



# UNIVERSITY OF THE PUNJAB

Third Prof. A/2015

Examination: Doctor of Pharmacy (Pharm.D.)

Roll No. ....

**Subject: Pathology**  
**PAPER: 1**

**TIME ALLOWED: 3 hrs.**  
**MAX. MARKS: 50**

***NOTE: Attempt any FIVE questions. All questions carry equal marks.***

**Question no 1:**

What is Pathological Calcification? What are its types. Give examples (10)

**Question no 2:**

What is granulomatous inflammation? Draw and describe the granuloma in detail? (10)

**Question no 3:**

- a) Write down the difference between primary and secondary wound healing? (5)
- b) Draw cell cycle with different stages? (5)

**Question no 4:**

What is oedema? What is its pathophysiology ? Briefly describe (10)

**Question no 5**

Define Hypersensitivity reaction? Briefly describe its different type? (10)

**Question no 6**

- a. What is metastasis? Explain its different routes? Give examples. (5)
- b. Name different carcinogens with their specificity for tumor? (5)

**Question no 7**

Write short notes on

- a) Pigmentation (4)
- b) Difference between transudate and exudate fluid (3)
- c) Causes of Cell injury (3)



# UNIVERSITY OF THE PUNJAB

Third Prof. A/2016

Examination: Doctor of Pharmacy (Pharm.D.)

Roll No. ....

Subject: Pathology  
PAPER: 1

TIME ALLOWED: 3 hrs.  
MAX. MARKS: 50

**NOTE: Attempt any FIVE questions. All questions carry equal marks.**

**Question no 1:**

What is Pigmentation? Briefly describe its different types. (10)

**Question no 2:**

What is chronic inflammation? What are the cells of Chronic Inflammation? Explain morphological features of Chronic Inflammation. (10)

**Question no 3:**

- a) Write down the factors that affect the Wound Healing ? (5)
- b) Explain secondary Wound Healing. (5)

**Question no 4:**

What is shock? Briefly describe its different types? (10)

**Question no 5**

- a) Briefly describe Cell Mediated Hypersensitivity Reaction? (6)
- b) Draw and label structure of antibody. (4)

**Question no 6**

- a. Define Malignant Tumor. Briefly describe its features (5)
- b. Nomenclature of Malignant Tumor? Give examples (5)

**Question no 7**

Write short notes on

- a) Dystrophic Calcification (4)
- b) Difference between Transudate and Exudate fluid (3)
- c) Complications of Wound Healing (3)



# UNIVERSITY OF THE PUNJAB

Third Prof. 2<sup>nd</sup> A/2016

Examination: Doctor of Pharmacy (Pharm.D.)

Roll No. ....

Subject: Pathology

PAPER: 1

TIME ALLOWED: 3 hrs.

MAX. MARKS: 50

**NOTE: Attempt any FIVE questions. All questions carry equal marks.**

**Question no 1:**

What is irreversible Cell Injury Explain cytoplasmic and nuclear features of irreversible cell injury. (10)

**Question no 2:**

- a) Define Acute Inflammation? Briefly describe different morphological pattern of Acute Inflammation. (6)
- b) Explain outcome of Acute Inflammation (4)

**Question no 3:**

- a) What are the differences between primary and secondary Wound Healing? (6)
- b) Write down the complications of secondary Wound Healing. (4)

**Question no 4:**

- A) What is thrombosis? What is the fate of Thrombus? (5)
- B) Define infarction? What are its different types? (5)

**Question no 5**

- a) Briefly describe Antibody Mediated Hypersensitivity Reaction ? (5)
- b) What are different types of antibodies? Write down their important features (5)

**Question no 6**

- a. Define Benign Tumor? What are its features (6)
- b. Nomenclature of Benign Tumor with examples? (4)

**Question no 7**

Write short notes on

- a) Hypertrophy (4)
- b) Granuloama (3)
- c) Metastasis (3)



# UNIVERSITY OF THE PUNJAB

Third Prof: Annual - 2017  
Examination: Doctor of Pharmacy (Pharm.D.)

