



Committed to developing "Conscientious, Confident & Caring quality nursing professionals"
MAHARSHI KARVE STREE SHIKSHAN SAMSTHA'S

Smt. Bakul Tambat Institute of Nursing Education

(Affiliated to MSBNPE, MNC, MUHS & INC, NAAC Accredited) 'A' Grade



Criterion II - Teaching, Learning and Evaluation (2024-2025)

2.5 – Evaluation process and reforms

2.5.4-Retest and answer sheets

MAHARSHI KARVE STREE SHIKSHAN SAMSTHA'S
SMT. BAKUL TAMBAT INSTITUTE OF NURSING EDUCATION
First Year B.Sc. Nursing (Semester-I) Examination, 2024
Class test-II Examination

Applied Anatomy & Applied Physiology

Time: 09.00 a.m. – 12.00 p.m.
Time duration- Three hours

Date: 18/12/2024
Marks: 75

-
- Instructions:**
1. Use *blue/black ball point pen only*.
 2. Do not write anything on the blank portion of the question paper. If written anything, such type of act will be considered as an attempt to resort to unfair means.
 3. All questions are compulsory.
 4. The number to the right indicates full marks.
 5. Draw diagrams wherever necessary.
 6. Distribution of syllabus in Question Paper is only meant to cover entire syllabus within the stipulated frame. The Question Paper pattern is a mere guideline. Questions can be asked from any paper's syllabus into any question paper. Students cannot claim that the Question is out of syllabus. As it is only for the placement sake, the distribution has been done.
 7. Use a common answer book for all Sections.

SECTION "A" (MCQ)

Q. 1 Multiple Choice Questions:

(13x1=13)

1. The opposite of supination is⁰
 - a) Adduction
 - b) Medial rotation
 - c) Abduction
 - d) Pronation
2. The following cell organelle is known as the powerhouse of the cell⁰
 - a) Nucleus
 - b) Mitochondrion
 - c) Nucleolus
 - d) Lysosome

3. Ductless glands are said to be
 - a) Endocrine
 - b) Apocrine
 - c) Exocrine
 - d) Merocrine
4. Vomer forms part of
 - a) Lateral wall of nose
 - b) Columella
 - c) Nasal septum
 - d) Ala of nose
5. Right lung has
 - a) 2 lobes and 2 fissures on
 - b) 3 lobes and 2 fissures
 - c) 2 lobes and 1 fissure
 - d) 3 lobes and 1 fissure
6. All the following are types of white blood cells, EXCEPT
 - a) Neutrophils
 - b) Basophils
 - c) Eosinophils
 - d) Platelets
7. Anemia can occur due to all the following, EXCEPT
 - a) Low thyroid hormones
 - b) Low androgen
 - c) Low cortisol
 - d) Adequate intake of iron
8. The following is not true about the pituitary gland:
 - a) It is in the Sella turcica
 - b) The sphenoid (air) sinus is below it
 - c) Cavernous sinus flows on either side
 - d) It weighs around 100 grams only
9. The following is not true about the pineal gland:
 - a) Pineal gland produces melatonin
 - b) It does not help in the formation of melanin
 - c) It regulates the sleep-wake-up cycle

d) It has inhibitory control over pituitary and other endocrine organs

10. The axial skeleton consists of all the following, EXCEPT

- a) The skull
- b) The vertebrae
- c) Sternum
- d) Patella

11. External ear is called:

- a) Pinna
- b) Cerumen
- c) Tragus
- d) Helix

12. All arteries in the body carry oxygenated blood, EXCEPT

- a) Hepatic arteries.
- b) Pulmonary arteries.
- c) Renal arteries.
- d) Coronary arteries.

13. Muscle turning the eyeball downwards and laterally is

- a) Superior oblique.
- b) Inferior oblique.
- c) Superior rectus.
- d) Inferior rectus.

SECTION "B" Applied Anatomy (31 marks)

Q.2. Long answer question (any one out of two)

(1x10=10)

a) Describe uterus under following:

- i. Gross structure of uterus with well labelled diagram. **(3)**
- ii. Describe the support of uterus and its blood supply. **(5)**
- iii. Applied anatomy. **(2)**

b) Describe stomach, gross structure, relations and applied anatomy. **(10)**

Q.3. Short answer question (any 2 out of three)

(3x5=15)

- a) Structure of skin
- b) Structure of thyroid gland.
- c) External features of kidney.
- d) Name the chambers of the heart and elaborate the openings in the right atrium.

