

**BHARTIYA SKILL DEVELOPMENT UNIVERSITY**

School of Health Care and Paramedics Skills

Session: 2021-22 Summer

B. Voc. Program, 5th Semester2nd In-Sem. Examination

Course Code: SHP1505

Time: 1 Hour

Course Name: Home & Chronic Care

Max. Marks: 20

Instructions:

1. **SECTION-A:** 05 objective type questions, each question carries 01 mark
2. **SECTION-B:** 03 short answer type questions, each question carries 02 marks
3. **SECTION-C:** 03 essay type questions, each question carries 03 marks.

SECTION-A**[5x1=Marks]**

1. **Glycosylated haemoglobin is determined to diagnose:**
 - a. Hypothyroidism
 - b. Gout
 - c. Diabetes mellitus
 - d. Diabetes insipidus
2. **Increase level of ketone bodies into diabetic ketoacidosis (DKA) occurs due to wrong oxidation of:**
 - a. Protein
 - b. Fat
 - c. Carbohydrate
 - d. Minerals
3. **All of the following are the clinical manifestation of diabetes mellitus, except:**
 - a. Hypoglycaemia
 - b. Glycosuria
 - c. Hyperglycaemia
 - d. Polyuria
4. **Which factors are present in sense of coherence?**
 - a. Meaningfulness
 - b. Manageability
 - c. Comprehensibility
 - d. All of above
5. **During physical examination the client's breaths having a "Fruity" odour would help you to suspect:**
 - a. Albuminuria
 - b. Acidity
 - c. Ketoacidosis
 - d. Proteinuria

SECTION-B**[3x2=6 Marks]**

- 1) Define diabetes mellitus. Write down the insulin therapy.
- 2) Define hypoglycemia. Write down the two health worker responsibilities during taking to the metformin drug.
- 3) Write down the four characteristics of chronic disease.



Registration No.:

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

SECTION-C

[3x3= 9 Marks]

- 1) Draw the chart of diagnosis of diabetes mellitus.
- 2) What do you mean by illness? Write down the difference between the meaningfulness and manageability.
- 3) Define health. Write down the "Ottawa charter health promotion".

K. Kowal

**BHARTIYA SKILL DEVELOPMENT UNIVERSITY**

School of Health Care and Paramedics Skills

Session: 2021-22 Summer

B. Voc. Program, 5th Semester2nd In-Sem. Examination

Course Code: SHP1505

Time: 1 Hour

Course Name: Home & Chronic Care

Max. Marks: 20

Instructions:

1. **SECTION-A:** 05 objective type questions, each question carries 01 mark
2. **SECTION-B:** 03 short answer type questions, each question carries 02 marks
3. **SECTION-C:** 03 essay type questions, each question carries 03 marks.

SECTION-A**[5x1=Marks]**

1. Glycosylated haemoglobin is determined to diagnose:
 - a. Hypothyroidism
 - b. Gout
 - c. **Diabetes mellitus**
 - d. Diabetes insipidus
2. Increase level of ketone bodies into diabetic ketoacidosis (DKA) occurs due to wrong oxidation of:
 - a. Protein
 - b. **Fat**
 - c. Carbohydrate
 - d. Minerals
3. All of the following are the clinical manifestation of diabetes mellitus, except:
 - a. **Hypoglycaemia**
 - b. Glycosuria
 - c. Hyperglycaemia
 - d. Polyuria
4. Which factors are present in sense of coherence?
 - a. Meaningfulness
 - b. Manageability
 - c. Comprehensibility
 - d. **All of above**
5. During physical examination the client's breaths having a "Fruity" odour would help you to suspect:
 - a. Albuminuria
 - b. Acidity
 - c. **Ketoacidosis**
 - d. Proteinuria

SECTION-B**[3x2=6 Marks]**

- 1) **Define diabetes mellitus. Write down the insulin therapy.**

Diabetes mellitus, commonly known as diabetes, is a metabolic disease that causes high blood sugar. The hormone insulin moves sugar from the blood into your cells to be stored or used for energy. With diabetes, your body either doesn't make enough insulin or can't effectively use the insulin it does make.

