### **APRIL - 2001**

[KD 056]

Sub. Code: 1801

M.Ch. DEGREE EXAMINATION

(Higher Specialities)

Branch VII - Surgical Oncology

(Revised Regulations)

Paper I — BASIC SCIENCES APPLIED TO SURGICAL ONCOLOGY

Time: Three hours Maximum: 100 marks

- 1. Describe the role of Viruses in carcinogenesis. (25)
- What is paraneoplastic Syndrome? Describe various conditions produce para neoplastic syndromes.

(25)

3. Write short notes on :

- $(5 \times 10 = 50)$
- (a) LET (Linear Energy Transfer)
- (b) Brachytherapy
- (c) Telemerase inhibition
- (d) Southern blot
- (e) Asbestos as carcinogenesis.

#### NOVEMBER - 2001

[KE 056]

Sub. Code: 1801

Write short notes on :

- (a) Prostate specific antigen
- (b) Flow cytometry
- (c) Phase III Clinical Trials
- (d) Hyper Calcemia
- (e) Cytoreductive surgery

 $(5 \times 10 = 50)$ 

#### M.Ch. DEGREE EXAMINATION

(Higher Specialities)

(Revised Regulations)

Branch VII Surgical Oncology

### Paper 1 — BASIC SCIENCES AS APPLIED TO SURGICAL ONCOLOGY

Time: Three hours Maximum: 100 marks

- What are Electro magnetic Radiations? Outline principles, production and usage of these radiations in Oncology. (25)
- Which are the Antimicro tubular agents used in Oncology? Describe any one of them under following headings:
  - (a) Mechanism of Action
  - (b) Dosage
  - (c) Mode of Administration
  - (d) Chinical uses
  - (e) Toxicity and Drug resistance

(25)

2

[KE 056

#### MARCH - 2002

[KG 056]

Sub. Code: 1801

#### M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch VII - Surgical Oncology

#### Paper I — BASIC SCIENCES AS APPLIED TO SURGICAL ONCOLOGY

Time: Three hours Maximum: 100 marks

Answer ALL questions.

- Discuss briefly the tumour cell kinetics and methods used for study of growth of human tumours. (25)
- Discuss the impact of nutrition on incidence of cancer. (25)
- 3 Write briefly on :

 $(5 \times 10 = 50)$ 

- (a) Oncogenes.
- (b) Prophylectic surgery.
- (c) PCR.
- (d) Active Immunotherapy
- (e) PET.

#### SEPTEMBER - 2002

[KH 056]

Sub. Code: 1801

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

Branch VII - Surgical Oncology

(Revised Regulations)

Paper I — BASIC SCIENCES AS APPLIED TO SURGICAL ONCOLOGY

Time: Three hours Maximum: 100 marks

Answer ALL questions

- Discuss the role of Genetic changes in malignancy.
   (25)
- Discuss the impact of environmental pollution on cancer incidence. (25)
- 3 Write briefly on :

 $(5 \times 10 = 50)$ 

- (a) Micronutrients
- (b) Radionecrosis
- (c) Cell cycle
- (d) Factors causing resistance to radiation
- (e) Oestrogen.

\_\_\_\_

#### **APRIL - 2004**

[KK 056]

Sub. Code: 1801

B. Short notes:

 $(10 \times 5 = 50)$ 

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch VII - Surgical Oncology

Paper I — BASIC SCIENCES AS APPLIED TO SURGICAL ONCOLOGY

Time: Three hours Maximum: 100 marks

Theory: Two hours and Theory: 80 marks

forty minutes

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions

A. Essay:

 $(2 \times 15 = 30)$ 

- (1) Define Apoptosis. How is it regulated? How can it be manipulated for therapeutic purposes?
- (2) How is a screening test for cancer evaluated? Discuss the biases caused as a result of a screening programme.

(1) Phase III clinical trial

(2) Hereditary cancer registry

(3) Selective estrogen receptor modulators

(4) Linear energy transfer

(5) Occupational cancer

(6) Microarray

(7) Meta analysis

(8) Epipodophyllotoxin

(9) Primary prevention

(10) Intensity modulated radiation therapy.