Roll No. ....

Subject: Pathology (Old & New Course)  
PAPER: 1

TIME ALLOWED: 3 hrs.  
MAX. MARKS: 50

*NOTE: Attempt any FIVE questions. All questions carry equal marks.*

**Question no 1:**

What is cellular adaptation? Briefly describe its different types. (10)

**Question no 2:**

What is granulomatous inflammation? Briefly describe and draw granuloma (10)

**Question no 3:**

- a) Write down the complication of secondary wound healing ? (5)
- b) Explain factors that affect wound healing. (5)

**Question no 4:**

What is thrombosis? What are different types of thrombus ? Briefly describe (10)

**Question no 5**

- a) Briefly describe immediate hypersensitivity reaction ( Type I )? (6)
- b) Draw and label structure of antibody (4)

**Question no 6**

- a. Write down differences between benign and malignant tumor (5)
- b. Nomenclature of malignant tumor? Give examples (5)

**Question no 7**

Write short notes on

- a) Dystrophic calcification (4)
- b) Exogenous pigmentation (3)
- c) Irreversible cell injury (3)



# UNIVERSITY OF THE PUNJAB

Third Prof: 2<sup>nd</sup> Annual - 2017  
Examination: Doctor of Pharmacy (Pharm.D.)

Roll No. ....

Subject: Pathology (Old & New Course)  
PAPER: 1

TIME ALLOWED: 3 hrs.  
MAX. MARKS: 50

**NOTE: Attempt any FIVE questions. All questions carry equal marks.**

**Question no 1:**

- a) Define pathological calcification. What are its types. Briefly describe its types with examples (6)
- b) What is apoptosis? Describe the mechanism of apoptosis (4)

**Question no 2:**

- a.) Write down the differences between transudate and exudate (5)
- b.) Name different chemical mediators of inflammation with their functions ? (5)

**Question no 3:**

- a) What are the differences between primary and secondary wound healing? (5)
- b) Describe cells on the basis of division capacity. Draw cell cycle (5)

**Question no 4:**

- A) What is thrombosis? What is the fate of thrombus ? (5)
- B) Define edema. What are the different causes of edema (5)

**Question no 5**

- a) Describe antigen- antibody mediated hypersensitivity reaction ( Type III) . (5)
- b) What are different types of antibodies? Write down their important features (5)

**Question no 6**

- a. Define malignant tumor?What are its features (6)
- b. Nomenclature of benign tumor with examples? (4)

**Question no 7**

Write short notes on

- a) Metastasis (4)
- b) Granuloma (3)
- c) Reversible cell injury (3)



# UNIVERSITY OF THE PUNJAB

Third Prof: Annual – 2018

Examination: Doctor of Pharmacy (Pharm.D.)

Roll No. ....

Subject: Pathology (New Course)

PAPER: 1 Part – I (Compulsory)

TIME ALLOWED: 15 min.

MAX. MARKS: 10

**Attempt this Paper on this Question Sheet only.**

**Please encircle the correct statement. Each MCQ carries 1 Mark. This Paper will be collected back after expiry of time limit mentioned above.**

- 1) Which of the following changes is associated with irreversible cell damage?
  - A. Glycogen depletion
  - B. Karyolysis
  - C. Cellular swelling.
  - D. Loss of microvilli.
  - E. Detachment of ribosomes from rER.
- 2) Apoptosis occurs in all of the following situations except
  - A. Embryogenesis.
  - B. Bacterial infection.
  - C. Menstruation.
  - D. Tumours.
  - E. Viral infection
- 3) Which of the following is not intracellular substance?
  - A. Melanin.
  - B. Haemosiderin.
  - C. Tattoo ink.
  - D. Pus.
  - E. Lipofuscin
- 4) An 18-year-old man lacerated his left hand and required sutures. The sutures were removed 1 week later. Wound healing continued, but the site became disfigured by a prominent raised, nodular scar that developed over the next 2 months. Which of the following terms best describes the process that occurred during this 2-month period?
  - A. Organization
  - B. Dehiscence
  - C. Resolution
  - D. Keloid formation
  - E. Secondary union
- 5) The chemical mediator NOT responsible for chemotaxis is
  - A. Cytokines.
  - B. C5a.
  - C. Bradykinin.
  - D. Bacterial products.
  - E. LTB<sub>4</sub>.