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Pharmacokinetic Profiles of Insulin Therapies

<i>INSULIN TYPE</i>	<i>ONSET</i>	<i>PEAK</i>	<i>DURATION</i>
Long-acting			
Detemir (Levemir)	3 to 4 hours	6 to 8 hours	6 to 23 hours
Glargine (Lantus)	90 minutes	None	24 hours
Intermediate-acting			
NPH (Humulin N)	1 to 2 hours	4 to 10 hours	14 or more hours
Short-acting			
Aspart (Novolog)	15 minutes	1 to 3 hours	3 to 5 hours
Glulisine (Apidra)	15 to 30 minutes	30 to 60 minutes	4 hours
Lispro (Humalog)	15 minutes	30 to 90 minutes	3 to 5 hours
Regular	30 to 60 minutes	2 to 4 hours	5 to 8 hours
Mixed*			
NPH/lispro or aspart	15 to 30 minutes	Dual	14 to 24 hours
NPH/regular	30 to 60 minutes	Dual	14 to 24 hours

- 2) Define hypoglycemia. Write down the two health worker responsibilities during taking to the metformin drug.

Hypoglycaemia is a condition in which your blood sugar (glucose) level is lower than normal. Glucose is your body's main energy source.

Hypoglycaemia is often related to diabetes treatment. But other drugs and a variety of conditions — many rare — can cause low blood sugar in people who don't have diabetes

Hypoglycaemia needs immediate treatment when blood sugar levels are low. For many people, a fasting blood sugar of 70 milligrams per deciliter (mg/dL), or 3.9 millimoles per liter (mmol/L), or below should serve as an alert for hypoglycaemia. But your numbers might be different. Ask your doctor.



BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Responsibilities:

- Before metformin tab check the LFT test because metformin is hepatotoxic drug
- All avoid oral hypoglycemic drug during pregnancy
- Also avoid alcohol during taking metformin tablet
- Metformin stops before 24hrs during plan contrast dye and after CT-Scan until 48hrs due to severe complication e.g.: diarrhea and lactic acidosis

3) Write down the four characteristics of chronic disease.

Characteristics of chronic diseases:

Chronic diseases are serious illnesses that may last the entire life of the person concerned. As already mentioned, they affect the psychological, emotional and social well-being of the person. In many cases they have a negative impact on the quality of life. The person affected needs support from the health care system on his way to coping with the disease. In the sense of the traject model, a trusting relationship should therefore be established between the caring nurse and the patient.

Long-lasting processes that cause different medical, psychological and social problems in different phases and require different coping strategies

- Changing, episodic phases, which require emotional, social and physical adjustment management for the affected person and his family
- Pain that may not be treatable - ways must be found to live with the pain
- Development of secondary medical and nursing problems caused by illness and/or therapy
- Fear and uncertainty that the disease will return, even in painless and symptom-free phases
- The chance to develop strengths, e.g. to promote family cohesion (Corbin 1994, 5ff)
- Over the years, chronic conditions can pass through several different phases (Corbin & Cherry, 1997; Strauss & Corbin, 1988).

SECTION-C

[3x3= 9 Marks]

1) Draw the chart of diagnosis of diabetes mellitus.

S. No.	Test	Normal	Prediabetic	Diabetic
1.	Fasting blood sugar	70-90 mg/dl	100 - 125 mg/dl	>126 mg/dl
2.	Post Prandial Blood Sugar Level	<140 mg/dl	140 - 199 mg/dl	>200 mg/dl
3.	Glucose Tolerance Test	< 140 mg/dl	140 - 199 mg/dl	>200 mg/dl
4.	HBA ₁ C	<6%	6% - 7 %	>7%

2) What do you mean by illness? Write down the difference between the meaningfulness and manageability.

Definition of illness:

Illness is the stage of imbalance between risk and protective factors that occurs when a person is unable to cope with internal (physical and psychological) and external (social and material) demands. Illness is a stage that causes a person to experience an impairment of his or her well-being and enjoyment of life. (see Hurrelmann 2006)



BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Both terms cannot be defined in purely medical terms and are subject to cultural and historical changes. There is also a difference in the view that patients and doctors have of illness and health

Illness is therefore not a biological constant, but a cultural value-based construct. Thus the term "impairment of well-being" has become established for restrictions of physical or mental well-being without an objectifiable medical value of the disease.

Manageability

This expresses the degree to which people are convinced that they can overcome challenges and problems with the available resources. Knowledge of your own resources. The ability to deal with events. A belief that you have the skills or ability, the support, the help, or the resources necessary to take care of things, and that things are manageable and within your control.

Meaningfulness

Looking behind the meaningfulness of life processes leads people to believe that their actions have a value regardless of the outcome. Meaningfulness of a coping attempt. The belief that all events have a meaning. This conviction makes it easier to accept what has happened. A belief that things in life are interesting and a source of satisfaction, that things are really worthwhile and that there is good reason or purpose to care about what happens.

- 3) Define health. Write down the "Ottawa charter health promotion".

In 1948 the WHO defined health as follows:

"Health is a state of complete mental, physical and social well-being and not merely the absence of disease or infirmity. To enjoy the best possible state of health is a fundamental right of every human being, without distinction of race, religion, political opinion, economic or social status".