\_\_\_\_

#### **AUGUST - 2004**

[KL 056]

Sub. Code: 1801

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch VII - Surgical Oncology

Paper I — BASIC SCIENCES AS APPLIED TO SURGICAL ONCOLOGY

Time: Three hours Maximum: 100 marks

Theory: Two hours and Theory: 80 marks

forty minutes

M.C.Q.: Twenty minutes M.C.Q.: 20 marks

Answer ALL questions.

L Essay:

 $(2 \times 15 = 30)$ 

- (1) Discuss cancer as a genetic disease.
- (2) Discuss the basis, principles and practice of chemoradiation in solid tumours.
- II. Write short notes on :

 $(10 \times 5 = 50)$ 

- Photodynamic therapy.
- (2) Metastatic phenotype.
- (3) Average relative dose intensity.
- (4) Viruses in Cancer.

- (5) In situ hybridisation.
- (6) T cells.
- (7) Familial cancer registry.
- (8) Aflatoxin.
- (9) Polymerase chain reaction.
- (10) Tumour suppressor gene.

2

#### FEBRUARY - 2005

[KM 056]

Sub. Code: 1801

#### M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch VII - Surgical Oncology

### Paper I — BASIC SCIENCES AS APPLIED TO SURGICAL ONCOLOGY

Time: Three hours

Maximum: 100 marks

Theory: Two hours and

Theory: 80 marks

forty minutes

radaut...

M.C.Q.: Twenty minutes

M.C.Q. : 20 marks

### Answer ALL questions.

# L Essay:

 $(2 \times 15 = 30)$ 

- (1) Describe the design and conduct of clinical trials.
- (2) Describe the role and effects of radiation in the development of cancer.

# II. Short notes :

 $(10 \times 5 = 50)$ 

- (a) Principles of brachytherapy
- (b) Apoptosis
- (c) Antigen presenting cells of the immune system

- (d) Chromosomal aberrations found in cancer
- (e) The process of tumor neovascularisation
- (f) Role of HPV in human carcinogenesis
- (g) Cohort studies
- (h) LET
- (i) Aromatase inhibitors
- Endosonology.

2

[KM 056]

#### FEBRUARY - 2006

KO 0561

Sub. Code: 1801

II. Short notes:

 $(10 \times 5 = 50)$ 

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch VII - Surgical Oncology

Paper I — BASIC SCIENCES AS APPLIED TO SURGICAL ONCOLOGY

Time: Three hours Maximum: 100 marks

Theory: Two hours and Theory: 80 marks

forty minutes

M.C.Q.: Twenty minutes M.C.Q.: 20 marks

Answer ALL questions.

L Essay:

 $(2 \times 15 = 30)$ 

- Describe Cell Cycle and Ionizing Radiation.
   Biological effects of Radiation on normal and Cancer Tissues, Advantages of Particle Beam Therapy.
- (2) Define Oncogenes, their role on Cancer. Molecular basis for prognostic factors and cancer treatment.

(a) Dendritic cells

(b) Gene amplification

(c) Chi square test

(d) Population based tumour registry

(e) Radio labelled antibodies

(f) Cytokines

(g) Nitrosoureas

(h) Letrozole

(i) Phase III clinical trials

(j) Meta analysis.

#### **AUGUST - 2006**

[KP 056]

Sub. Code: 1801

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch VII - Surgical Oncology

Paper I — BASIC SCIENCES AS APPLIED TO SURGICAL ONCOLOGY

Time: Three hours Maximum: 100 marks

Theory : Two hours and

Theory: 80 marks

forty minutes

M.C.Q.: Twenty minutes M.C.Q.: 20 marks

Answer ALL questions.

### I. Essay:

- (1) Describe angiogenesis. Discuss the role of antiangiogenic agents in cancer. (20)
  - (2) EGFR receptors and its role in cancer. (15)
  - (3) Discuss breast cancer prevention strategies. (15)

II. Short notes:

 $(6 \times 5 = 30)$ 

- (a) Sestamibi scans in oncology.
- (b) Oral premalignant lesions.
- (c) Tumor suppressor genes.
- (d) Clinical proteomics.
- (e) Chromosomal abnormalities in cancer.
- f) Epstein Barr Virus.

