

3.3 Causes of Fracture

You can develop a fracture when your bone is impacted with greater pressure or force than it can support. This force usually occurs suddenly or is very intense. The strength of the force determines the severity of the fracture. Some common causes of fractures include:

- Falls
- Direct strikes to your body
- Traumatic events, such as car accidents or gunshot wounds
- Injuries from sports

3.4 Rist of a Fracture

Anyone can be experience a fracture. But you're more likely to develop one if you have brittle bones, or low bone density. You're more likely to develop brittle bones if you:

- Are older
- have osteoporosis
- have endocrine or intestinal disorders
- are taking corticosteroids
- are physically inactive
- drink alcohol
- smoke

3.5 Diagnose of a Fracture

- If you suspect you have a fracture, get medical attention immediately. Your doctor will likely ask you about your symptoms and perform a visual examination of the injured area. They may ask you to move the area in certain ways to check for pain or other signs of injury.
- If they think you may have a fracture, your doctor will likely order X-rays., X-rays are the most common method of fracture diagnosis.
- They can create images of your bone and reveal breaks or other signs of damage. X-rays also help determine fracture type and location.
- In some examples, your doctor may also order magnetic resonance imaging (MRI) or computed tomography scans (CT or CAT scan) to examine your bones or surrounding tissues.

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Registration No.: .....

School of Health Care and Paramedics

Session: 2019-20 (Summer Semester)

B. Voc. Program, 3rd Semester,

End-Sem. Examination

Time: 2 Hours

Max. Marks: 50

Course Code: SHP1306

Course Name: Cardiology & Neurology

Instruction:

1. **SECTION-A:** Answer all questions from section A. Each question carries 01 mark
2. **SECTION-B:** Answer all questions from section B. Each question carries 04 marks
3. **SECTION-C:** Answer all questions from section C. Each question carries 06 marks

Section – A

10X01 = 10 Marks

Q.1. **Tricuspid valve is located between:**

a) Right atrium and ventricle

b) Left atrium and left ventricle

c) Left ventricle and aorta

d) Left and right ventricle

Q.2. **The only artery which supplies deoxygenated blood?**

a) Pulmonary artery

b) Hepatic artery

c) Gastric artery

d) Renal artery

Q.3. **Temperature regulating centre is present in which part of the brain?**

a) Thalamus

b) Hypothalamus

c) Medulla oblongata

d) Cerebellum

Q.4. **Forebrain consist of:**

a) Cerebrum only

b) Diencephalon

c) Cerebrum and diencephalon

d) Crus cerebri

Q.5. **The innermost layer of the heart:**

a) Endocardium

b) Epicardium

c) Myocardium

d) Pericardium

Q.6. **Smallest vein is called:**

a) Vena cava

b) Venule

c) Vein

d) Sinus

Q.7. **The length of the spinal cord in an adult male is:**

a) 18 Cm

b) 45 Cm

c) 50 Cm

d) 36 Cm

Q.8. **Nerve supply to jaw occur by which nerve?**

a) Temporal nerve

b) Maxillary nerve

c) Ophthalmic nerve

d) Zygomatic nerve

Q.9. **Which nerve is responsible to detect the smell?**

a) Optic

b) Oculomotor

c) Olfactory

d) Facial

Q.10. **The number of thoracic spinal nerve:**

a) 11 Pair

b) 12 Pair

c) 24 Pair

d) 22 Pair

Section – B

04X04 = 16 Marks

Q.1. Difference between the diffusion and osmosis.

Q.2. Define angina pectoris. Describe the immediate management of angina pectoris.

Q.3. Explain the cerebrospinal fluid.

Q.4. Define reflexes. Difference between the biceps and Babinski reflex.

Section – C

04X06 = 24 Marks

Q.1. How to contraction and relaxation of the heart.

Q.2. Define myocardial infarction. Write down the four causes, sign and symptom and intervention of myocardial infarction.

Q.3. Describe the six cranial nerve with function.

Q.4. Draw the Glasgow comma scale.

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c) 24 Pair
d) 22 Pair

Section – B

04X04 = 16 Marks

Q.1. Difference between the diffusion and osmosis.

Diffusion

The capillary walls consist of a single layer of epithelial cells that constitutes a semipermeable membrane, which allows small molecules to pass through into tissue fluid, and retains large molecules in the blood. Diffusible substances include dissolved oxygen and carbon dioxide, glucose, amino acids, fatty acids, glycerol, vitamins, mineral salts and water.

Osmosis

Osmotic pressure across a semipermeable membrane draws water from a dilute to a more concentrated solution to establish a state of equilibrium. The force of the osmotic pressure depends on the number of non-diffusible particles in the solutions separated by the membrane. The main substances responsible for the osmotic pressure between blood and tissue fluid are the plasma proteins, especially albumin.

Q.2. Define angina pectoris. Describe the immediate management of angina pectoris.

Angina Pectoris

Angina is chest pain resulting from myocardial ischemia caused by inadequate myocardial blood and oxygen supply. Angina is caused by an imbalance between oxygen supply and demand. Causes include obstruction of coronary blood flow resulting from atherosclerosis, coronary artery spasm, or conditions increasing myocardial oxygen consumption.

Immediate management

- Assess pain: institute pain relief measures
- Administer oxygen at 3L/min by nasal cannula as prescribed
- Assess vital sign and provide continuous cardiac monitoring and nitroglycerin as prescribed to dilate the coronary arteries, reduce the oxygen requirements of the myocardium, and relieve the chest pain.
- Ensure bed rest is maintained, place the client in semi-fowler's position and stay with the client
- Obtain a 12 lead ECG
- Establish an IV access route

Q.3. Explain the cerebrospinal fluid.

Cerebrospinal fluid (CSF)

Cerebrospinal fluid is secreted into each ventricle of the brain by choroid plexuses. CSF pressure is higher than venous pressure, CSF is secreted continuously at a rate of about 0.5 ml per minute, i.e.