- 6) Which of the following term refers to a malignant tumor of mesenchymal origin?
- A. Carcinoma
  - B. Hematoma
  - C. Lymphoma
  - D. Sarcoma
  - E. Hepatoma
- 7) Bradykinin perform all the actions except
- A. Increased vascular permeability.
  - B. Activation of complement pathway.
  - C. Smooth muscle contraction.
  - D. Dilation of blood vessels.
  - E. Pain.
- 8) Generalized edema results from all of the following disorders EXCEPT
- A. Systemic hypertension
  - B. Congestive cardiac failure
  - C. Cirrhosis
  - D. Nephrotic syndrome
  - E. Hyperaldosteronism
- 9) Liquefaction characteristically occurs following infarction which organ
- A. Heart.
  - B. Kidney.
  - C. Liver.
  - D. Spleen.
  - E. Brain.
- 10) Which of the following is not a benign tumor
- A. Lipoma
  - B. Fibroma.
  - C. Lymphoma.
  - D. Leiomyoma.
  - E. Chondroma.



# UNIVERSITY OF THE PUNJAB

Third Prof: Annual – 2018  
Examination: Doctor of Pharmacy (Pharm.D.)

Roll No. ....

Subject: Pathology (New Course)  
PAPER: 1 (Part – II)

TIME ALLOWED: 2 Hrs. & 45 min.  
MAX. MARKS: 40

*Attempt this Paper on Separate Answer Sheet provided.*

**Attempt any 4 questions. Each question carry equal marks.**

**Question no 2:**

Write briefly about reversible cell injury. Describe morphological features in detail. (10)

**Question no 3:**

- a) What is difference between exudate and transudate fluid? (05)
- b) Write note on granuloma? (05)

**Question no 4:**

- a) Write down the complication of secondary wound healing? (05)
- b) Explain factors that affect wound healing? (05)

**Question no 5:**

- a) What is difference between benign and malignant tumor? (05)
- b) What is type IV hypersensitivity reaction? (05)

**Question no 6**

Write short notes on

- a) Dystrophic calcification (4)
- b) Exogenous pigmentation (3)
- c) Irreversible cell injury (3)





# UNIVERSITY OF THE PUNJAB

Third Prof: 2<sup>nd</sup> Annual – 2018

Examination: Doctor of Pharmacy (Pharm.D.)

Roll No. ....

Subject: Pathology (Old Course)

PAPER: 1

MAX. TIME: 3 Hrs.

MAX. MARKS: 50

**NOTE: Attempt any FIVE questions. All questions carry equal marks.**

Q.1

- a. Enumerate the differences between exudate and transudate. 5
- b. Define Granuloma and write down three causes of granuloma. 5

Q.2

- a. Define hyperplasia and hypertrophy and explain with examples. 5
- b. What is calcification and write down its types. 5

Q.3

Define neoplasia. Discuss in detail the spread of tumors. 2, 8

Q.4

Define thrombosis and briefly discuss its types. 10

Q.5

- a. Enumerate different types of immunoglobulins and their properties. 7
- b. Draw and label structures of Immunoglobulin. 3

Q.6

What is pigmentation? Briefly discuss its types with examples. 2, 8

Q.7

Write short notes on

- a) Thrombosis 4
- b) Metaplasia 3
- c) Chemotaxis 3



# UNIVERSITY OF THE PUNJAB

Third Prof: 2<sup>nd</sup> Annual – 2018

Examination: Doctor of Pharmacy (Pharm.D.)

Roll No. in Fig. ....

Roll No. in Words. ....

