

राजस्थान सरकार
निदेशालय चिकित्सा एवं स्वास्थ्य सेवायें, राजस्थान, जयपुर।

क्रमांक:राजपत्रित/डीपीसी/सर्टि.कोर्स/2015/

दिनांक: 04-05-2015

परिपत्र

विषय:— एक वर्षीय सर्टिफिकेट कोर्स हेतु सिलेबस/कार्स कोरिकूलम उपलब्ध कराने के सम्बन्ध में।

राज्य के 6 मेडिकल कालेजों में 10 विशिष्टताओं में संचालित एक वर्षीय सर्टिफिकेट कोर्स का Syllabus/Course Curriculum राजस्थान स्वास्थ्य विज्ञान विश्वविद्यालय की विद्यापरिषद् एवं प्रबन्ध मण्डल से अनुमोदन पश्चात् सयुक्त शासन सचिव, चिकित्सा शिक्षा विभाग को पत्रांक 1340 दिनांक 29.04.2015 के द्वारा भिजवाते हुई, प्रति सभी मेडिकल कालेजों एवं इस निदेशालय को पृष्ठांकित की गई है। उक्त Syllabus/Course Curriculum सभी मेडिकल कालेजों को इस निदेशालय द्वारा भी ई-मेल द्वारा भिजवाया जा चुका है।

अतः उक्त कोर्स हेतु सभी 10 विशिष्टताओं का Syllabus/Course Curriculum की प्रति सलग्न कर सभी प्रशिक्षणरत चिकित्सकों की सूचनार्थ विभागीय वेबसाईट पर प्रदर्शित किया जाता है।

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निदेशक (जन स्वास्थ्य)
चिकित्सा एवं स्वास्थ्य सेवायें,
राजस्थान, जयपुर।

क्रमांक:राजपत्रित/डीपीसी/सर्टि.कोर्स/2015/

दिनांक: 04-05-2015

प्रतिलिपि निम्नांकित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित है:—

1. विशिष्ट सहायक, माननीय मंत्री महोदय, चिकित्सा, स्वास्थ्य एवं परिवार कल्याण विभाग, राजस्थान, जयपुर।
2. निजी सचिव, प्रमुख शासन सचिव, चिकित्सा एवं स्वास्थ्य विभाग, राजस्थान, जयपुर।
3. निजी सचिव, प्रमुख शासन सचिव, चिकित्सा शिक्षा विभाग, राजस्थान, जयपुर।
4. सयुक्त शासन सचिव, चिकित्सा शिक्षा (ग्रुप-1) विभाग, राजस्थान, जयपुर।
5. सयुक्त शासन सचिव, चिकित्सा एवं स्वास्थ्य (ग्रुप-2) विभाग, जयपुर।
6. प्रभारी सेन्ट्रल सर्वर रूम, मुख्यालय को प्रेषित कर लेख है कि उक्त परिपत्र विभागीय वेब-साईट पर प्रदर्शित करने का श्रम करावें।

निदेशक (जन स्वास्थ्य)
चिकित्सा एवं स्वास्थ्य सेवायें,
राजस्थान, जयपुर।



राजस्थान स्वास्थ्य विज्ञान विश्वविद्यालय

RAJASTHAN UNIVERSITY OF HEALTH SCIENCES

Sector-18, Kumbha Marg, Pratap Nagar, Tonk Road, Jaipur-302033(Raj.)

क्रमांक: एफ-8()एकेडमिक/राज.स्वा.वि.वि./2014-15/ 1340

दिनांक: 28/4/2014

संयुक्त शासन सचिव,
चिकित्सा शिक्षा विभाग,
राजस्थान सरकार,
जयपुर।

विषय :- एक वर्षीय सर्टिफिकेट कोर्स हेतु सिलेबस/कोर्स कोरिकूलम उपलब्ध कराने के सम्बन्ध में।

प्रसंग :- इस विश्वविद्यालय के पत्रांक 11478 दिनांक 27.09.2014 एवं 20558-60 दिनांक 09.03.2015 के सन्दर्भ में।

महोदय,

उपरोक्त विषयान्तर्गत एवं प्रासंगिक पत्रों के सन्दर्भ में एक वर्षीय सर्टिफिकेट कोर्स हेतु डीन-मेडिसिन से प्राप्त पांच विषयों के सिलेबस विश्वविद्यालय की विद्यापरिषद् के अनुमोदन पश्चात् आवश्यक कार्यवाही किये जाने हेतु पत्र क्रमांक 11476 दिनांक 27.09.2014 एवं 20558-60 दिनांक 09.03.2015 प्रासंगिक पत्रों (पत्र की प्रति संलग्न) एवं ई-मेल के माध्यम से निम्नलिखित विषयों के सिलेबस भिजवा दिये गये थे।