720 ml per day. The volume remains fairly constant at about 150 ml. CSF pressure may be measured using a vertical tube attached to a lumbar puncture needle inserted into the subarachnoid space above or below the 4th lumbar vertebra (which is below the end of the spinal cord).

CSF consisting of:

- Water
- Mineral salts
- Glucose
- Plasma proteins: small amounts of albumin and globulin
- A few leukocytes.

Functions of cerebrospinal fluid

- CSF supports and protects the brain and spinal cord by maintaining a uniform pressure around these vital structures and acting as a cushion or shock absorber between the brain and the skull.
- It keeps the brain and spinal cord moist and there may be exchange of nutrients and waste products between CSF and nerve cells.

Q.4. Define reflexes. Difference between the biceps and Babinski reflex.

Reflexes

The motor reflexes are involuntary contractions of muscles or muscle groups in response to abrupt stretching near the site of the muscle's insertion. The tendon is struck directly with a reflex hammer or indirectly by striking the examiner's thumb, which is placed firmly against the tendon. Testing these reflexes enables the examiner to assess involuntary reflex arcs that depend on the presence of afferent stretch receptors, spinal synapses, efferent motor fibers, and a variety of modifying influences from higher levels. Common reflexes that may be tested include the deep tendon reflexes (biceps, brachioradialis, triceps, patellar, and ankle reflexes) and superficial or cutaneous reflexes (abdominal reflexes and plantar or Babinski response).

Babinski reflex is one of the normal **reflexes** in infants. **Reflexes** are responses that occur when the body receives a certain stimulus. The **Babinski reflex** occurs after the sole of the foot has been firmly stroked. The big toe then moves upward or toward the top surface of the foot. The other toes fan out.

Biceps reflex is a **reflex** test that examines the function of the C5 **reflex** arc and the C6 **reflex** arc. The test is performed by using a tendon hammer to quickly depress the **biceps** brachii tendon as it passes through the cubital fossa.

Section – C

04X06 = 24 Marks

Q.1. How to contraction and relaxation of the heart.

The heart pumps blood in order for it to circulate throughout the body. The heart is a very strong muscle that is able to contract and relax rhythmically throughout a person's lifetime. Each day, the heart will beat an average of 100,000 times, pumping over 7,500 liters of blood. The heart is located in the left side of the chest, in a cavity between the right and left lungs. It weighs between 200 and 425 grams (around the weight of a can of pop), and is a little larger than an individual's clenched fist. Because the heart is a large, constantly active muscle, it must also have its own constant supply of oxygen, allowing it to continue pumping.

Q.2. Define myocardial infarction. Write down the four causes, sign and symptom and intervention of myocardial infarction.

Myocardial Infarction

Myocardial infarction occurs when myocardial tissue is abruptly and severely deprived of oxygen. Ischemia can lead to necrosis of myocardial tissue if blood flow is not restored. Infarction does not occur instantly but evolves over several hours. Obvious physical changes do not occurs in the heart until 6 hours after the infarction when the infarcted area appears blue and swollen. 8 to 10 days after infarction, granulation tissue forms. Over 2 to 3 months, the necrotic area develops into a scar tissue permanently changes the size and shape of the entire left ventricle.

Causes: Atherosclerosis

- Coronary artery disease
- Elevated cholesterol levels
- smoking
- Hypertension
- Obesity
- Physical inactivity
- Impaired glucose tolerance
- Stress

Sign and Symptom

- Pain
    - Client may experience crushing substernal pain
    - Pain may radiate to the jaw, back, and left arm
    - Pain may occur without cause, primarily early in the morning
    - Pain is unrelieved by rest or nitroglycerin and is relieved only by opioids
    - Pain lasts 30 minutes or longer
- Nausea and vomiting
- Diaphoresis
- Dyspnea
- Dysrhythmias
- Feelings of fear and anxiety

Pallor, Cyanosis, coolness of extremities

Intervention

- Obtain a description of the chest discomfort
- Administer oxygen by nasal cannula as prescribed and institute pain relief measures
- Assess vital signs and cardiovascular status and maintain cardiac monitoring
- Ensure bedrest and place the client in a semi fowler's position to ensure comfort and tissue oxygenation stay with the client.
- Establish an IV access route
- Obtain a 12 - lead ECG.
- Administer antidysrhythmics as prescribed

- Administer thrombolytic therapy, which may be prescribed within the first 6 hours of the coronary event.
- Monitor for sign of bleeding if the client is receiving thrombolytic therapy.
- Monitor laboratory values as prescribed
- Administer B-blockers as prescribed to slow the heart rate and increase myocardial perfusion while reducing the force of myocardial contraction.
- Monitor for cardiac dysrhythmias because tachycardia and PVC's frequently occurs in the first few hours after MI.

Q.3. Describe the six cranial nerve with function.

s.no.	Name of Nerves	Types of nerves	Function
I.	Olfactory	sensory	These are the nerve sense of smell
II	Optic	sensory	These are the nerve of the sense of light
III	Oculomotor	motor	These nerves arise from nuclei near the cerebral aqueduct. They supply: Four of the six extrinsic muscles, which move the eyeball
IV	Trochlear	motor	Eye movement
V	Trigeminal	mixed	These nerves contain motor and sensory fibres and are among the largest of the cranial nerves Receiving Impulses of pain and chewing
VI	Abducent	motor	the eyeballs causing abduction
VII	Facial	mixed	These nerves are composed of both motor and sensory nerve fibres Facial expression and teste
VIII	Vestibulocochlear (auditory)	sensory	Balance and hearing
IX	Glossopharyngeal	mixed	Both sensory and motor Secretion of the saliva, swallowing and teste
X	Vagus: mixed		Secretion of the gland and sensory fibres convey impulses from the membranes.
XI	Accessory: motor		Turning the hand lifting the shoulder
XII	Hypoglossal: motor.		Contribute to swallowing and speech

Q.4. Draw the Glasgow comma scale.