Subject: Pathology (New Course)

PAPER: 1 Part – I (Compulsory)

MAX. TIME: 30 Min.

MAX. MARKS: 10

Signature of Supdt.:

**Attempt this Paper on this Question Sheet only.**

**Please encircle the correct option. Division of marks is given in front of each question.**

**This Paper will be collected back after expiry of time limit mentioned above.**

**Q.1. Encircle the right answer cutting and overwriting is not allowed. (10x1=10)**

1) A patient has increased number of columnar cells in lower esophagus. He has which of the following change:

- A. Dysplasia
- B. Anaplasia
- C. Metaplasia
- D. Normal histology
- E. Hyperplasia

2) Which of the following is the example of hypertrophy

- A. Benign prostatic hyperplasia
- B. Hypertensive cardiomegaly
- C. Breast tissue after puberty
- D. Goiter
- E. Dysuse atrophy

3) Exudate fluid has all the features except

- A. It is formed in acute inflammation
- B. It occurs due to increased vascular permeability
- C. LDH is high
- D. Protein level is less than 3g/dl
- E. WBCs are present

4) A 55-year-old woman has had discomfort and swelling of the left leg for the past week. On physical examination, the leg is slightly difficult to move, but on palpation, there is no pain. A venogram shows thrombosis of deep left leg veins. Which of the following mechanisms is most likely to cause this condition?

- A. Turbulent blood flow
- B. Nitric oxide release
- C. Ingestion of aspirin
- D. Hypercalcemia
- E. Immobilization

5) An 18-year-old man lacerated his left hand and required sutures. The sutures were removed 1 week later. Wound healing continued, but the site became disfigured by a prominent raised, nodular scar that developed over the next 2 months. Which of the following terms best describes the process that occurred during this 2-month period? □

- A. Organization
- B. Dehiscence
- C. Resolution
- D. Keloid formation
- E. Secondary union

6) The directional movement of a cell or organism in response to a chemical gradient is best called

- A. Diapedesis.
- B. Emigration.
- C. Cytopempsis.
- D. Chemotaxis.
- E. Margination.

P.T.O

7) Which of the following is not the feature of secondary wound healing

- A. Wound contracures
- B. Dehiscence
- C. Keloid formation
- D. Minimal granulation tissue
- E. Immobility

8) The following are all actions of bradykinin EXCEPT

- A. Increased vascular permeability.
- B. Activation of complement pathway.
- C. Smooth muscle contraction.
- D. Dilation of blood vessels.
- E. Pain.

9) Which of the following helps in the grading of a tumor?

- A. The presence or absence of metastases in the lymph node
- B. The degree of differentiation
- C. The presence of tumor necrosis
- D. Mitotic activity
- E. The presence of cells in the vascular space

10) Which of the following term refers to a malignant tumor of mesenchymal origin

- A. Carcinoma
- B. Hematoma
- C. Lymphoma
- D. Sarcoma
- E. Hepatoma



# UNIVERSITY OF THE PUNJAB

Doctor of Pharmacy (Pharm.D.) Third Prof: Annual-2019

Subject: Pathology (New Course)

Paper: 1 Part - I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig. ....

Roll No. in Words. ....

Signature of Supdt.: .....

**ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.**

**Division of marks is given in front of each question.**

**This Paper will be collected back after expiry of time limit mentioned above.**

**Q.1. Encircle the correct option.**

**(10x1=10)**

1) All of the following are typically associated with loss of 40% of the circulating blood volume except:

- a. A decrease in the blood pressure.
- b. A decrease in the central venous pressure.
- c. A decrease in the heart rate.
- d. A decrease in the urine output.
- e. A cold clammy skin.

2) Apoptosis occurs in all one of the following situations except

- a. Embryogenesis.
- b. Bacterial infection.
- c. Menstruation.
- d. Tumors.
- e. Viral infection

3) The cells which have the capacity to multiply throughout their life:

- a. Stable cells.
- b. Permanent cells.
- c. Labile cells.
- d. Fragile cells.
- e. None of the above.