Ottawa Charter for Health Promotion"

This quotation, with its approach to health promotion, forms the basis for the "Ottawa Charter for Health Promotion"¹, formulated in 1986. The charter offers an integration model in terms of content and methodology for the application and further development of various strategies in health information, health education, health education, health counselling, health self-help and preventive medicine. Its health policy model is also described as a reorientation from the prevention of diseases to the promotion of health. This requires new

priorities for action, in particular a strong orientation towards the political shaping of health-relevant factors and environmental conditions

**BHARTIYA SKILL DEVELOPMENT UNIVERSITY**

School of Health Care and Paramedics Skills

Session: 2021-22 Summer

B. Voc. Program, 5th Semester2nd In-Sem. Examination

Course Code: SHP1502

Time: 1 Hour

Course Name: Pregnancy and Birth

Max. Marks: 20

Instructions:

1. **SECTION-A:** 05 objective type questions, each question carries 01 mark
2. **SECTION-B:** 03 short answer type questions, each question carries 02 marks
3. **SECTION-C:** 03 essay type questions, each question carries 03 marks.

SECTION-A

[5x1=Marks]

1. In which part of female body a zygote develop:
 - a. Vagina
 - b. Fallopian tube
 - c. Ovaries
 - d. Uterus
2. Which hormone stimulates oocyte maturation?
 - a. GNRH
 - b. LH
 - c. LHRF
 - d. FSH
3. The shape of gynecoid or female pelvis brim is:
 - a. Round
 - b. Oval
 - c. Flat
 - d. Heart
4. In face presentation, the denominator is the:
 - a. Vertex
 - b. Frontal eminence
 - c. Mentum
 - d. Acromion
5. What is the positive sign of pregnancy?
 - a. Frequency of urination
 - b. Vomiting and backache
 - c. Braxton hicks contraction
 - d. Fetal outline by sonography

SECTION-B

[3x2=6 Marks]

- 1) Define decidua. Describe the four functions of placenta.
- 2) Write down four differences between the latent and transitional phase in first stage of labour.
- 3) Define amniotic fluid. Write down the four functions of amniotic fluids.

SECTION-C

[3x3= 9 Marks]

- 1) Explain the mechanism of labour.
- 2) Describe First and Second Leopold's maneuvers.
- 3) Explain the uterus and hematological physiological changes during pregnancy.



**BHARTIYA SKILL DEVELOPMENT UNIVERSITY**

School of Health Care and Paramedics Skills

Session: 2021-22 Summer

B. Voc. Program, 5th Semester2nd In-Sem. Examination

Course Code: SHP1502

Time: 1 Hour

Course Name: Pregnancy and Birth

Max. Marks: 20

Instructions:

1. **SECTION-A:** 05 objective type questions, each question carries 01 mark
2. **SECTION-B:** 03 short answer type questions, each question carries 02 marks
3. **SECTION-C:** 03 essay type questions, each question carries 03 marks.

SECTION-A**[5x1=Marks]**

1. In which part of female body a zygote develop:
 - a. Vagina
 - b. Fallopian tube
 - c. Ovaries
 - d. Uterus
2. Which hormone stimulates oocyte maturation?
 - a. GNRH
 - b. LH
 - c. LHRF
 - d. FSH
3. The shape of gynecoid or female pelvis brim is:
 - a. Round
 - b. Oval
 - c. Flat
 - d. Heart
4. In face presentation, the denominator is the:
 - a. Vertex
 - b. Frontal eminence
 - c. Mentum
 - d. Acromion
5. What is the positive sign of pregnancy?
 - a. Frequency of urination
 - b. Vomiting and backache
 - c. Braxton hicks contraction
 - d. Fetal outline by sonography

SECTION-B**[3x2=6 Marks]**

- 1) Define decidua. Describe the four functions of placenta.

The decidua is the endometrium of the pregnant uterus. It is so named much of it is shed following delivery.

Decidua Reaction: The increased structured and secretory activity of the endometrium that is brought about in response to progesterone following implantation is known as decidual reaction.

Placental Function:

1. **Nutrition-** The fetus needs the some nutrients as anyone else, amino acids are required for body building. glucose for energy, calcium and phosphorous for bones and teeth and iron and other

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

minerals for blood formation. All the nutrients are selected by the placenta from the maternal blood.