Glasgow Coma Scale		
Response	**Scale**	**Score**
Eye Opening Response	Eyes open spontaneously	4 Points
	Eyes open to verbal command, speech, or shout	3 Points
	Eyes open to pain (not applied to face)	2 Points
	No eye opening	1 Point
Verbal Response	Oriented	5 Points
	Confused conversation, but able to answer questions	4 Points
	Inappropriate responses, words discernible	3 Points
	Incomprehensible sounds or speech	2 Points
	No verbal response	1 Point
Motor Response	Obeys commands for movement	6 Points
	Purposeful movement to painful stimulus	5 Points
	Withdraws from pain	4 Points
	Abnormal (spastic) flexion, decorticate posture	3 Points
	Extensor (rigid) response, decerebrate posture	2 Points
	No motor response	1 Point
Minor Brain Injury = 13-15 points; **Moderate Brain Injury** = 9-12 points; **Severe Brain Injury** = 3-8 points		

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Registration No.: .....

School of Health Care and Paramedics

Session: 2019-20 (Summer Semester)

B. Voc. Program, 3rd Semester,

End-Sem. Examination

Time: 2 Hours

Max. Marks: 50

Course Code: SHP1307

Course Name: Respiratory Care

Instruction:

1. **SECTION-A:** Answer all questions from section A. Each question carries 01 mark
2. **SECTION-B:** Answer all questions from section B. Each question carries 04 marks
3. **SECTION-C:** Answer all questions from section C. Each question carries 06 marks

Section – A

10X01 = 10 Marks

Q.1. **Oxygen uptake. The air that we breathe in during normal conditions from the atmosphere is composed of the following gases:**

a) Oxygen 21%

b) Nitrogen 12%

c) Carbon dioxide 70%

d) Rare gases 67%

Q.2. **Adam's apple is related to:**

a) Pharynx

b) Larynx

c) Trachea

d) Esophagus

Q.3. **The lung function teste are determined by:**

a) Tonometer

b) Spirometer

c) Sphygmomanometer

d) Barometer

Q.4. **Which of the following symptom is common is asthma?**

a) Barking sign

b) Bradycardia

c) Dry productive cough

d) Wheezing

Q.5. **The major passage and structure of the lower respiratory tract include:**

a) Trachea

b) Pharynx

c) Larynx

d) Nasal cavity

Q.6. **Amount of air inspired a normal adult healthy person during rest into a single breathing:**

a) 1000 cc

b) 600 ml

c) 500 cc

d) 500 ml

Q.7. **Tracheostomy is usually performed between the tracheal rings of cartilage of:**

a) Second and third

b) Third and fourth

c) Fourth and fifth

d) All of above

Q.8. **While performing tracheostomy suctioning, suction time should not be more than:**

a) 10 Second

b) 20 second

c) 30 second

d) 45 second

Q.9. **Before doing suctioning, it is not necessary to:**

a) Check spo_2 b) Wash hand

c) Auscultate the lung sound d) Check the temperature

Q.10. **Respiratory diseases. A type of disease that affects the lungs and other parts of the respiratory system. Causes are:**

a) Adhesion b) Obesity

c) Smoking d) All of above

Section – B

04X04 = 16 Marks

Q.1. How to work diffusion in human body?

Q.2. Difference between the internal intercostal muscle and external intercostal muscle.

Q.3. Define emphysema. Explain the four risk factors of emphysema.

Q.4. What do you mean by percutaneous tracheostomy?

Section – C

04X06 = 24 Marks

Q.1. Describe the inhalation system.

Q.2. Difference between the simple and complex empyema. Write down the four diagnosis and complication of empyema.

Q.3. Define atelectasis. Write down the four causes, symptom and prevention of atelectasis

Q.4. Explain bronchitis.

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

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Time: 2 Hours

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Instruction:

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2. **SECTION-B:** Answer all questions from section B. Each question carries 04 marks
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Section – A

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Section – B

04X04 = 16 Marks

Q.1. How to work diffusion in human body?

Diffusion

Diffusion occurs when molecules move from an area of high concentration (of that molecule) to an area of low concentration. This occurs during gaseous exchange as the blood in the capillaries surrounding the alveoli has a lower oxygen concentration of Oxygen than the air in the alveoli which has just been inhaled. Both alveoli and capillaries have walls which are only one cell thick and allow gases to diffuse across them.

The same happens with Carbon Dioxide (CO2). The blood in the surrounding capillaries has a higher concentration of CO2 than the inspired air due to it being a waste product of energy production. Therefore, CO2 diffuses the other way, from the capillaries, into the alveoli where it can then be exhaled. When Oxygen diffuses into the blood it attaches to hemoglobin in red blood cells to be transported via the circulatory system. If the circulatory system is inadequate, or there is a reduced amount of hemoglobin or red blood cells (anemia or blood loss, for example), then the respiratory rate and effort might increase to try and compensate.

Q.2. Difference between the internal intercostal muscle and external intercostal muscle.

Ventilation

To recap, the process of breathing is the supply of oxygen and the elimination of carbon dioxide, Chest expansion that takes place during breathing occurs as a result of muscular activity which is partly voluntary but mainly involuntary. There are 11 pairs of intercostal muscles occupying the spaces between the 12 pairs of ribs- spilt into the:

External Intercostal muscles

which extend downwards and forwards from the lower edge of the rib above to the upper edge of the rib below. These muscles are involved in inspiration.

Internal Intercostal muscles

Extending downwards and backwards from the lower edge of the rib above to the upper edge of the rib below, crossing the external muscle fibres at right angles. These muscles are used for active exhalation. Intercostal muscles are stimulated to contract by the intercostal nerves. The external intercostal muscles and the diaphragm contract simultaneously during inspiration, resulting in the enlargement of the thoracic cavity in all directions.

