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DEPARTMENT: NURSING

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LEVEL: 200

1.Briefly discuss the cyclic changes in any two of the following;

a) CERVIX: The mucus changes rhythmically throughout the cycle in reponse to ovarian function. Between the post menstrual and the mid cycle phase the quantity of mucus increases ten times and the maximum at mid cycle precedes the rise in basal temperature by 1 to 3 days. At this time, the mucus is very elastic, showing maximum spinnarkeit and sperm will penetrate readily. The secretion of cervical mucus is stimulated by oestrogen and inhibited by progesterone.

b) VAGINA: The vagina epithelium is subject to normal,cyclic changes, that are influenced y estrogen: with increasing circulating levels of the hormone, there is proliferation of epithelial cells along with an increase in the number of cell layers.As cells proliferate and mature, they undergo partial cornification.Although hormone induced changes occur in the other tissues and organs of the female reproductive system, the vaginal epithelium is more sensitive and its structure is an indicator of estrogen levels. Some [Langerhans cells](https://en.wikipedia.org/wiki/Langerhans_cell) and [melanocytes](https://en.wikipedia.org/wiki/Melanocyte) are also present in the epithelium.The epithelium of the [ectocervix](https://en.wikipedia.org/wiki/Ectocervix) is contiguous with that of the vagina, possessing the same properties and function. The vaginal epithelium is divided into layers of cells, including the [basal cells](https://en.wikipedia.org/wiki/Stratum_basale), the parabasal cells, the superficial [squamous flat cells](https://en.wikipedia.org/wiki/Squamous_cell), and the intermediate cells. The superficial cells [exfoliate](https://en.wikipedia.org/wiki/Exfoliation_corrosion#Exfoliation) continuously and basal cells replace the superficial cells that die and slough off from the stratum corneum Under the stratus corneum is the [stratum granulosum](https://en.wikipedia.org/wiki/Stratum_granulosum) and [stratum spinosum](https://en.wikipedia.org/wiki/Stratum_spinosum). The cells of the vaginal epithelium retain a usually high level of glycogen compared to other epithelial tissue in the body. The surface patterns on the cells themselves are circular and arranged in longitudinal rows.The epithelial cells of the uterus possess some of the same characteristics of the vaginal epithelium



2. explicate any one of the following

1. Menstrual cycle: The **menstrual cycle** is the regular natural change that occurs in the [female reproductive system](https://en.wikipedia.org/wiki/Female_reproductive_system) (specifically the [uterus](https://en.wikipedia.org/wiki/Uterus) and [ovaries](https://en.wikipedia.org/wiki/Ovary)) that makes [pregnancy](https://en.wikipedia.org/wiki/Pregnancy) possible. The cycle is required for the production of [oocytes](https://en.wikipedia.org/wiki/Oocyte), and for the preparation of the uterus for pregnancy.The menstrual cycle occurs due to the rise and fall of [estrogen](https://en.wikipedia.org/wiki/Estrogen). This cycle results in the thickening of the lining of the uterus, and the growth of an [egg](https://en.wikipedia.org/wiki/Ovum), (which is required for pregnancy).The egg is released from an ovary around day fourteen in the cycle; the thickened lining of the uterus provides [nutrients](https://en.wikipedia.org/wiki/Nutrient) to an embryo after [implantation](https://en.wikipedia.org/wiki/Implantation_(human_embryo)). If pregnancy does not occur, the lining is released in what is known as [menstruation](https://en.wikipedia.org/wiki/Menstruation).

Up to 80% of women report having some symptoms during the one to two weeks prior to menstruation.Common symptoms include [acne](https://en.wikipedia.org/wiki/Acne_vulgaris), tender breasts, bloating, feeling tired, irritability and mood changes.These symptoms interfere with normal life and therefore qualify as [premenstrual syndrome](https://en.wikipedia.org/wiki/Premenstrual_syndrome) in 20 to 30% of women. In 3 to 8%, they are severe.

The first period usually begins between twelve and fifteen years of age, a point in time known as [menarche](https://en.wikipedia.org/wiki/Menarche).They may occasionally start as early as eight, and this onset may still be normal. The average age of the first period is generally later in the [developing world](https://en.wikipedia.org/wiki/Developing_world) and earlier in [developed world](https://en.wikipedia.org/wiki/Developed_world). The typical length of time between the first day of one period and the first day of the next is 21 to 45 days in young women and 21 to 35 days in adults (an average of 28 days). Menstruation stops occurring after [menopause](https://en.wikipedia.org/wiki/Menopause) which usually occurs between 45 and 55 years of age. Bleeding usually lasts around 3 to 7 days.

The menstrual cycle is governed by hormonal changes. These changes can be altered by using [hormonal birth control](https://en.wikipedia.org/wiki/Hormonal_birth_control) to prevent pregnancy. Each cycle can be divided into three phases based on events in the ovary (ovarian cycle) or in the uterus (uterine cycle).The ovarian cycle consists of the [follicular phase](https://en.wikipedia.org/wiki/Follicular_phase), [ovulation](https://en.wikipedia.org/wiki/Ovulation), and [luteal phase](https://en.wikipedia.org/wiki/Luteal_phase) whereas the uterine cycle is divided into [menstruation](https://en.wikipedia.org/wiki/Menstruation), proliferative phase, and secretory phase.

Stimulated by gradually increasing amounts of [estrogen](https://en.wikipedia.org/wiki/Estrogen) in the follicular phase, discharges of blood (menses) flow stop, and the [lining](https://en.wikipedia.org/wiki/Endometrium) of the uterus thickens. [Follicles](https://en.wikipedia.org/wiki/Ovarian_follicle) in the ovary begin developing under the influence of a complex interplay of hormones, and after several days one or occasionally two become dominant (non-dominant follicles shrink and die). Approximately mid-cycle, 24–36 hours after the [luteinizing hormone](https://en.wikipedia.org/wiki/Luteinizing_hormone) (LH) surges, the dominant follicle releases an [ovocyte](https://en.wikipedia.org/wiki/Ovocyte), in an event called ovulation. After ovulation, the ovocyte only lives for 24 hours or less without fertilization while the remains of the dominant follicle in the ovary become a [corpus luteum](https://en.wikipedia.org/wiki/Corpus_luteum); this body has a primary function of producing large amounts of [progesterone](https://en.wikipedia.org/wiki/Progesterone). Under the influence of progesterone, the [uterine lining](https://en.wikipedia.org/wiki/Endometrium) changes to prepare for potential [implantation](https://en.wikipedia.org/wiki/Implantation_(human_embryo)) of an embryo to establish a pregnancy. If implantation does not occur within approximately two weeks, the corpus luteum will involute, causing a sharp drop in levels of both progesterone and estrogen. The hormone drop causes the uterus to shed its lining in a process termed menstruation.

