

**Paper II: Technical Subject**

**Section (A) - 45 Marks**

**( 1 critical analysis Q -15 mark + 3 long Q- 30 marks)**

1. Principle of X-Ray, Ultrasound, Fluoroscopy, CT, MRI and Mammography
2. Imaging of head, neck, chest, abdomen, spine and extremities
3. Diagnosis of stroke
4. CT and Dual energy CT angiography
5. MR angiography
6. Diagnosis of acute arterial wall dissection, subclavian steal syndrome
7. Imaging of peripheral vascular disease
8. Imaging of pulmonary embolism and other lung conditions
9. Catheter directed Angiography
10. Angiographic contrast media
11. Needles, Guide Wires and Stents
12. Embolization materials
13. Risk management in interventional procedures
14. Universal protocol in interventional radiology
15. Radiation safety in interventional radiology
16. Infection control and sterile technique in interventional radiology
17. Sedation, analgesia and anesthesia
18. Management of contrast media reactions
19. Quality improvement strategies in interventional radiology
20. Out patient drainage catheter care
21. Commonly use medication and dosages
22. Interventional procedure
  - 22.1 Image guided FNA in different sites/tumors
  - 22.2 Image guided Trucut biopsy procedures
  - 22.3 Catheter drainage in collections/abscess in different places
  - 22.4 Percutaneous nephrostomy and antegrade ureteral stenting
  - 22.5 Percutaneous biliary interventions
  - 22.6 Percutaneous gastrostomy, gastrojejunostomy, jejunostomy, cecostomy
  - 22.7 Selective salphingography and fallopian tube recanalization

**Section (B) - 55 Marks**

**(1 critical analysis Q -15 marks + 4 long Q -40 marks)**

23. Skeletal interventions
  - 23.1 Musculoskeletal biopsy and ablations
  - 23.2 Vertebroplasty, kyphoplasty
  - 23.3 Spinal facet procedures

पाटन स्वास्थ्य विज्ञान प्रतिष्ठान सेवा आयोग  
प्राज्ञिक सेवा, रेडियोलोजी समूह, **Interventional Radiology** उपसमूह, सहायक प्राध्यापक पद, नौ ख  
(९ ख) तहको खुला र आन्तरिक प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

- 23.4 Sacroiliac joint injection
- 23.5 Ablations of bone tumor
- 24. Angiographic interventional procedures
  - 24.1 Basics principles
    - 24.1.1 Perioperative management including infrastructure and staffing
    - 24.1.2 Diagnostic arteriography, venography, pulmonary arteriography
    - 24.1.3 Stent grafts and basic principles of stent grafting
    - 24.1.4 Stent graphs for abdominal aortic aneurysm
    - 24.1.5 Diagnosis and management of endoleaks
    - 24.1.6 Device migration, dislocation, kinking and occlusion
  - 24.2 Procedures
    - 24.2.1 Aortoiliac angioplasty and stents
    - 24.2.2 Thoracic aortic intervention
    - 24.2.3 Acute aortic syndrome
    - 24.2.4 Traumatic lesions of the thoracic aorta
    - 24.2.5 Endovascular interventional in superficial femoral artery
    - 24.2.6 Intrapopliteal arterial obstructive disease
    - 24.2.7 Interventional procedures in visceral and extremity arteriovenous malformations
    - 24.2.8 Renal artery angioplasty and stents
    - 24.2.9 Interventional procedures in gastrointestinal arterial bleeding
    - 24.2.10 Chemoembolization of hepatocellular carcinoma and hepatic metastasis
    - 24.2.11 Pulmonary arterial thrombectomy and thrombolysis
    - 24.2.12 Central venous accessed
    - 24.2.13 Retrieval of intravascular foreign bodies
    - 24.2.14 Vencaval filters
    - 24.2.15 Transjugular intrahepatic portosystemic shunts (TIPS)
    - 24.2.16 Interventional radiology in liver transplant
    - 24.2.17 Preoperative portal vein embolization
    - 24.2.18 Embolization of varicocele, ovarian vein
    - 24.2.19 Thrombolytic therapy for lower extremity deep vein thrombosis
    - 24.2.20 Venous angioplasty and stents
    - 24.2.21 Sclerotherapy
    - 24.2.22 Dialysis fistulae
    - 24.2.23 Dialysis grafts, catheter management
    - 24.2.24 Radiofrequency/microwave ablation
    - 24.2.25 Esophageal stents
    - 24.2.26 Colorectal stent placements

पाटन स्वास्थ्य विज्ञान प्रतिष्ठान सेवा आयोग  
 प्राज्ञिक सेवा, रेडियोलोजी समूह, **Interventional Radiology** उपसमूह, सहायक प्राध्यापक पद, नौ ख  
 (९ ख) तहको खुला र आन्तरिक प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

Following pattern will be used for formation of paper I & II as far as possible.

Paper I				
Part	Section	Weightage	No. Questions & Weightage	
			Objective Multiple Choice	Subjective
I	A	20		2 Questions X 10 Mark = 20
	B	30		3 Questions X 10 Mark = 30
II	C	25	25 Questions X 1 Mark = 25	
	D	25	25 Questions X 1 Mark = 25	
Paper II				
Section	Weightage	No. Questions & Weightage		
		Long answer	Critical Analysis	
A	45	3 Questions X 10 Mark = 30	1 Questions X 15 Mark = 15	
B	55	4 Questions X 10 Mark = 40	1 Questions X 15 Mark = 15	