Q. 4. Very short answer question (any 3 out of 4)

(3x2=06)

- a) Stroke volume
- b) List down type of connective tissue.
- c) List down type of joints.
- d) Applied anatomy of lung.

SECTION "C" Applied Physiology" (31 marks)

Q.5. Long answer question (any one out of two)

(1x10=10)

- a) i) Describe phases of menstrual cycle.
ii) Discuss the hormonal control of menstrual cycle.
- b) Explain the physiology of pulmonary ventilation and relate compliance and airway resistance to it.

Q.6. Short answer question (any 3 out of 4)

(3x5=15)

- a) Describe the functions of the hypothalamus
- b) Composition and functions of saliva
- c) Conducting system of heart.
- d) Describe different types of blood cells and their functions.

Q.7. Very short answer question (any 3 out of 5)

(3x2=06)

- a) Stroke volume
- b) Thermoregulation
- c) Describe the cell membrane in brief
- d) Types of tissue
- e) Enumerate the functions of blood.

*Make changes
Add color in stems*

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Student's Name : Gawale Sandhyarani Ahondiba

Year 1st Semester 2024-25 Roll No. 18

Subject Applied Anatomy and Applied Physiology Section A, B and C

Exam. CLASS test II Date 18/12/2024

No. of supplement $\boxed{1} + \boxed{0} = \boxed{1}$

Supervisor's signature [Signature]

Q.	a	b	c	d	e	f	g	Total
Q.1								9
Q.2	-	5						5
Q.3	-	1.5	3					4.5
Q.4	-	3.5	1	1				5.5
Q.5	6	-						6
Q.6	-	2	2					4
Evaluator's signature	1			1	2			Grand total 4

Q. 7

Start writing from here

$\frac{38}{75}$ *Suppl.*

Section - A (MCA)

Q. 1.

1. option (d) = ~~Pronation~~
2. option (b) = ~~Mitochondrion~~
3. option (a) = ~~Endocrine~~
4. option (c) = ~~Nasal septum~~
5. option (c) = ~~2 lobes and 1 fissure~~
6. option (d) = ~~Platelets~~
7. option (d) = ~~Adequate intake of iron.~~
8. option (d) = ~~It weight around 100 gram only~~
9. option (c) = ~~It regulates the sleep-wake-up cycle~~
10. option (b) = ~~The vertebrae.~~
11. option (a) = ~~Pinna~~
12. option (b) = ~~pulmonary arteries.~~
13. option (d) = ~~Inferior rectus.~~

Section - 'B'

Applied Anatomy

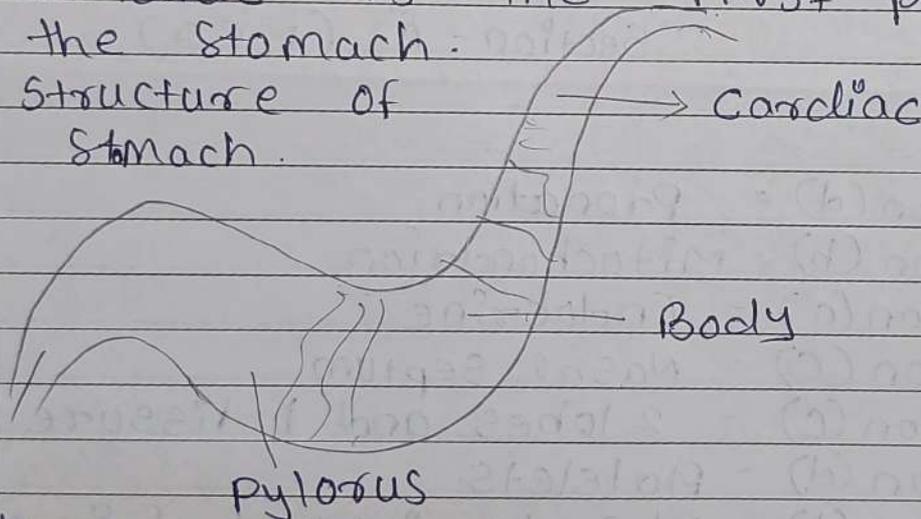
Q2. b)

⇒ Stomach is 'J' shaped organ.
It stores the temporary food in it.
Stomach lies in umbilical, epigastric and left hypochondric region.
It has 3 parts

- i) Body
- ii) pylorus
- iii) Cardiac

Cardiac is the first part of the stomach.