4) The term metaplasia refers to

- a. Irregular, atypical proliferative changes in epithelial or mesenchymal cells.
- b. Loss of cell substance producing shrinkage of the cells.
- c. Replacement of one type of adult cell by another type of adult cell.
- d. Irreversible transformation of the cell.
- e. None of the above.

5) All of the following events are common to primary and secondary wound healing except:

- a. Formation of blood clot.
- b. Inflammatory response.
- c. Epithelial changes.
- d. Wound contraction.
- e. Neovasularization.

P.T.O.

6) Factors inhibiting wound healing:

- a. Infection.
- b. Cortisol.
- c. Foreign Bodies.
- d. Hypoxia.
- e. All of the above.

7) Bradykinin perform all the actions except

- a. Increased vascular permeability.
- b. Activation of complement pathway.
- c. Smooth muscle contraction.
- d. Dilation of blood vessels.
- e. Pain.

8) Generalized edema results from all of the following disorders EXCEPT

- a. Systemic hypertension.
- b. Congestive cardiac failure.
- c. Cirrhosis.
- d. Nephrotic syndrome .
- e. Hyperaldosteronism.

9 ) Dystrophic calcification is most likely associated with

- a. Hypercalcemia.
- b. Necrosis.
- c. Chronic irritation.
- d. Diminished blood flow.
- e. Increase work load.

10) Which of the following is not a benign tumor .

- a. Lipoma.
- b. Fibroma.
- c. Lymphoma.
- d. Leiomyoma.
- e. Chondroma.



# UNIVERSITY OF THE PUNJAB

Doctor of Pharmacy (Pharm.D.) Third Prof: Annual-2019

Roll No. ....

Subject: Pathology (New Course)

Paper: 1 Part - II

Time: 2 Hrs. 45 Min. Marks: 40

**ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED**

**Note: Attempt any *FOUR* questions. Each question carries equal marks.**

**Question no2:**

What is cellular adaptation? Briefly describe its different types. (10)

**Question no 3:**

- a) What is apoptosis? Describe its mechanism and give examples. (05)
- b) Write note on granuloma. (05)

**Question no 4:**

- a) What is necrosis? Describe its various types. (06)
- b) Write down the differences between primary and secondary wound healing. (04)

**Question no 5:**

- a) What is metastasis? Briefly discuss its different routes. (05)
- b) What is type III hypersensitivity reaction? (05)

**Question no 6**

Write short notes on

- a) Antibody Types and Structure. (4)
- b) Endogenous pigmentation. (3)
- c) Factors affecting wound healing (3)



# UNIVERSITY OF THE PUNJAB

Doctor of Pharmacy (Pharm.D.) Third Prof: Annual-2019

Roll No. ....

Subject: Pathology (Old Course)

Paper: 1

Time: 3 Hrs. Marks: 50

**Note: Attempt any FIVE questions. Each question carries equal marks.**

**Question no 1:**

What is pigmentation? Briefly describe its different types. (10)

**Question no 2:**

What is chronic inflammation? What are the cells of chronic inflammation? Explain morphological features of chronic inflammation. (10)

**Question no 3:**

- a) Write down the factors that affect the wound healing? (5)
- b) Explain secondary wound healing. (5)

**Question no 4:**

What is shock? What are its different types? Briefly describe any one. (10)

**Question no 5**

- a) Briefly describe cell mediated hypersensitivity reaction? (6)
- b) Draw and label antibody structure. (4)

**Question no 6**

- a. Define malignant tumor. Briefly describe its features. (5)
- b. Nomenclature of malignant tumor? Give examples. (5)

**Question no 7**

Write short notes on

- a) Dystrophic calcification (4)
- b) Difference between transudate and exudate fluid (3)
- c) Complications of wound healing (3)



# UNIVERSITY OF THE PUNJAB

Doctor of Pharmacy (Pharm.D.) Third Prof: Annual-2021

Roll No. ....