The diaphragm is the main muscle of inspiration, with a nerve supply from C3, C4 and C5 via the phrenic nerves. When stimulated the diaphragm moves downwards increasing the size of the thoracic cavity, which creates a negative pressure and draws air into the lungs. Note that spinal cord injured patients, breaks above C3 and C4 will affect the phrenic nerve and result in apnoea. The position of the diaphragm varies depending on posture, in an upright position the diaphragm flattens and the cross sectional area is increased, with a smaller movement required to achieve expansion, hence why patients with respiratory diseases find it more comfortable to sit upright.

Pulmonary ventilation (the process for moving gases in and out of the lungs) In a healthy patient the amount of air that can be accommodated will depend on the size of the lungs and thorax, related to size, age, ethnicity and sex- referred to as lung capacity.

Q.3. Define emphysema. Explain the four risk factors of emphysema.

Emphysema

Emphysema is a lung condition that causes shortness of breath. In people with emphysema, the air sacs in the lungs (alveoli) are damaged. Over time, the inner walls of the air sacs weaken and rupture — creating larger air spaces instead of many small ones. This reduces the surface area of the lungs and, in turn, the amount of oxygen that reaches your bloodstream.

Risk factors

Factors that increase your risk of developing emphysema include:

Smoking: Emphysema is most likely to develop in cigarette smokers, but cigar and pipe smokers also are susceptible. The risk for all types of smokers increases with the number of years and amount of tobacco smoked.

Age: Although the lung damage that occurs in emphysema develops gradually, most people with tobacco-related emphysema begin to experience symptoms of the disease between the ages of 40 and 60.

Exposure to Secondhand smoke: Secondhand smoke, also known as passive or environmental tobacco smoke, is smoke that you inadvertently inhale from someone else's cigarette, pipe or cigar. Being around second-hand smoke increases your risk of emphysema.

Occupational exposure to fumes or dust: If you breathe fumes from certain chemicals or dust from grain, cotton, wood or mining products, you're more likely to develop emphysema. This risk is even greater if you smoke.

Exposure to indoor and outdoor pollution: Breathing indoor pollutants, such as fumes from heating fuel, as well as outdoor pollutants — car exhaust, for instance — increases your risk of emphysema.

Q.4. What do you mean by percutaneous tracheostomy?

Percutaneous tracheostomy

The percutaneous method most commonly used is known as percutaneous dilational tracheostomy (PDT), enabling the pretracheal tissues to be incised under local anaesthesia. A sheath is inserted into the trachea between the cricoid and the first tracheal ring or between the first and second rings. The trachea is progressively dilated with a series of conical dilators, which are slipped over a guidewire, ready for a tracheostomy tube to be inserted. Now frequently performed in the critical care setting as an early intervention post initiation of mechanical ventilation, the procedure takes less time and requires fewer resources, such as theatres and surgeons, resulting in fewer costs, than a surgical tracheostomy. Another potential benefit of percutaneous tracheostomy is more rapid stomal closure and smaller scar formation once the tracheostomy tube has been removed.

Section – C

04X06 = 24 Marks

Q.1. Describe the inhalation system.

Inhalations systems – Pulmonary administration

Dosage forms introduced into the body via the lungs in an aerosol form to achieve local effects such as to improve bronchodilation or to improve clearance of pulmonary secretions. Systemic effects can also be achieved through the pulmonary route, for example volatile anaesthetics. Some are inhaled via the mouth, some via the nose and some via nose and mouth.

In order for drugs to reach the lungs, they must be delivered in an aerosol form. The aerosol penetrates the lung airways and the deeper passages of the respiratory tract provide a large surface area for drug absorption and the alveolar-capillary network absorbs medication rapidly. There are three ways in which this aerosol can be produced: by nebulizer, by pressurized metered dose inhalers and by drug powder inhalers.

1.1 Nebulization

Nebulization involves the passage of air or oxygen driven through a solution of a drug. The resulting fine mist is then inhaled via a facemask. Some antibiotics and bronchodilators may be given in this way. The advantage of nebulizers is that they can deliver more drug to the lungs than standard inhalers because of the smaller particles that are generated. They also do not require any co-ordination in order to deliver the drug to the lungs. The disadvantages are that they are expensive, they are not easily portable and the delivery of drug can be difficult to control, for example due to loss in the tubing and mouthpiece.

1.2 Metered dose inhalers (MDI)

Metered dose inhalers (MDI) involve a drug being suspended in a propellant in a small hand-held aerosol can in the form of a spray, mist or fine powder. Metered doses can then be delivered from the aerosol by the use of a metering valve within the device which is designed to release a fixed volume, for example Ventolin. Steroid medications are often administered by MDI to treat long-term reactive airway disease.

The advantages of MDIs are that they are convenient, can deliver a fixed dose and are inexpensive. The disadvantage can be the coordination needed to use one. In order to be effective, the patient needs to trigger the MDI during a deep slow inhalation and then hold their breath for around 10 seconds. This need for co-ordination between actuation of the dose and inhalation can be removed by using a spacer device. The spacer device reduces the speed with which the dose is delivered and the resultant 'cold freon' effect that can occur, which can prevent a patient from continuing to inhale after actuation of the MDI. Spacers are also useful for patients on high-dose inhaled steroids in order to prevent oral candidiasis, for children and patients requiring higher doses, and can improve dose delivery to 15%. Spacer devices are designed to be compatible with specific inhalers and therefore care should be taken to ensure the correct spacer device is used. Medication in MDIs is under pressure and so they should not be punctured or stored near heat or in hot conditions (e.g. patients must be informed not to leave their MDI in a hot car).

Dry powder inhalers (DPI)

Dry powder inhalers (DPI) involve a powder being delivered to the lung via a breath-actuated device. Examples of inhalers in this group are the Accuhaler and the Turbohaler. Dry powder inhalers are also useful when there are problems with co-ordination. However, they can initiate a cough reflex and patients need to have sufficient breath inhalation to activate the device. It is also important to remember that because these medications are absorbed rapidly through the pulmonary circulation, most create systemic side-effects

Q.2. Difference between the simple and complex empyema. Write down the four diagnosis and complication of empyema.