2. **Excretion** - In intrauterine life, very little amount of waste products are produced. The main substances are excreted from the fetus is CO₂, Bilirubin, Uria, Uric acid are excreted to the maternal blood by simple diffusion.
3. **Respiration** - In intrauterine life lungs don't exchanges gases. There is no gaseous exchange intake of O₂ output of CO₂ take from mother's haemoglobin by simple diffusion.
4. **Barrier**- Placenta provide protection from infection. Towards the end of pregnancy small antibodies, immunoglobulins IgG will be transfer to the fetus and provides immunity for about 3 months on the newborn baby after the birth.
5. **Endocrine**- The placenta provide many hormone such as HCG by the cytotrophoblastic layer of the chorionic villi 7th and 10th weeks and gradually reduces as the pregnancy advances. HCG is excreted in the mother's urine as is the pregnancy test. Oestrogen, Progesterone and HPL (Human Placental Lactogen) and HPL helps in glucose metabolism.
6. **Storage**- The placenta metabolism glucose stores it in the form of glycogen and reconverts it to glucose as required the placenta can also store iron and the fat soluble vitamin's.

- 2) Write down four differences between the latent and transitional phase in first stage of labour.

Latent Phase-

- The latent phase of labor begins with the onset of true labor. contractions which are usually mild.
- During this phase, contractions may be 15-20 min a part lasting 20-30 seconds.
- As this phase progresses, however, the contraction will occurs every 5-7 min. and the duration will length to 30-40 sec.
- This phase usually begins with the little or no cervical dilation and ends when the cervix is 3-4 cm dilated. for the primigravida, the latent phase lasts an average of 9hr. where as in the multigravida, latent phase generally lasts an average of 5hr. Although the women may exhibit some anxiety during this phase she often is comfortable enough to verbalize her concern.

Transition Phase-

- The last and shortest part of the first phase of labour is transition, which typically is the most intense phase for the laboring woman.
- In transition, contraction occurs every 2-3 min. lasting 60-90 seconds.
- The intensity of contractions is very strong in the transition phase.
- The woman often becomes restlessness and agitated, may have difficulty focusing during contractions.
- During this time nurse will need to prepare the woman for the second stage of labor. The average length of transition phase is 2 hr in primigravida and 1 hr in multigravida.



BHARTIYA SKILL DEVELOPMENT UNIVERSITY

3) Define amniotic fluid. Write down the four functions of amniotic fluids.

Origin of amniotic fluid:

The precise origin of the liquor amnii still not well understood. It is probable of mixed maternal and fetal origin.

Function of amniotic fluid:

Its main function is to protect the fetus

During Pregnancy:

- It acts as a shock absorber, protecting the fetus from possible extraneous injury.
- Maintains an even temperature
- The amniotic sac and thereby allows for growth and free movement of the fetus.
- Its provide nutritive of small amount of protein and salt content and water supply to the fetus is quite adequate.

During Labour:

- The amnion and chorion are combined to form a hydrostatic wedge, which help in dilatation of the cervix.
- It flushes the birth canal at the end of first stage of labour and by its aseptic and bactericidal action protects the fetus and prevents ascending infection to the uterine cavity.

SECTION-C

[3x3= 9 Marks]

1) Explain the mechanism of labour.

1. Engagement:

The mechanism by which the biparetal diameter, the greatest transverse diameter of the fetal head in vertex presentation passes through the pelvic inlet is known as engagement. The fetal head may engage during the last few weeks of pregnancy (Primigravida) or during labor (Mutipara).

2. Descent:

It should be understood that throughout the first and second stage of labor, there is more or continues movement of decent for birth of the newborn. In primigravida where engagement usually occurs before the onset of labor, decent may occurs in the second stage. In mutipara, decent usually occurs with engagement in labor.

3. Flexion:

- When the head is fully flexed, the small suboccipitobregmatic diameter 9.5cm engage.
- Presenting diameter is suboccipito frontal 10cm in occipito anterior presentation with slight deflexion, while it is even larger occipitofrontal (11cm) in complete deflexion as seen in occipito posterior presentation.
- Although some degree of flexion of the head is seen at the beginning of labor, full flexion occurs when the descending head meets resistance from the cervix walls of pelvis and pelvic floor during descent.



BHARTIYA SKILL DEVELOPMENT UNIVERSITY

4. Internal Rotation:

- Internal rotation brings the anteroposterior diameter of the fetal head in to alignment with the anteroposterior diameter of the maternal pelvis.
- This is accomplished by rotation of the occiput to the anterior portion of the maternal pelvis during contraction, the leading part (Occiput) is driven downwards on to pelvic floor.
- The slope of the pelvic floor determines the direction of the rotation. In a well flexed vertex presentation, the occiput leads and meets the pelvic floor first and rotates anteriorly through $1/8^{\text{th}}$ of a circle (45°) this causes a slight twist in the neck of the fetus (45°) as the head is no longer in direct alignment with the shoulders.
- As the fetal head now lies in the widest (Anteroposterior) diameter of the pelvic outlet, an easy escape is facilitated the occiput slips under the pubic arch and crowning occurs when the head no longer recedes between contraction and the widest transverse diameter (Biparital) in born.