#### FEBRUARY - 2007

[KQ 056] Sub. Code : 1801

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch VII - Surgical Oncology

Paper I — BASIC SCIENCES AS APPLIED TO SURGICAL ONCOLOGY

Time: Three hours Maximum: 100 marks

Theory: Two hours and Theory: 80 marks

forty minutes

M.C.Q.: Twenty minutes M.C.Q.: 20 marks

Answer ALL questions.

I. Essay Questions :

 Define apoptosis. Strategies for restoring apoptosis sensitivity to tumors. (Apoptosis regulation).

(20)

- 2. What is Carcinogenesis? Name physical carcinogenetic materials and mechanism of carcinogenesis. (15)
- Define the role of PET scan in Cancer diagnosis. Indications and principle of functional scans in cancer.

I. Short notes:  $(6 \times 5 = 30)$ 

- Cancer cell differentiation and Therapy.
- Write on RISK MARKERS, AND RESPONSE MARKERS.
- Radiation dose-Response relationship.
- Biological basis of radiation therapy.
- Interferons in cancer.
- Karnofsky performance status scale.

\_\_\_\_

# [KR 056]

Sub. Code: 1801

#### M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch VII — Surgical Oncology

# Paper I — BASIC SCIENCES AS APPLIED TO SURGICAL ONCOLOGY

Time: Three hours

Maximum: 100 marks

Theory: Two hours and

Theory: 80 marks

forty minutes

M.C.Q.: Twenty minutes

M.C.Q.: 20 marks

#### Answer ALL questions.

### I. Essay Questions:

- (1) What is a tumor marker? Describe the characteristics of ideal tumor marker and its role in cancer management. (20)
- (2) What is ionizing radiation? Discuss the principle of cancer treatment with deep x-ray and describe the molecular changes occur in cancer cell with radiotherapy. (15)

(3) Define carcinogens and list various carcinogens. Describe pathogenesis of cancer due to parasites. (15)

## II. Write short notes on:

 $(6\times 5=30)$ 

- (a) Apoptosis and cell proliferation.
- (b) Describe angiogenic chemotherapy.
- (c) Pharmacokinetic rationale and limitations of regional chemotherapy.
- $\begin{array}{ll} \text{(d)} & \text{Describe antimetabolities as chemotherapeutic} \\ \text{drugs.} \end{array}$
- (e) Use of LHRH agonists in cancer management.
- (f) What is photodynamic therapy? Discuss the mechanism involved in PDT.

[KS 056]

Sub. Code: 1801

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations)

Branch VII - Surgical Oncology

Paper I — BASIC SCIENCES AS APPLIED TO SURGICAL ONCOLOGY

Q.P. Code. 181801

Time: Three hours-

Maximum: 100 marks

Answer ALL questions.

I. Essay Questions:

 $(2 \times 20 = 40)$ 

- 1. Discuss the role of targeted therapy in cancer and the various monoclonal antibodies in use today. (20)
- 2. Discuss various types of clinical trials, with respect to principles, study design, application and advantages and discuss in detail the need and impact of randomized clinical trials in Oncology. (20)

II. Short notes on:

 $(10 \times 6 = 60)$ 

- (1) Dendritic cells.
- (2) Cytokines.
- (3) Radio frequency ablation.
- (4) IGRT.
- (5) Cancer Genetics.
- (6) Brachytherapy.
- (7) Imaging for minimal residual disease.
- (8) Herceptin.
- (9) Geftinib.
- (10) Telomerase.

# August 2008

[KT 056]

#### M.Ch. DEGREE EXAMINATION

(Higher Specialities)

(Revised Regulations)

#### Branch VII - SURGICAL ONCOLOGY

# Paper I – BASIC SCIENCES AS APPLIED TO SURGICAL ONCOLOGY

Q.P. Code: 181801

Time: Three hours Maximum: 100 Marks

# ANSWER ALL QUESTIONS Draw suitable diagrams wherever necessary.

I. Essays:  $(2 \times 20 = 40)$ 

- 1. Describe the attributes of cancer preventing life style.
- 2. Discuss the cell cycle in oncology.