Simple empyema

Simple empyema occurs in the early stages of the illness. A person has this type if the pus is free-flowing. The symptoms of simple empyema include:

shortness of breath

dry cough

fever

sweating

chest pain when breathing that may be described as stabbing

headache

confusion

loss of appetite

Complex empyema

Complex empyema occurs in the later stage of the illness. In complex empyema, the inflammation is more severe. Scar tissue may form and divide the chest cavity into smaller cavities. This is called loculation, and it's more difficult to treat. If the infection continues to get worse, it can lead to the formation of a thick peel over the pleura, called a pleural peel. This peel prevents the lung from expanding. Surgery is required to fix it.

1.2.1 Diagnostic Evaluation

Chest X-rays and CT scans will show whether or not there's fluid in the pleural space. An ultrasound of the chest will show the amount of fluid and its exact location. Blood tests can help check your white blood cell count, look for the C-reactive protein, and identify the bacteria causing the infection. White cell count can be elevated when you have an infection. During a thoracentesis, a needle is inserted through the back of your ribcage into the pleural space to take a sample of fluid. The fluid is then analysed under a microscope to look for bacteria, protein, and other cells.

Complications

In rare instances, a case of complex empyema can lead to more severe complications. These include sepsis and a collapsed lung, also called a pneumothorax. The symptoms of sepsis include:

- High fever
- Chills
- Rapid breathing
- Fast heart rate

Low blood pressure

Q.3. Define atelectasis. Write down the four causes, symptom and prevention of atelectasis

Atelectasis

Atelectasis is a medical term used to describe the complete or partial collapse of a lung. It is sometimes referred to as a "collapsed lung," although the term can also be applied to a condition called pneumothorax. When atelectasis occurs, fresh air is unable to reach the tiny structures of lungs, called the alveoli, where oxygen and carbon dioxide are exchanged. This results in decreased levels of oxygen being delivered to the organs and tissues of the body (hypoxia).

Causes

- Hypoventilation
- Airway Obstruction
- Airway Compression
- Adhesions
- Obesity
- Smoking
- prolonged bed rest/immobility
- rib fractures (which can result in shallower breathing)
- narcotics or sedatives (which can slow respiration)
- respiratory distress syndrome (RDS) in newborns.

Symptoms

- Slowly or involves only a small portion of the lung.
- If the condition develops rapidly or affects a larger portion of shock,
- Symptoms may be dramatic and even lead to shock.
- Atelectasis typically occurs unilaterally,

Common symptoms include:

- Shortness of breath (dyspnea)
- Wheezing
- Rapid shallow breathing
- A persistent, hacking cough
- A sharp chest pain that worsens with a deep breath, typically on one side of the chest
- As the condition progresses, the symptoms can become more profound as oxygen saturation levels in the blood begin to decrease.

This can lead to a sudden, severe drop in blood pressure, rapid heart rate (tachycardia), and shock

Prevention

Chest surgery remains the predominant cause of atelectasis. To prevent it from occurring after a surgical procedure, doctors will typically advise you to stop smoking first and foremost. After surgery, there are four things you should do ensure your lungs remain fully inflated:

- Use an incentive spirometer, a simple medical device to keep your lungs healthy. It's the most used device that prevents atelectasis.
- Perform deep breathing exercises, focusing on long inhales and controlled exhales. Pain medication may also be prescribed if breathing is especially uncomfortable.
- Make an effort to cough to clear any mucus or sputum from the lungs.

Change your position, sitting up or moving around as much as your doctor allows

Q.4. Explain bronchitis.

Bronchitis

Bronchitis is an inflammation of the lining of your bronchial tubes, which carry air to and from your lungs. People who have bronchitis often cough up thickened mucus, which can be discoloured. Bronchitis may be either acute or chronic. Often developing from a cold or other respiratory infection, acute bronchitis is very common. Chronic bronchitis, a more serious condition, is a constant irritation or inflammation of the lining of the bronchial tubes, often due to smoking. Acute bronchitis, also called a chest cold, usually improves within a week to 10 days without lasting effects, although the cough may linger for weeks. However, if you have repeated bouts of bronchitis, you may have chronic bronchitis, which requires medical attention. Chronic bronchitis is one of the conditions included in chronic obstructive pulmonary disease (COPD).

Causes

- Acute bronchitis is normally caused by viruses,
- Typically, those that also cause colds and flu.
- It can also be caused by bacterial infection and exposure to substances that irritate the lungs, such as tobacco smoke, dust, fumes, vapors, and air pollution.

Risk factors

Factors that increase your risk of bronchitis include:

- Cigarette smoke. People who smoke or who live with a smoker are at higher risk of both acute bronchitis and chronic bronchitis.
- Low resistance. This may result from another acute illness, such as a cold, or from a chronic condition that compromises your immune system. Older adults, infants and young children have greater vulnerability to infection.
- Exposure to irritants on the job. Your risk of developing bronchitis is greater if you work around certain lung irritants, such as grains or textiles, or are exposed to chemical fumes.
- Gastric reflux. Repeated bouts of severe heartburn can irritate your throat and make you more prone to developing bronchitis.

Symptoms

For either acute bronchitis or chronic bronchitis, signs and symptoms may include:

- Cough

- Production of mucus (sputum), which can be clear, white, yellowish-gray or green in colour — rarely, it may be streaked with blood
- Fatigue
- Shortness of breath
- Slight fever and chills
- Chest discomfort
- Mild headache
- Body aches.
- productive cough that lasts at least three months

Complications

Although a single episode of bronchitis usually isn't cause for concern, it can lead to pneumonia in some people. Repeated bouts of bronchitis, however, may mean that you have chronic obstructive pulmonary disease (COPD).