5. Crowning:

After internal rotation of the head further descent occurs until the subocciput lies underneath the pubic arch at this stage the maximum diameter of the head (Biparietal Diameter) stretches the vulval outlet without any recession of the head even after the contraction is over called crowning of the head.

6. Extension:

Delivery of the head takes place by extension through "Couple of Force" theory. The driving force pushes the head in a downward direction while the pelvic floor offers a resistance in the upward and forward direction. The downward and upward forces neutralise and remaining forward thrust helping in extension. The successive parts of the fetal head to be born through the stretched vulval outlet are vertex, brow and face. Immediately following the release of the chin through the anterior margin of the stretched perineum, the head drops down, bringing the chin in close proximity to the maternal anal opening.

7. Restitution:

It is the visible passive movement of the head due to untwisting of the neck sustained during internal rotation. Movement of restitution occurs rotation the head through $1/8^{\text{th}}$ of a circle in the direction opposite to that of internal rotation. The occiput thus points to the maternal thigh of the corresponding side to which it originally lay.

8. External Rotation:

It is the movement of rotation of the head visible externally due to internal rotation of the shoulders. As the anterior shoulder rotates towards the symphysis pubic from the oblique diameter, it carries the head in a movement of external rotation through $1/8^{\text{th}}$ of a circle in the same direction as restitution. The shoulders now lie in the antero-posterior diameter. The occiput points directly towards the maternal thigh corresponding to the side to which it originally directed at the time of engagement.

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

2) Describe First and Second Leopold's maneuvers.

A. First Maneuver (Fundal Palpation): Situation

- Both hand place on whole fundal area and find which fetal part lying in fundus (Presentation).
- Examiner should face to mother face.
- Feeling of broad, irregular soft mass in fundus, suggest broad (Buttocks) presentation.
- Smooth, hard and globular mass, suggest head (Vertex) presentation.
- In transverse lie fundal area found empty.

B. Second Maneuver (Lateral Palpation): Position

- Continue to face the women's head. place your hand on both sides of the uterus about midway between the symphysis pubis and the fundus.
- Apply firm gently pressure with one hand against the side of the uterus. There by pushing the fetus to the other side of the abdomen and with your examining hand stabilizing if there. Maintaining pressure on one side, palpate the other side of the uterus.
- Both hand place either side of umbilicus to palpate the position of back, limb and the anterior shoulder.
- With the examining hand, palpate the entire area from the abdominal midline to the lateral side and from the symphysis to the fundus. use firm, smooth pressure and rotary movement.

3) Explain the uterus and hematological physiological changes during pregnancy.

Uterus:

There is enormous growth of the uterus during pregnancy. The uterus which is non-pregnant state weighs about 60gm and measures about 7.5 cm in length. At term, weight 900-1000 gm and measure 35 cm in length.

Body of the uterus: There is increase in growth and enlargement of the body of the uterus.

Enlargement of the uterus is affected by the following factors:

Changes in the muscles:

Hypertrophy and Hyperplasia

Stretching - The muscle fiber further elongate beyond 20weeks due to distension by the growing foetus.

Arrangement of the muscle fibres:

Outer longitudinal it follows a hood like arrangement over the fundus, some fibre increases in length and bread but there is limited addition of new muscle fibres.

Inner circular it is scanty and have sphincter like arrangement around the tubal orifices and internal os.

Intermediate it is the thickest and strongest layer arranged in criss-cross fashion through which the blood vessels run. Apposition of two double curve muscle fibres give the figure of "8" form.



BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Weight: The increase in weight is due to the increased growth of the uterine muscles, connective tissue and vascular channels.

Shape: Non-pregnant pyriform shape is maintained in early months. It becomes globular at 12th weeks. As the uterus enlarges, the shape once more becomes pyriform or ovoid by 28th weeks and changes to spherical beyond 36th weeks.

Contraction (Braxton-Hicks): The contractions are irregular, infrequent, spasmodic and painless without any effect on dilatation of the cervix.

Isthmus-

During the first trimester, isthmus hypertrophies and elongates to about 3 times its original length. It becomes softer. With advancing pregnancy beyond 12 weeks, it progressively unfolds from above, downwards until it is incorporated into the uterine cavity. The circularly arranged muscle fibres in the region function as a sphincter in early pregnancy and thus help to retain the fetus within the uterus. Incompetency of the sphincteric action leads to mid trimester absorption and the encircling operation done to rectify the defect is based on the principle of restoration of the function of the isthmus.