Subject: Pathology (New Course)

Paper: 1 Part – II

Time: 2 Hrs. 45 Min. Marks: 40

**ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED**

Note: Attempt any *FOUR* questions. Each question carries equal marks.

## Q.2

Define pathological calcification. What are its different types and explain with examples (10)

## Q.3

- a) Write down the differences between transudate and exudate fluid? (05)
- b) Name different chemical mediators of acute inflammation and their functions. (05)

## Q.4

- a) Briefly discuss secondary intention wound healing? (5)
- b) Discuss complications of secondary wound healing (5)

## Q.5:

- a) What is malignant tumor? Discuss its characteristics. (05)
- b) What is type 4 hypersensitivity reaction (05)

## Q.6:

Write short notes on

- a) Granuloma (4)
- b) Endogenous pigmentation. (3)
- c) Apoptosis (3)



**UNIVERSITY OF THE PUNJAB**

**Doctor of Pharmacy (Pharm.D.) Third Prof: Annual-2021**

**Subject: Pathology (New Course)**

**Paper: 1 Part – I (Compulsory)**

**Time: 15 Min. Marks: 10**

Roll No. in Fig. ....

**Roll No. in Words. ....**

**Signature of Supdt.:**

**ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.**

**Division of marks is given in front of each question.**

This Paper will be collected back after expiry of time limit mentioned above.

**(10x1=10)**

**Q.1. Encircle the correct option.**

- 1) Which of the following types of necrosis is grossly opaque and chalky white:  
A. Coagulation necrosis  
B. Liquefaction necrosis  
C. Caseous necrosis  
D. Fat necrosis  
E. Gangrenous necrosis
- 2) Dystrophic calcification is most closely associated with:  
A. Hypercalcaemia  
B. Necrosis  
C. Chronic irritation  
D. Diminished blood flow  
E. Increased work load
- 3) Which of the following is a reversible change:  
A. Karyorrhexis  
B. Pyknosis  
C. Karyolysis  
D. Swelling of endoplasmic reticulum  
E. Gangrenous necrosis
- 4) Which of the following are thought to mediate, many of the systemic effects of inflammation are chemotactic and stimulate adhesion molecules:  
A. Interleukin 1 (IL-1) and tumor necrosis factor  
B. C5a and leukotriene B-4  
C. C3b  
D. Leukotriene C4, D4 and E4.  
E. Bradykinin
- 5) Morphologic changes seen in chronic non-specific inflammation include an increase in:  
A. Neutrophils, lymphocytes and liquefaction necrosis  
B. Neutrophils, macrophages and fibrosis  
C. Lymphocytes, plasma cells and fibrosis  
D. Giant cells, macrophages and coagulative necrosis
- 6) The most characteristic feature of granulation tissue is the:  
A. Growth of fibroblasts and new capillaries  
B. Resemblance to a granuloma  
C. Character of the exudate  
D. Granular scar that results  
E. Presence of monocytes and fibroblasts
- 7) A young man of 20, got a lacerated wound on his left arm, stitched-1 week later sutures were remained-healing continued but the site became disfigured by prominent raised irregular nodular scar, in next 2 months which of the following best describes the process:  
A. Organization  
B. Dehiscence  
C. Resolution  
D. Keloid formation  
E. Secondary union
- 8) Grading of cancer is based on which of the following statements:  
A. Size of the primary tumor  
B. Spread of cancer cells to regional lymph nodes  
C. Presence of blood born metastasis  
D. Degree of differentiation of tumor cells, anaplasia and no. of mitosis  
E. Presence of capsular invasion by tumor cells
- 9) Which of the following is not a malignant tumor:  
A. Glioma  
B. Lymphoma  
C. Melanoma  
D. Leiomyoma  
E. Medulloblastoma
- 10) In a state of shock there is:  
A. A decreased hydrostatic pressure and increased osmotic pressure  
B. Cardiovascular collapse  
C. Active process leading to increased volume of blood  
D. Decreased pulse rate  
E. Fever