Prevention

To reduce your risk of bronchitis, follow these tips:

- Avoid cigarette smoke. Cigarette smoke increases your risk of chronic bronchitis.
- Get vaccinated. Many cases of acute bronchitis result from influenza, a virus. Getting a yearly flu vaccine can help protect you from getting the flu. You may also want to consider vaccination that protects against some types of pneumonia.
- Wash your hands. To reduce your risk of catching a viral infection, wash your hands frequently and get in the habit of using alcohol-based hand sanitizers.
- Wear a surgical mask. If you have COPD, you might consider wearing a face mask at work if you're exposed to dust or fumes, and when you're going to be among crowds, such as while traveling.

Diagnosis

Chest X-ray. A chest X-ray can help determine if you have pneumonia or another condition that may explain your cough. This is especially important if you ever were or currently are a smoker. Sputum tests. Sputum is the mucus that you cough up from your lungs. It can be tested to see if you have illnesses that could be helped by antibiotics. Sputum can also be tested for signs of allergies. Pulmonary function test. During a pulmonary function test, you blow into a device called a spirometer, which measures how much air your lungs can hold and how quickly you can get air out of your lungs. This test checks for signs of asthma or emphysema.

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Registration No.: .....

School of Health Care and Paramedics

Session: 2019-20 (Summer Semester)

B. Voc. Program, 3rd Semester,

End-Sem. Examination

Time: 2 Hours

Max. Marks: 50

Course Code: SHP1310

Course Name: Basic Pediatrics

Instruction:

1. **SECTION-A:** Answer all questions from section A. Each question carries 01 mark
2. **SECTION-B:** Answer all questions from section B. Each question carries 04 marks
3. **SECTION-C:** Answer all questions from section C. Each question carries 06 marks

Section – A

10X01 = 10 Marks

Q.1. **Normal blood pressure at birth:**

a) 80/50 mm of Hg

b) 50/40 mm of Hg

c) 120/80 mm of Hg

d) 110/70 mm of Hg

Q.2. **Tears start to appear at which age:**

a) At birth

b) One Weak

c) 2 Months

d) One year

Q.3. **The sequence of steps for neonatal resuscitation:**

a) ABCT

b) CTAB

c) BACT

d) TABC

Q.4. **Children called low birth weight which birth weight is:**

a) Less than 2.5 kg

b) More than 2.5 kg

c) Less than 3 kg

d) More than 3 kg

Q.5. **All are component of KMC except:**

a) Skin to skin contact

b) Weight gain

c) Exclusive breast feeding

d) Early discharge

Q.6. **Anterior fontanel closed at the age of:**

a) 18 Months

b) 3 Months

c) 8 Months

d) 15 Months

Q.7. **Which milk more satisfy the baby's hunger?**

a) Colostrum

b) Fore milk

c) Transitional milk

d) Hind milk

Q.8. **Which is optimum time to start weaning?**

a) At birth

b) 3 Months

c) 6 Months

d) 1 Year

Q.9. **Maximum Apgar score is:**

a) 5

b) 10

c) 20

d) 15

Q.10. **When child start to say word like "baba" "dada"?**

a) 12 Months

b) 18 Months

c) 3 Months

d) 7 Months

Section – B

04X04 = 16 Marks

Q.1. Write down the rights of children.

Q.2. Difference between the growth and development.

Q.3. Draw the chart of "APGAR" Score

Q.4. Describe the types of breast feeding.

Section – C

04X06 = 24 Marks

Q.1. Define reflexes. Explain the five reflexes in newborn.

Q.2. Write down the principle of weaning.

Q.3. Describe the steps of resuscitation.

Q.4. Define KMC. Explain the procedure of KMC.

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Registration No.: .....

School of Health Care and Paramedics

Session: 2019-20 (Summer Semester)

B. Voc. Program, 3rd Semester,

End-Sem. Examination

Time: 2 Hours

Max. Marks: 50

Course Code: SHP1310

Course Name: Basic Pediatrics

Instruction:

1. **SECTION-A:** Answer all questions from section A. Each question carries 01 mark
2. **SECTION-B:** Answer all questions from section B. Each question carries 04 marks
3. **SECTION-C:** Answer all questions from section C. Each question carries 06 marks

Section – A

10X01 = 10 Marks

Q.1. **Normal blood pressure at birth:**

a) 80/50 mm of Hg

b) 50/40 mm of Hg

c) 120/80 mm of Hg

d) 110/70 mm of Hg

Q.2. **Tears start to appear at which age:**

a) At birth

b) One Weak

c) 2 Months

d) One year

Q.3. **The sequence of steps for neonatal resuscitation:**

a) ABCT

b) CTAB

c) BACT

d) TABC

Q.4. **Children called low birth weight which birth weight is:**

a) Less than 2.5 kg

b) More than 2.5 kg

c) Less than 3 kg

d) More than 3 kg

Q.5. **All are component of KMC except:**

a) Skin to skin contact

b) Weight gain

c) Exclusive breast feeding

d) Early discharge

Q.6. **Anterior fontanel closed at the age of:**

a) 18 Months

b) 3 Months

c) 8 Months

d) 15 Months

Q.7. **Which milk more satisfy the baby's hunger?**

a) Colostrum

b) Fore milk

c) Transitional milk

d) Hind milk

Q.8. **Which is optimum time to start weaning?**

a) At birth

b) 3 Months

c) 6 Months

d) 1 Year

Q.9. **Maximum Apgar score is:**

a) 5 b) 10

c) 20 d) 15

Q.10. **When child start to say word like "baba" "dada"?**

a) 12 Months b) 18 Months

c) 3 Months d) 7 Months

Section – B

04X04 = 16 Marks

Q.1. Write down the rights of children.