Haematological Changes

Blood Volume: During pregnancy there is increased vascularity of the enlarging uterus with the interposition of utero-placental circulation. The activities of all the systems are increased. Blood volume is markedly raised during pregnancy. The blood volume starts to increase from about 6th week, expands rapidly thereafter to maximum 40-50% above the non-pregnant level at 30-32 weeks.

Plasma Volume: It starts to increase by 6 weeks and it plateaus at 30 weeks gestation. Total plasma volume increases to the extent of 1.25 lit.

RBC and Haemoglobin: The RBC mass is increased to the extent of 20-30%. This increase is regulated by the increased demand of oxygen transport during pregnancy. The disproportionate increase in plasma and RBC volume produces a state of haemodilution during pregnancy. The total haemoglobin mass increases during pregnancy to the extent of 18-20%.

Leucocytes and Immune System: Neutrophilic leucocytes increase to the extent of 10-15000/cu.mm and even to 20000/cu.mm in labour. The increase may be due to rise in the levels of oestrogen and cortisol. The major changes are in the immune system.

Total Protein: Total plasma protein increases from the normal 180gm (Non-pregnant) to 230gm at term.

Blood Coagulation Factors: Pregnancy is a hypercoagulable state. Fibrinogen level is raised. Level of coagulation factors normalise.

K. K. K.

**BHARTIYA SKILL DEVELOPMENT UNIVERSITY**

School of Health Care and Paramedics Skills

Session: 2021-22 Summer

B. Voc. Program, 5th Semester2nd In-Sem. Examination

Course Code: SHP1503

Time: 1 Hour

Course Name: Skin & Wound Management

Max. Marks: 20

Instructions:

1. **SECTION-A:** 05 objective type questions, each question carries 01 mark
2. **SECTION-B:** 03 short answer type questions, each question carries 02 marks
3. **SECTION-C:** 03 essay type questions, each question carries 03 marks.

SECTION-A**[5x1=Marks]**

1. Pigment which gives colour to skin & hairs is:
 - a. Collagen
 - b. Keratin
 - c. Melanin
 - d. Prolactin
2. The patient has a pressure sore on the back of her right hip and the bone is exposed. This pressure sore is in:
 - a. Stage I
 - b. Stage II
 - c. Stage III
 - d. Stage IV
3. In the wound healing process, the formation of granulation tissue occurs in the:
 - a. Inflammatory phase
 - b. Proliferative phase
 - c. Homeostasis
 - d. Maturation phase
4. The sources of wound infection are:
 - a. Poor hygiene in nurses or patients
 - b. Infected droplets from mouths and noses
 - c. Cross infection from other wounds
 - d. All of above
5. For cleaning the pus of wound following can be used:
 - a. H₂O
 - b. H₂O₂
 - c. H₂O₃
 - d. None of these

SECTION-B**[3x2=6 Marks]**

- 1) Write down the four differences between the acute and chronic wound.
- 2) What do you mean by gas gangrene?
- 3) Define cellulites. Write down the four symptoms of cellulites.



Registration No.:

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

SECTION-C

[3x3= 9 Marks]

- 1) Explain the three causes of diabetic foot.
- 2) Describe the three six intrinsic factors of decubitus ulcer.
- 3) What do you understand by **SCORATES** (Pain Assessment)?

K. Kaur

**BHARTIYA SKILL DEVELOPMENT UNIVERSITY**

School of Health Care and Paramedics Skills

Session: 2021-22 Summer

B. Voc. Program, 5th Semester2nd In-Sem. Examination

Course Code: SHP1503

Time: 1 Hour

Course Name: Skin & Wound Management

Max. Marks: 20

Instructions:

1. **SECTION-A:** 05 objective type questions, each question carries 01 mark
2. **SECTION-B:** 03 short answer type questions, each question carries 02 marks
3. **SECTION-C:** 03 essay type questions, each question carries 03 marks.

SECTION-A

[5x1=Marks]

1. Pigment which gives colour to skin & hairs is:
 - a. Collagen
 - b. Keratin
 - c. **Melanin**
 - d. Prolactin
2. The patient has a pressure sore on the back of her right hip and the bone is exposed. This pressure sore is in:
 - a. Stage I
 - b. Stage II
 - c. Stage III
 - d. **Stage IV**
3. In the wound healing process, the formation of granulation tissue occurs in the:
 - a. Inflammatory phase
 - b. **Proliferative phase**
 - c. Homeostasis
 - d. Maturation phase
4. The sources of wound infection are:
 - a. Poor hygiene in nurses or patients
 - b. Infected droplets from mouths and noses
 - c. Cross infection from other wounds
 - d. **All of above**
5. For cleaning the pus of wound following can be used:
 - a. H₂O
 - b. **H₂O₂**
 - c. H₂O₃
 - d. None of these

SECTION-B

[3x2=6 Marks]

- 1) Write down the four differences between the acute and chronic wound.