#### II. Write short notes on:

 $(10 \times 6 = 60)$ 

**Sub. Code: 1801** 

- 1. Population based cancer registry.
- 2. Brachytherapy for cervical cancer.
- 3. Cancer trends in India.
- 4. MRI in cancer imaging.
- 5. Intraluminal ultrasound.
- 6. Radio sensitisers.
- 7. Anatomy of neck lymph nodes.
- 8. Physiology of ejaculation.
- 9. Isolated limb perfusion.
- 10. Mapping of sentinel node in breast cancer.

### February 2009

[KU 056] Sub. Code: 1801

# M.Ch. DEGREE EXAMINATIONS (Higher Specialities) (Common to All Regulations)

# Branch VII – Surgical Oncology Paper I – BASIC SCIENCES AS APPLIED TO SURGICAL ONCOLOGY O.P. Code: 181801

Time: Three hours Maximum: 100 Marks

# ANSWER ALL QUESTIONS Draw suitable diagrams wherever necessary.

I. Essays:  $2 \times 20 = 40 \text{ Marks}$ 

- 1. What is a PET scan? And role of PET scan in the diagnosis and follow up of cancer patients.
- 2. What is Ultrasonography? How intra operative ultrasonography is useful in cancer surgery with examples.

#### II. Write short notes on:

 $10 \times 6 = 60 \text{ Marks}$ 

- 1. What is a tumor marker and it's role in cancer diagnosis.
- 2. Phase III clinical trials.
- 3. Mohs microsurgery.
- 4. Discuss the physiology of Rectal continence.
- 5. Turban tumor.
- 6. Discuss on tumor suppressor genes with examples.
- 7. Turcot's syndrome.
- 8. Interstial radiotherapy in cancer.
- 9. Describe the principle and indications of PDT.
- 10. What is a fibreoptic? And physics involved in of fibreoptic scopes in surgical practice.

\*\*\*\*

# August 2009

[KV 056] Sub. Code: 1801

# M.CH DEGREE EXAMINATIONS (Higher Specialities) (Common to All Regulations)

# Branch VII – Surgical Oncology Paper I – BASIC SCIENCES AS APPLIED TO SURGICAL ONCOLOGY *Q.P. Code: 181801*

Time: Three hours Maximum: 100 Marks

# ANSWER ALL QUESTIONS Draw suitable diagrams wherever necessary.

I. Essays:  $2 \times 20 = 40 \text{ Marks}$ 

- 1. Describe in detail the surgical anatomy of the liver. Briefly elaborate surgical procedures for hepatocellular carcinoma.
- 2. Describe principles involved in screening for cancer. Outline the evidence for lung cancer screening.

#### II. Write short notes on:

10 X 6 = 60 Marks

- 1. RET Proto-oncogene.
- 2. Biases in medical research.
- 3. Role of palliative care in terminal cancer.
- 4. Nanotechnology its role in cancer.
- 5. Isolated limb perfusion.
- 6. Phases of clinical trials.
- 7. HPV and cervical cancer.
- 8. Chemo prevention in head and neck cancer.
- 9. Genomics in cancer.
- 10. Institutional review board.

\*\*\*\*

### February 2010

[KW 056] Sub. Code: 1801

#### M.Ch. DEGREE EXAMINATIONS

(Super Specialities) (Revised Regulations) (Common to all candidates)

# Branch VII – Surgical Oncology Paper I – BASIC SCIENCES AS APPLIED TO SURGICAL ONCOLOGY

Q.P. Code: 181801

Time: Three hours Maximum: 100 Marks

# ANSWER ALL QUESTIONS Draw suitable diagrams wherever necessary.

I. Essays:  $2 \times 20 = 40 \text{ Marks}$ 

- 1. Discuss cell cycle, Ionising radiation, biological effects of radiation on normal and cancer tissues. Advantages of particle beam therapy.
- 2. Discuss in detail, the mechanism of action, mechanism of resistance, pharmacology of drug interaction, administration, toxicity and clinical uses of taxanes.