Rights of the child

The United Nations adopted the "Declaration of the Rights of the Child", on 20th November, 1959, to meet the special needs of the child. India was a signatory to this declaration to give the child pride of place and to make the people aware of the rights and needs of children and duties towards them. The ten basic rights of the child are:

1. Right to develop in an atmosphere of affection and security and protection against all forms of neglect, cruelty, exploitation and traffic.
2. Right to enjoy the benefits of social security, including nutrition, housing and medical care.
3. Right to a name and nationality.
4. Right to free education.
5. Right to full opportunity for play and recreation.
6. Right to special treatment, education and appropriate care, if handicapped.
7. Right to be among the first to receive protection and Relief in times of disaster
8. Right to learn to be a useful member of society and to develop in a healthy and normal manner and in conditions of freedom and dignity.
9. Right to be brought up in a spirit of understanding tolerance, friendship among people, peace and universal brotherhood.
10. Right to enjoy these right, regardless of race, sex, religion, national or social origin.

Q.2. Difference between the growth and development.

1.1 Growth

Growth refers to an increase in size or mass of the tissue. It is largely attributed to multiplication of cells and increase in intracellular substance. It can be measured in inch, centimetres, kilogram and pounds. So, it is a quantitative term.

1.2 Development

Development specifies maturation of function or physiological maturation the term development is used to refer progressive increase in skill and capacity to function. It is a qualitative change in child's functioning and is difficulty to measure

Q.3. Draw the chart of "APGAR" Score

Parameter	0	1	2
Heart Rate	Absent	<100	>100
Respiratory Effort	Absent	Irregular, Slow	Good, Strong cry
Muscle Tone	Limp	Some flexion of extremities	Well flexed
Reflex Irritability	No Response	Grimace	Cry, Sneezes
Colour	Blue, Pale	Body Pink, Extremities Blue	Completely Pink

Q.4. Describe the types of breast feeding.

Colostrum	It is the milk secreted during the first three days after delivery. It is thick and yellow in color and rich in antibodies and vitamin A, D, E and K.
Transitional Milk	It is the milk secreted during the next two weeks. The immunoglobulin and protein content decreases while fat and sugar increases.
Mature milk	It follows transitional milk. It is thinner and watery but has all nutrients for optimum growth of baby
Fore Milk	It is milk secreted at the start of a feed. It is rich in proteins, sugar, vitamin and water.
Hind Milk	It comes later, towards the end of a feed and is rich in fat and energy and satisfies the baby's hunger.

Section – C

04X06 = 24 Marks

Q.1. Define reflexes. Explain the five reflexes in newborn.

1.3 Reflexes

Sucking Reflex	If cheek of child touch one side of mouth then neonate turn the head in same direction and start to suck. Appear in 14 weeks of intra uterine life. Disappear at 4 months if child awaking or 7 months if sleeping.
Rooting Reflex	The infant turn his head towards any object that touch his cheek and actively seek the nipple and start to suck. It appears at 34 weeks of intrauterine life & disappear at 3-4 months.
Swallowing Reflex	Neonate, swallow after sucking. Swallowing reflex appear after 34 weeks of intra uterine life. New born, born at 32-34 weeks have minor sucking reflex but cannot swallow well, so they have risk of respiration.
Tonic – neck reflex	If head of new born turn one side, then arm and leg of same side extend and opposite arm and leg are flex. Disappear within 3-4 months. If this reflex present after 6 months, it is abnormal and which indicate spastic cerebral aplsy.
Grasp Reflex	New-born grasp if any object put on palm (Palmer grasp) and soles (Planter grasp). Present at birth and disappear within 3 month (Palmar) and 8 months (Planter). It may reappear later in life if an individual suffers an injury to the frontal lobes of the brain.
Moro's Reflex	When loud voice is made or if new born hold in semi sitting position and then allow the head & trunk to dropped back side then rapid adduction & extension of the arm and flanning of fingers (making 'C' shape with thumb) occurs. Disappear within 3 months. Indicate abnormal if present after 6 months
Babinski's Reflex	Gentle stroking of lateral aspect of sole in 'J' shape, cause new born big toes or dorsi-flexes downward and fingers are hyper-extend. Disappear in 1 year and it is normal under 12 months due to incomplete myelinisation of axons. It is a normal reflex if in infants under the age of 12 months but indicate a lesion of the pyramidal tract in order individual.
Doll's eye Reflex	As head is moved to right or left, eyes are lag behind and do not adjust to new position. Disappear at 3-4 months
Extrusion Reflex	When tongue is touched or depressed, infant respond by forcing it outward. Disappear at 4 months
Blinking Reflex	Infant blink at sudden appearance of bright light or approach of any toward eye. It doesn't disappear.
Gag Reflex	Gagging and vomiting resulting from irritation of the throat or pharynx. It persists lifelong.

Dance or stepping Reflex	...

Q.2. Write down the principle of weaning.

1.	Practice exclusive breast feeding from birth up to 6 months of age and introduce complementary foods after 6 months of age along with breast feeding.
2.	Continue frequent on-demand breast feeding until 2 years of age or beyond.
3.	Practice responsive (active) feeding applying the principles of psychosocial care. Feed infants slowly and patiently and encourage them to eat but do not force them. If the child refuses to eat any food, experiment with different food combinations, tastes and. textures. Minimize distractions during meals if the child loses interest easily.
4.	Practice good hygiene and proper food handling to reduce the risk of diarrhoea.
5.	Start at 6 months of age with small amounts of food and increase the quantity as the child gets older, while maintaining frequent breast feeding.
6.	Gradually increase food consistency and variety as the infant grows older, adapting to the infant's requirements and abilities. Begin liquids at 6 months. By 8 months he can eat semi-solids and by 12 months he can eat solid foods as consumed by rest of the family members.
7.	Increase the number of times the child is fed complementary food, as the child gets older. A breastfed infant who is 6-8 months old needs 2-3 meals a day and at 9-23 months he needs 3-4 meals a day.
8.	Feed a variety of nutrient rich foods to ensure that all nutrient needs are met. Complementary foods should provide sufficient energy, protein, vitamins, iron and micronutrients. Complementary food should include animal products, dairy products, pulses, fruits, vegetables and oils.
9.	Give micronutrient rich complementary foods or vitamin and mineral supplements to the infant as needed.
10.	It is advisable to start one or two teaspoons of new food at first which should be given when baby is hungry, just before regular feeding, during day time. It may be continued for a few days until the child gets used to the same. Then the new food item may be started, one at a time.