क्र.सं.	विषय का नाम	पेज संख्या
1.	एनेस्थेसिया	1-3
2.	गायनोकोलोजी	4-5
3.	आर्थोपेडिक्स	6-7
4.	पेडियाट्रिक्स	8-15
5.	रेडियोलॉजी (रेडियोडायग्नोसिस)	16-18

विद्यापरिषद् की बैठक दिनांक 07.04.2015 एवं प्रबन्ध मण्डल की बैठक 08.04.2015 में अनुमोदन पश्चात् निम्न लिखित नवीन पांच एक वर्षीय सर्टिफिकेट कोर्स के सिलेबस निम्नानुसार संलग्न कर भिजवाये जा रहे हैं:-

क्र.सं.	विषय का नाम	पेज संख्या
1.	आपथोलमोलॉजी	19-25
2.	ई.एन.टी.	26-32
3.	ईमरजेन्सी मेडिसिन	33-35
4.	सर्जरी	36-38
5.	पैथोलॉजी	39-40

संलग्न:- उपरोक्तानुसार।

क्रमांक: एफ-8()एकेडमिक/राज.स्वा.वि.वि./2014-15/ 1341-50
प्रतिलिपी निम्न को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित है।

1. निजी सचिव, माननीय कुलपति महोदय, राज.स्वा.वि.वि., जयपुर।
2. निदेशक, चिकित्सा एवं स्वास्थ्य निदेशालय, राजस्थान सरकार, जयपुर।
3. निदेशक, चिकित्सा शिक्षा निदेशालय, राजस्थान सरकार, जयपुर।
4. प्रधानाचार्य एवं नियंत्रक, एस.एम.एस. मेडिकल कॉलेज, जयपुर।
5. प्रधानाचार्य एवं नियंत्रक, जे.एल.एन. मेडिकल कॉलेज, अजमेर।
6. प्रधानाचार्य एवं नियंत्रक, आर.एन.टी. मेडिकल कॉलेज, उदयपुर।
7. प्रधानाचार्य एवं नियंत्रक, डॉ. एस.एन. मेडिकल कॉलेज, जोधपुर।
8. प्रधानाचार्य एवं नियंत्रक, एस.पी. मेडिकल कॉलेज, बीकानेर।
9. प्रधानाचार्य एवं नियंत्रक, राजकीय मेडिकल कॉलेज, कोटा।
10. रक्षित पत्रावली।

दिनांक: 28/4/2014

कुलसचिव

कुलसचिव

Syllabus/Prospects for certificate course in Anaesthesiology

Duration –One year

Theory Subject:-

1. Introduction Principal & practice of anaesthesia.
2. Anaesthesia delivering system
3. Anaesthesia machines etc.
4. Pre anaesthesia evaluation
5. Inhalational agents, drugs and techniques
6. Anaesthesia and, Respiratory system
7. Anaesthesia and Cardiovascular system-associated cardiac diseases
8. Anaesthesia for Paediatric surgery & Geriatric
9. Intravenous Anaesthesia
10. Anaesthesia in Gynae & obstetric
11. Anaesthesia and Critical care in surgery case
12. Anaesthesia for Eye surgery, ENT, Thyroid
13. Anaesthesia in diabetic patients , endocrinal, liver, kidney
14. Electrolytes, Acid base disturbances & Arterial blood gas analysis
15. Spinal Anaesthesia & epidural
 - Anatomy to spinal canal
 - Physiology spinal canal
 - Techniques & drugs admin.
 - Complication of spinal
16. Peripheral nerve block
17. Mechanical ventilation
 - Noninvasive
 - Invasive
18. Assessment & care of critically ill patients
19. Anaesthesia for burn patient

Procedures

1. Endotracheal intubation technique and devices
2. Airway management and cardiopulmonary resuscitation (CPR)
3. Use of oxygen therapy device
4. Ventilator management
5. Intravenous and central cannulation
6. Monitoring in Anaesthesia
7. Regional Anaesthesia technique-Special, Epidural, and Regional blocks

Anaesthesia practical skills

• I V cannulation	50
• Central venous	20
• Ventilation with ambu bag	25
• Endotracheal intubation	50
• Maintenance of air way	50
• LMA	50
• Spinal anaesthesia	25
• Fluid therapy	50
• Defibrillator on simulates (Dummy)	20

Posting duration – One year certified course in Anaesthesiology

I. General surgery	3 months
II. Orthopedic	2 months
III. Emergency (Including Poly trauma & Head injury management)	2 months
IV. Gynae & obstetric	3 months
V. Paediatrics	1 month
VI. I.C.U. and critical care	1 months



Examination: Certified Course in Anaesthesiology

Theory Examination

Paper I

Applied basic medical – science anatomy, physiology biochemistry, and pharmacology related to Anaesthesia Inhalation agents, drugs and techniques General, Regional and Intravenous Anaesthesia

Paper II

Anaesthesia in system disorder including respiratory cardiovascular metabolic endocrinology Gynae, and obstetric eye and ENT, Liver and Kidney disease, Trauma and Critical Care and Recent advances

Practical Examination Viva-voce

Case Presentation

Examiners (External)

(Internal)

Assessment during training period:

There will be two tests Per Assessment & Mid Assessment which will include theory & practical assessment & 25% marks will be added in final examination.