#### II. Write short notes on:

 $10 \times 6 = 60 \text{ Marks}$ 

- 1. What is Photodynamic therapy? Discuss its mechanism and uses in cancer treatment.
- 2. Targeted chemotherapy.
- 3. Radio immuno guided surgery.
- 4. Intensity modulated radiotherapy.
- 5. Apoptosis and cell proliferation.
- 6. Pharmacokinetic rationale and limitations of regional chemotherapy.
- 7. Radiosensitisers.
- 8. Hyperfractionation.
- 9. Natural killer cell.
- 10. Meta analysis.

#### February 2011

[KY 056] Sub. Code: 1801

### MASTER OF CHIRUGIAE (M.Ch.) DEGREE EXAMINATIONS

(Super Specialities)

#### **Branch VII - SURGICAL ONCOLOGY**

(Revised Regulations)

#### **Common to all candidates**

## Paper I – BASIC SCIENCES APPLIED TO SURGICAL ONCOLOGY

Q.P. Code: 181801

Time: Three hours Maximum: 100 Marks

# **Answer ALL questions**

Draw suitable diagrams wherever necessary.

I. Essays:  $(2 \times 20 = 40)$ 

- 1. Discuss the relationship between Diet and Cancer.
- 2. Discuss the biology of drug resistance in Cancer.

#### II. Write short notes on:

 $(10 \times 6 = 60)$ 

- 1. Proteosome inhibitors.
- 2. Programmed cell death.
- 3. Physical carcinogens.
- 4. Split dose repair in Radiotherapy.
- 5. Immune escape.
- 6. Topoisomerase interacting agents.
- 7. Meta analysis.
- 8. Tyrosine kinase inhibitors.
- 9. Sumitib.
- 10. Anti-angiogenesis agent.

\*\*\*\*

[KZ 056] Sub. Code: 1801

# MASTER OF CHIRUGIAE (M.Ch.) DEGREE EXAMINATION (SUPER SPECIALITIES)

## **BRANCH VII – SURGICAL ONCOLOGY**

# BASIC SCIENCES AS APPLIED TO SURGICAL ONCOLOGY

Q.P. Code:181801

Q.F. Code:101001			
Time: 3 hours	Maximum: 100 marks		
(180 Min)			
Answer ALL questions in the same orde I. Elaborate on :	<b>Pages</b>		Marks (Max.)
1. Discuss the biological aspects of Radiotherapy.	11	35	15
2. Discuss the role of diet in cancer.	11	35	15
II. Write notes on :			
1. Alkylating agents in chemotherapy.	4	10	7
2. Cohort study.	4	10	7
3. Stem cell therapy in cancer.	4	10	7
4. Cell cycle.	4	10	7
5. Passive immunological treatments.	4	10	7
6. Hospice care.	4	10	7
7. U.V. Radiation and cancer.	4	10	7
8. Radio frequency ablation.	4	10	7
9. Complications of chemotherapy.	4	10	7
10. AIDS and Cancer.	4	10	7

# February 2012

[LA 056] Sub. Code: 1801

# MASTER OF CHIRUGIAE (M.CH) DEGREE EXAMINATION (SUPER SPECIALITIES)

# BRANCH VII – SURGICAL ONCOLOGY

# BASIC SCIENCES AS APPLIED TO SURGICAL ONCOLOGY

BASIC SCIENCES AS APPLIED TO SURGICAL ONCOLOGY						
Q.P. Code: 181801						
(180 Min)		faximum: 100 marks				
Answer ALL questions in the same order.  I. Elaborate on:	Pages	Time (Max.)	Marks (Max.)			
1. Discuss about Viral carcinogenesis and cancer.	16	35	15			
2. Discuss the principles of screening and the basis for developing and evaluating a cancer screening program.	ng 16	35	15			
II. Write notes on :						
1. Pathophysiology of Cancer cachexia.	4	10	7			
2. RET Proto-oncogene and thyroid cancer.	4	10	7			
3. Comparative genomic hybridization.	4	10	7			
4. Anti-angiogenic therapy in solid tumors.	4	10	7			
5. Single nucleotide polymorphism.	4	10	7			
6. Retinoic acid and cancer.	4	10	7			
7. Linear Energy Transfer.	4	10	7			
8. Prophylactic salpingo-oophorectomy.	4	10	7			
9. Double strand breaks.	4	10	7			
10. Levels of Evidence.	4	10	7			