Q.3. Describe the steps of resuscitation.

Steps of Resuscitation

Maintenance of Temperature

Hypothermia in new-born leads to increased metabolism, increased oxygen needs and metabolic acidosis it is very important to prevent hypothermia in new-born. In order to prevent heat loss, the baby should be dried immediately and placed under radiant warmer.

Establish and open airway

Positioning

The infant should be positioned properly to ensure open airway. The baby should be positioned on back with neck slightly extended. To maintain correct position, a rolled towel or sheet is kept under the shoulder, elevating them 3/4th to 1 inch off the matterss.

Suctioning

If the infants has copious secretions in the mouth, as soon as the infant is positioned, suctioning of mouth and nose is done using bulb syringe or mechanical suction. The mouth is suctioned first to ensure that there is nothing for the infants to aspirate if he or she gasps when nose is suctioned while suctioning the mouth, the suction tube is inserted till 5cm mark is at baby's lips. Suction while withdrawing the tube. Next introduce the suction tube up to 3cm each nostril. Suction for less than 20 seconds. If thick or particulate meconium is present in amniotic fluid, the mouth, oropharynx and hypo pharynx should be suctioned as soon as the head is delivered. After delivery of baby, the trachea should be intubated and suctioned.

Initiating Breathing

Tactile stimulation

Both drying and suctioning the infant produces stimulation, which for many infants is enough to induce respiration. If respiration is inadequate, tactile stimulation may be given by slapping and flicking the soles of feet and rubbing the infants back. These slaps or flicks should be given only once or twice. If the infant remains apneic, positive pressure ventilation should be started.

Positive pressure ventilation

Bag and mask ventilation is indicated if after tactile stimulation the infant is gasping and respiration is spontaneous but heart rate is below 100 beat/minute.

With infants near slightly extended to ensure open airway, place the mask on baby's face and ensure that mask forms a tight seal around chin, mouth and nose.

Maintain Circulation

Chest Compression

When the infant is hypoxic; there is diminished blood and oxygen flow to the vital organs. Chest compressions are used to temporarily increase circulation and oxygen delivery. Chest compression must be accompanied by ventilation with100% oxygen, so that the blood being circulated during chest compressions gets oxygenated. Chest compressions are provided by using either thumb technique or two finger technique. During chest compressions, pressure is applied to lower third of the sternum, depressing it % to 4 inch. About 90 chest compressions should be given in a minute. One ventilation should be given after 3 chest compression (1:3). In 1 minute, 90 chest compression and 30 positive pressure ventilations are given.

Medications

Neonates who do not improve with ventilation and chest compression, require medications like- adrenaline, soda bicarbonate, naloxone and dopamine. These medications are administered in umbilical vein via catheter. Adrenaline is administered in dose of 0.1-0.3 ml/kg if heart rate continues to be less than 80/minute even after chest compression. In case of poor respiration and slow heart rate even after 5-6 minutes of resuscitation, soda bicarb is given in dose of 2 ml/kg body weight, diluted 1:1 in distil water. In case of peripheral shock indicated by cyanosis, absent pulse or capillary filling time of more than 3 seconds, Volume expanders are given like Ringer lactate or 0.9 % Normal saline.

Q.4. Define KMC. Explain the procedure of KMC.

Kangaroo Mother Care

Kangaroo mother care (KMC) is a special way of caring for low birth weight (LBW) babies. It improves their health and well-being by promoting effective thermal control, breastfeeding, infection prevention and bonding.

1.4 Procedure of Kangroo Mother Care

1.4.1 Preparation for KMC

- When the baby is ready for KMC, mother and family members should be counseled so that a positive attitude is created for KMC
- Mother should be provided with a front-open gown or any front open light dress that can retain the baby for extended period of time.
- Baby is dressed with cap, socks, nappy and front open sleeveless shirt)

1.4.2 Kangaroo positioning

- Baby should be placed between the mother's breasts in an upright position.
- Baby's head should be turned to one side and in a slightly extended position .This slightly extended head position keeps the airway open and allows eye to eye contact between the mother and her baby,
- Hips should be flexed and abducted in a "frog position", the arms should also be flexed.
- Baby's abdomen should be at the level of mother's epigastrium.) Mothers' breathing stimulates the baby thus reducing the occurrence of apnea.
- Baby's bottom should be supported with a sling /binder.

1.4.3 Monitoring

- Baby should be monitored for neck position (it should neither be too flexed nor too extended). Airway clearance, regular breathing, body colour and temperature.

1.4.4 Feeding

- Holding the baby near the breast stimulates milk production. The baby could be fed this expressed breast milk with palady, spoon, katori or nasogastric tube depending on the baby's condition.

1.4.5 Privacy

- KMC unavoidably requires some exposure on the part of mother. The hospital staff or family members should respect the mother's sensitivities in this regard.

1.5 Time of Initiation

KMC can be started as soon as the baby is stable. Babies with severe illnesses or those requiring special treatment should be managed according to the unit protocol.

1.6 Duration of KMC

- The length of skin-to-skin contact should be gradually increased up to 24 hours day.
- KMC should be continued at home.

1.7 Discharge Criteria

Criteria for transfer of the baby from nursery to ward includes:

- Stable condition of baby
- Weight gain
- Mother confident to look after the baby.

1.8 Discharge Criteria from hospital

The standard policy of the unit for discharge from the hospital should be followed. Generally the following criteria should be used for discharging the baby from the hospital:

- When baby's general health is good and there is no evidence of infection.
- Baby is feeding well.
- Baby's weight gain is at least 15-20gm/kg/day for at least 3 consecutive days.
- Baby is maintaining body temperature.
- Mother can continue KMC at home.