• Structure of Stomach.



duodenum
duodenum

Body is the middle part of the stomach.
and pylorus region is last part of the stomach.
The pylorus has two parts pylorus antrum and ~~it~~
It is a part of digestive system. It is muscular organ.

- relations:

Superior: Liver and pancreas

Inferior: uterus

Anterior: intestine

Posterior: Adrenal gland.

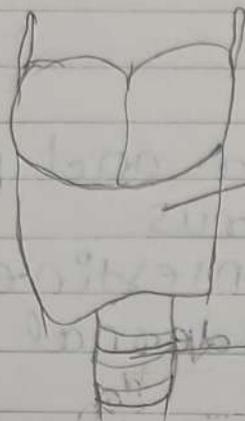
- Blood supply

i) Hepatic artery and hepatic vein

ii) Nerve supply: Sympathetic or parasympathetic.

Hepatic veins collect the blood from stomach, spleen, intestine;

Q3. b.

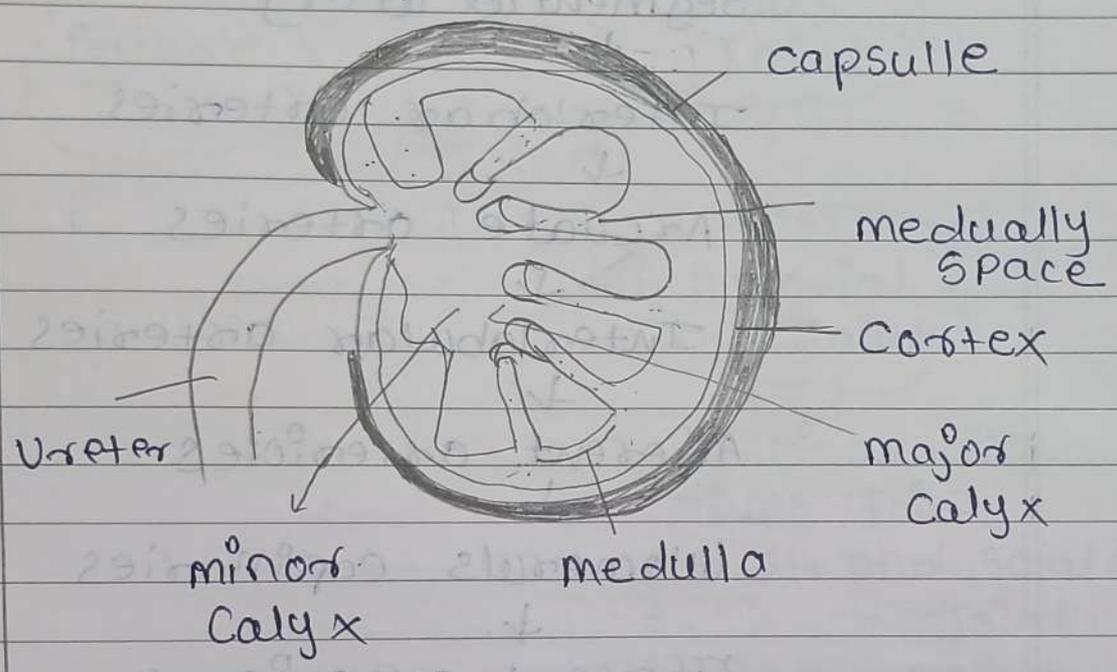


Thyroid gland

Pancreas

Thyroid gland located inferior to the neck. It's looks like butterfly shaped. It's just above the pancreas. Thyroid hormone gland produced hormone T_3 and T_4 . Thyroxine and Triiodothyroxine. It's endocrine gland. It's weight is 150 gm. in male 140 in female. The gland occur Anemia.