Acute and chronic wounds

A wound is a tissue cut or destruction of the skin, mucous membrane or organs, usually caused by external influences. Wounds can be inflicted externally by violence or can occur as a result of illness. Externally inflicted wounds are e.g. accidental injuries, but also specific surgical wounds. Illness-related wounds include ulcers, for example, which are caused by a lack of blood circulation. A further

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

distinguishing factor is the duration of wound healing. A distinction is made here between acute wounds and chronic wounds. For the treatment of a wound, the cause of the wound is important.

Acute wounds: Definition and classification

The healing of acute wounds usually takes less than 3 weeks. These include:

traumatic wounds like mechanical injuries & thermal injuries iatrogenic wounds Traumatic wounds are caused by external force and represent a major part of the accident injuries. These include mechanical injuries such as abrasions, cuts and punctures, lacerations, crushes and lacerations, deflexions, amputations, bites and blisters, and thermal injuries such as burns, frostbite and electrical injuries. Chemical injuries such as acid or alkali burns, and radiation damage also belong to the group of traumatic wounds.

Iatrogenic wounds occur during surgical, diagnostic or other therapeutic procedures. These include incisions, split skin removal and amputations.

Chronic wounds: Definition and classification

A chronic wound is present if a wound shows no clear signs of healing within 8 to 12 weeks despite causal and appropriate local treatment. Wound healing in chronic wounds usually takes longer than 3 months. Chronic wounds include

leg ulcer

Diabetic foot syndrome

Decubitus

Secondary wound healing disorder

Chronic wounds are usually the result of an underlying disease. Various risk factors and lifestyles favour the development of such a disease and increase the risk of developing a chronic wound. These include smoking, obesity, lack of exercise, malnutrition, malnutrition (overweight people can also be malnourished if the diet is very unbalanced and unbalanced), immobility of the patient and immune deficiencies. The chronification of a wound depends on many different factors. The cause is usually a primary disease. Most diseases are based on a circulatory disorder, from which various wound situations arise.

2) What do you mean by gas gangrene?

Gas gangrene

Gas gangrene is a life-threatening infection of muscle tissue caused mainly by the anaerobic bacterium *Clostridium perfringens* and several other *Clostridia* species. Gas gangrene is a rapidly spreading clostridial infection of the muscle tissue which, if untreated, quickly leads to death. Most *Clostridium* infections of soft tissue, including gas gangrene, are caused by *Clostridium perfringens*. Clostridial infections of the soft tissues usually develop hours or days after an injury, but sometimes it can take several days before they become noticeable. Sometimes the bacteria in the soft tissue produce large amounts of gas as a waste product. The gas can form bubbles and bulges in the tissue. The infection often blocks small blood vessels. As a result, the infected tissue dies and gangrene or gas gangrene forms. The dead tissue allows the *Clostridium* infection to spread even faster

3) Define cellulites. Write down the four symptoms of cellulites.

Cellulites

Cellulitis is a common, potentially serious bacterial skin infection. The affected skin appears swollen and red and is typically painful and warm to the touch. Cellulitis usually affects the skin on the lower legs, but it can occur in the face, arms and other areas. It occurs when a crack or break in your skin allows bacteria to enter.



BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Symptoms

Possible signs and symptoms of cellulitis, which usually occur on one side of the body, include: Red area of skin that tends to expand

- swelling
- tenderness
- pain
- warmth
- fever
- red spots
- blisters
- skin dimpling

SECTION-C

[3x3= 9 Marks]

1) Explain the three causes of diabetic foot.

Causes of diabetic foot:

uncontrolled blood sugar levels:

When sugar levels are high, the person is more prone for infections as sugar is a good medium for growth of bacteria due to which infections occur rapidly. Hence it is of prime importance to keep your blood sugar levels under control and avoid diabetes related complications.

vasculopathy:

Diabetes affects blood vessels thereby decreasing the lumen. This in turn decreases blood supply and absence of proper blood supply delays wound healing, necrosis and gangrene of the foot finally leading to amputations if prompt medical intervention is not provided.

peripheral neuropathy:

Diabetic neuropathy is one of the most important and commonest causes of diabetic foot. 60 to 70% of diabetics suffer from neuropathy, many of which are asymptomatic. Diabetes affects nerves resulting in loss of sensations as a result of which patients do not feel the pain of minor wounds and tend to ignore minor infections, ulcers and pus formations which add to the problem which could finally lead to the limb being amputated.