[LB 056] AUGUST 2012 Sub. Code: 1801

# M.Ch - SURGICAL ONCOLOGY

# Paper – I BASIC SCIENCES AS APPLIED TO SURGICAL ONCOLOGY Q.P. Code: 181801

(180 Min)

	Answer ALL questions in the same ord								
I. Ela	borate on :	Pages (Max.)	Time (Max.)	Marks (Max.)					
1.	Discuss the uses and advances in DNA microarray technology in cancer.	16	35	15					
2.	Discuss briefly about the hereditary predisposition to col cancers and the impact of microsatellite instability (MSI)		35	15					
II W	rite notes on :								
	Elaborate on the association between VHL gene and Rer cell carcinoma.	aal 4	10	7					
2.	Discuss the function and the clinical significance of Heat shock proteins.	4	10	7					
3.	Describe the pharmacokinetics of Capecitabine.	4	10	7					
4.	Elaborate on the role of tumor stroma interactions in tumor metastasis.	4	10	7					
5.	Discuss the biological basis of Fractionation in Radiotherapy.	4	10	7					
6.	Discuss the role of Adenomatosis polyposis coli (APC) g in colorectal cancer.	gene 4	10	7					
7.	Describe the statistical design of a Non inferiority trials.	4	10	7					
8.	Elaborate on the role of prophylactic thyroidectomy in medullary carcinoma thyroid.	4	10	7					
9.	Describe the mechanisms of cell cycle check points in gemaintanence.	enome 4	10	7					
10	Discuss the clinical significance of detection of circulating tumor cells in solid tumors.	ng 4	10	7					

#### M.Ch-SURGICAL ONCOLOGY

#### Paper – I BASIC SCIENCES AS APPLIED TO SURGICAL ONCOLOGY

Q.P. Code:181801

Time: 3 hours Maximum: 100 marks

(180 Min)

I.Elaborate on: (2x15marks=30marks)

- 1. Discuss the Principles of combining Anti cancer agents with Radiotherapy
- 2. Discuss the role of Epigenetic biomarkers for early detection of cancer.

II.Write short notes: (10x7marks=70marks)

- 1. Discuss the role of Waterfall plots in accessing clinical response
- 2. Discuss the significance of KRAS mutations in colorectal cancers
- 3. Pathogenesis of radiotherapy and chemotherapy induced oral mucositis
- 4. Discuss the molecular biology of Translocation associated sarcomas.
- 5. Pathway oriented models of Cancer Genome Analysis
- 6. Mechanisms of resistance to Tyrosine Kinase inhibitors.
- 7. Discuss the role of Anueploidy and Cancer
- 8. Discuss the issues concerning telomerase maintenance and cancer.
- 9. Role of Asbestos in the aetiopathogenesis of cancer.
- 10. Enumerate the surrogate markers for angiogeneic therapy.

# M.Ch. – SURGICAL ONCOLOGY Paper – I BASIC SCIENCES AS APPLIED TO SURGICAL ONCOLOGY *Q.P.Code: 181801*

Time: Three Hours Maximum: 100 marks

I. Elaborate on: (2X15=30)

1. Enumerate the various radiological interventional procedures and discuss the technique and their uses in cancer management.

2. Role of diet and its role in carcinogenesis.

**II.** Write notes on: (10X7=70)

1. Evaluation and management of unknown primary with axillary nodal metastasis.

- 2. Discuss about telomers, telomerases and their role in cancer development.
- 3. Explain about molecular mechanisms involved in apoptosis.
- 4. Discuss about the Phases of cell cycles and its regulation.
- 5. Hyperthermic intraperitoneal chemotherapy.
- 6. Discuss about Radiation sensitisers.
- 7. Discuss about Compton effect and Bragg's peak.
- 8. Enumerate and compare different evaluation criteria for response assessment.
- 9. Pharmacokinetics of Capecitabine.
- 10. Explain Laser capture microdissection and its applications.