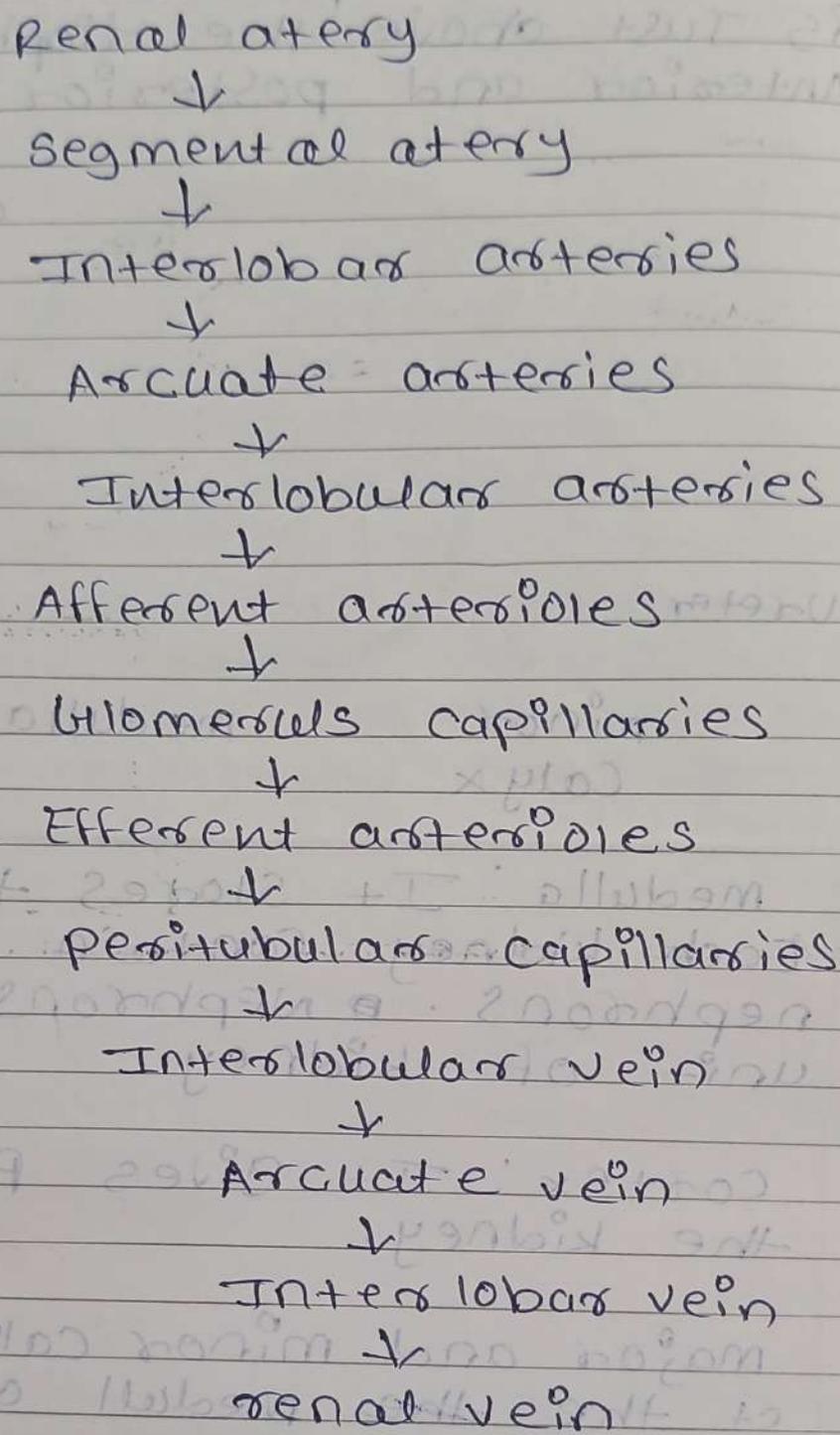
C. kidney is bean shaped. In human having one pair of kidney. It is just above the diaphragm. It has Anterior and posterior region.



- medulla: It stores the nephrons. Each kidney contain 1 millions of nephrons. A nephrons is structural unit of kidney.
- Cortex: It gives protection to the kidney.
- major and minor calyx: It protect the the medull and nephrons.