2) Describe the three six intrinsic factors of decubitus ulcer.

Intrinsic factors

a) **Reduced mobility / immobility**

Reduced mobility is understood to be an illness-related, limited mobility. It is one of the most important, if not the most important, risk factor for the development of a pressure sore. As a result of greatly reduced mobility, it is often not possible or only insufficiently possible for the patient to change his or her position while sitting or lying down. He cannot counteract the pressure on certain parts of the body. In addition to these effects of immobility, there is also poor lung ventilation, slower digestion, stiffening of the joints, loss of skeletal muscle tone, etc. But the psyche of a patient is also severely affected by immobility. Such patients are often prone to depressive moods, which in turn promote and reinforce immobility.



BHARTIYA SKILL DEVELOPMENT UNIVERSITY

b) Age

The age of a patient is of great importance in determining the degree of risk of decubitus. The skin of older people shows changes in its structure: this results in greater vulnerability.

Older people usually suffer from underlying diseases that can have a negative impact on the risk of pressure sores.

Overall, there is often a reduced general condition.

Mobility is often restricted by age.

This group of people usually drinks too little and is therefore often dehydrated.

c) Malnutrition

Malnutrition leads to a reduced general condition, tiredness, exhaustion and weakness. This ultimately also promotes the immobility of a patient. In the case of already existing pressure sores, it also delays the process of wound healing.

d) Dehydration - exsiccosis

Patients in reduced general condition often drink too little. The lack of liquid in the body causes the skin to dry out. Besides this effect, such exsiccosis also leads to changes in mental abilities. The patients are clouded and articulate themselves in a way that is unusual for them. Various factors contribute to this. On the one hand, the sensation of thirst diminishes with age, i.e. the elderly person does not notice that he or she has a lack of fluids. On the other hand, in old age the kidneys tend to be activated at night, which explains the frequent need to urinate at night. Of course, this fact is perceived as annoying and drinking is therefore often restricted. Incontinence also increases the desire to drink even less. Without the knowledge of these interrelationships, the elderly person therefore often brings himself into the fatal state of fluid deficiency.

e) Incontinence

Incontinence is the inability to excrete urine or stool in a controlled manner. Although a Patient is provided with incontinence articles such as pads/pants in such a case, stool, urine and bacteria have a permanent effect on the skin. Skin damage is the result.

f) Metabolic and neurological diseases

The effects and complications of existing underlying diseases, such as diabetes mellitus or stroke (apoplexy), can promote the development of pressure sores. The late complications of diabetes mellitus are nervous disorders (neuropathies), vascular diseases (diabetic macro- and microangiopathies), pathological changes in the kidneys (nephropathies) and changes in the ocular fundus (retinopathies). Neuropathies often lead to reduced pain sensation, i.e. pain caused by pressure is not perceived by the patient. There are no movements that lead to pressure relief. Diabetic macro- and microangiopathy cause reduced blood circulation. If blood vessels are additionally compressed from the outside when blood flow is already reduced, the death of the corresponding cells is inevitable. But also, the wound healing of already existing pressure ulcers is extremely protracted and complicated due to the poor blood supply. The symptoms of a stroke can, according to its ethology (origin), be signs of sensitivity and paralysis. The sensitivity disorders lead to reduced stimulus transmission. In turn, pressure can be perceived poorly or not at all. The one-sided paralysis (paresis) considerably reduces the mobility of the resident. The affected sides of the body are often negated, i.e. the resident no longer sees this side of the body as belonging to him. Here, too, the underlying disease poses a considerably increased risk of pressure sores.



BHARTIYA SKILL DEVELOPMENT UNIVERSITY

g) Infections

Infections have a negative effect on the metabolism and weaken the body's own defences and thus also the general condition of the patient. In addition, infection patients develop fever, which in turn leads to increased sweating. The resulting moisture softens the skin and reduces its resistance.

3) What do you understand by **SCORATES** (Pain Assessment)?

SOCRATES (pain assessment)

SOCRATES is a mnemonic acronym used by emergency medical services, doctors, nurses and other health professionals to evaluate the nature of pain that a patient is experiencing.

Site – Where is the pain? Or the maximal site of the pain.

Onset – When did the pain start, and was it sudden or gradual? Include also whether it is progressive or regressive.

Character – What is the pain like? An ache? Stabbing?

Radiation – Does the pain radiate anywhere?

Associations – Any other signs or symptoms associated with the pain?

Time course – Does the pain follow any pattern?

Exacerbating/relieving factors – Does anything change the pain?

Severity – How bad is the pain?

K. Kocum