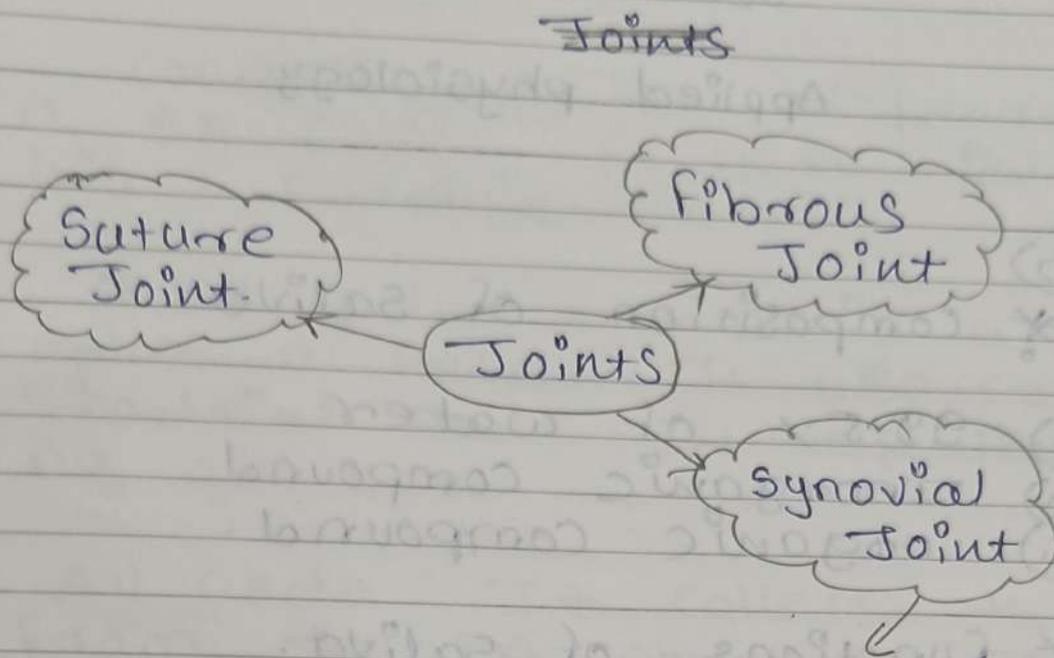
kidney filtrate blood. and it's important roll in urin formation also.

Blood Supply of kidney



It main acid-base balance and excretion of urine. maintain water balance in the kidney. kidney removes H^+ ions and maintain the buffer solution.

Q 4. C.



pivot Joint, ball and socket Joint, Hing Joint

d. A pair of lung ~~preen~~ present in the human body. Right and left lung. Right lung is slight ^{lower} ~~smaller~~ than left lung, because of ⁱⁿ the above of right lung there is liver present.

~~liver~~ lung help the exchange of breathing. Inhalation and exhalation. We all inhaled the air inside the lungs our lungs is fully filled with air. and we exhaled the ~~air~~ breath all air rush out.
~~the~~

Section - 'C'
Applied physiology.

Q 6.

b) * Composition of saliva

- i) 99.5% of water
- ii) Inorganic compound
- iii) organic compound.

* Functions of saliva.

- i) moistening the food.
- ii) Clean the tongue and teeth.
- iii) mastication of food.
- iv) Breaking the food into small pieces.
- v) wet the tongue.
- vi) proper digestion.
- vii) moistening the tongue.
- viii) moistening the lips.

C.

conducting system of heart contains SA node, AV node, Bundle of His, Purkinje fibers.

- SA node: It is a pacemaker of heart. It is also called as sinoatrial node. It helps the pumping of blood.
- AV node: It collects the blood from the SA node and transmits it to the bundle of Purkinje fibers.
- Bundle of His: sending impulses to the Purkinje fibers.
- Purkinje fibers:

~~In normal~~ The weight of heart in male is 300 gm and in female 250 gm.

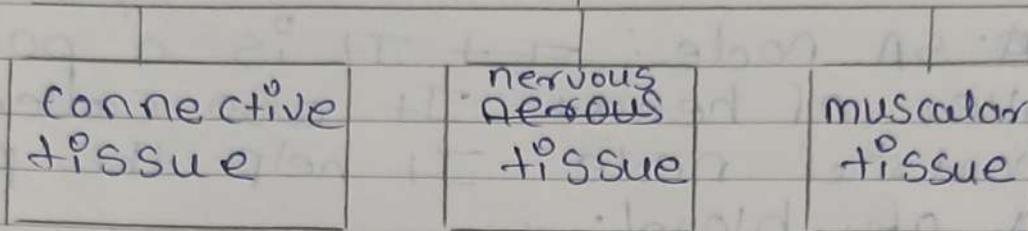
simple tissue →

stratified →

Q7. a d

Types of tissue

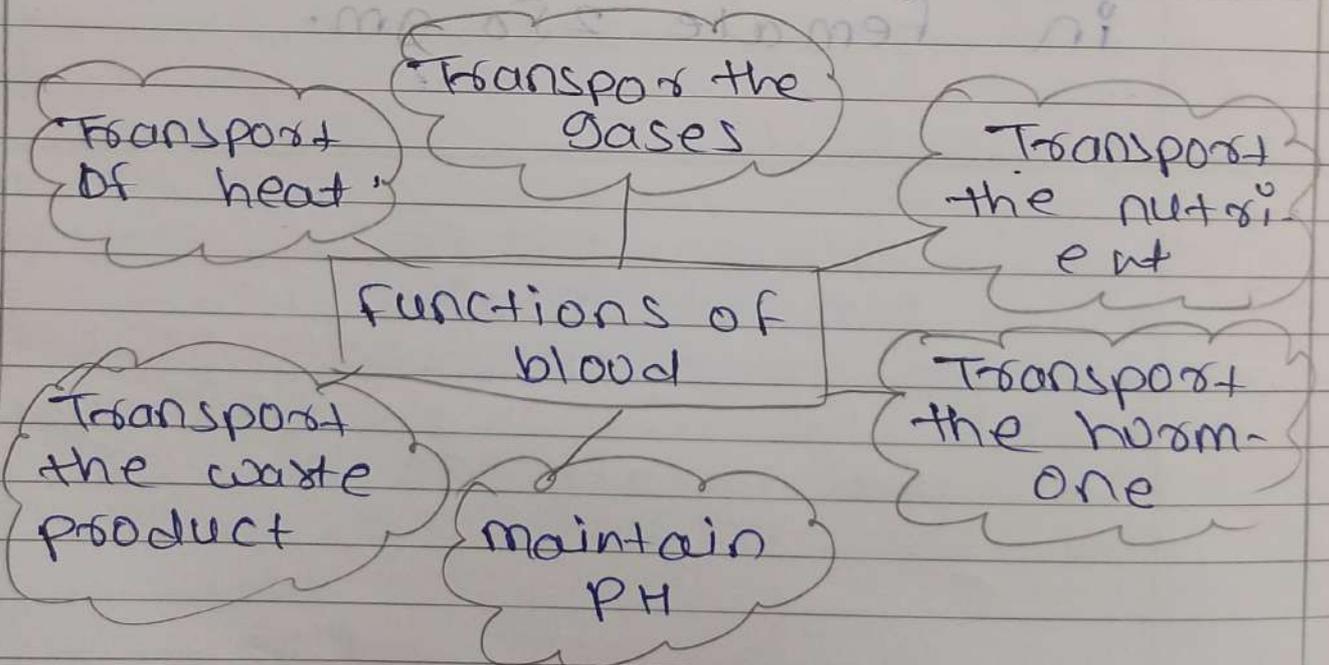
Tissue



b. Thermoregulation:

To maintain the body temperature. If any foreign body enters our body the thermoregulation acts for protection protect our body.

Q7. e. functions of blood



5.

a) Menstrual cycle: The cyclic change in the lining of uterus that prepares the female body for the potential pregnancy is called menstrual cycle.

1) Proliferative phase: This is the duration between end of menstruation and released of ovum.

- Duration of this phase is 5th to 14th day of menstrual cycle

- Uterine change:

Repair of endometrium and gland

a - proliferation of epithelium and cells.

b - increase in stroma

c - Increase in length of gland

2) Ovarian change

- Many secondary follicles grow in the beginning of the cycle.

- ~~ma~~ Appropriate on day 6, one follicle grow faster and mature into a Graafian follicle.

The cells of the follicle secrete estrogen.

iii) Hormonal control

- follicle-stimulating hormone from anterior pituitary is responsible for the growth of the ovarian follicles.

II) secretory phase

- duration of this phase between the ovulation and the beginning of next menses.

- This is the largest phase - It lasts for 14 days i.e. from 15th to 28th days of cycle.

i) Uterine changes

a) Endometrial glands get dilated and tortuous

b)