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OBS & Gynae TRAINING PROGRAMME

1. Registration & orientation
2. AN care
3. Intrapartum care
4. Active management of labour
5. Active management of III stage
6. Abnormal labour
7. Instrumental delivery
8. Postpartum haemorrhagic
9. Essential new care
 - Immediate
 - Postnatal
10. Abnormal AN (Identification & Managements)
 - Hypertensive disorder
 - Anemia
 - Abortion
 - ADH
11. Abnormal delivery
12. Associated problems
13. Prevention of infection
14. Gynaecological examination
15. Gynaecological emergencies

Recommended clinical practices	No. of patients	
	observe	Perform
Antenatal check up	50	500
Identification and management of complicated pregnancy	50	100
Preparing instruments/trolley for delivery	5	10
Performing P/V examination	10	100
Monitoring of labour a lot x interpret Portograph	25	100
Conduct normal delivery Conduct N.D. Active management Examination of placenta		

ENBC	5	10
Breast feeding		
Diagnosis and management of PPH	5	25
Removal of retained products	5	20
Identification and Management of perineal tears	2	15
Management of Eclampsia	5	20
Identification and management of complication of labour	50	50
EXM of postpartum perineol	20	100
Emergency obstetric procedure	10	20

for

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Certificate course in ORTHOPAEDIC TRAUMA & EMERGENCY MANAGEMENT

GOALS- To impart knowledge & skill sufficient enough to a candidate so that he can -

- a) Give primary emergency management in road traffic accident or polytrauma patients at Primary / Secondary health care set up and safe transfer of Patients to higher set up after stabilization.
- b) Management of Trauma cases where conservative management is feasible.
- c) To diagnose and treat common orthopaedic disorders as OPD patients.

SELECTION - The selection criteria should ensure that only motivated candidates should be enrolled.

The age limit should be between 30 - 50 year with minimum 5 year of in service.

GOALS-

- 1 Year : Two semester of six month each.
- Minimum of 275 days of working / learning will be necessary to sit in final examination.
- It can be done in two semesters with 3 month of original field position in between the two semester.

PATTERN OF TRAINING / LEARNING

- Each candidate will be assigned a guide, who will be at least an assistant professor in the department with one-year experience.
- The guide will be responsible for his day to day training & learning. The candidate will have to attend OPD/Emergency/ Plaster room and ward round with the guide.
- He will have to participate in departmental seminars and other teaching sessions time to time.
- Few dedicated lectures will be taken by the faculty commonly for all the candidates.
- There will be a minimum 3 month dedicated emergency posting. One month in first semester and two months in 2nd semester.

LOG BOOK

- There will be a log book, where the candidate will record the procedures and tasks done by him. The guide should counter sign these entries.
- There will be a minimum requirement of Procedures / tasks performed to make a candidate eligible for final examination.

The common tasks would be:

- a). Common emergency & OPD procedures.
- b). Plaster & Reductions.
- c). Traction application.
- d). Diagnosis & Treatment of common orthopaedic disorders.

SYLLABUS/CONTENT OF COURSE

- a) Basic of orthopaedic trauma
- b) Principles of emergency resuscitation & management of polytrauma patients.
- c) Set up an emergency / primary management unit for Pts at periphery.
- d) Basics of fractures healing
- e) Assessment & primary management of head injury.
- f) Assessment & primary management of abdominal injury.
- g) Assessment & primary management of chest injury.
- h) Assessment & primary management of spine injury.
- i) Assessment & primary management of limb injury.
- j) Fracture /dislocations of upper & lower extremities.
- k) Spine injuries.
- l) Back Pain - Primary diagnosis management
- m) Bone & Joint tuberculosis
- n) Bone & Joint infections.
- o) Common soft tissue disorders
- p) Inflammatory and degenerative arthritis.
- q) Primary physiotherapy methods.
- r) Assessment of orthopaedic disability.

PERIODIC ASSESSMENT:

- Periodic assessment will be done by the guide.
- At there month there will be a formal assessment by the departmental committee consists of HOD & two other senior teaching faculties. and if a candidate is found to be grossly unsuitable on the basis of conduct, the committee can recommend to be Principle for his / her termination.

FINAL EXAMINATION:

- There will be two theory papers and one practical examination.
- Passing in theory and practical separately is necessary for award of certificate.
- One theory paper would be on emergency & Trauma management.
- The second theory paper would be on common orthopaedic disorders.
- For practical examination there should be one external & one internal examiner panel
- The pattern can be as below: (for 100 marks)

a) Ward Rounds	15 Marks
b) Plaster procedures demonstration	15 Marks
c) Short Cases (four cases)	40 Marks (10 marks each)
d) Grand Viva	30 Marks

SYLLABUS OF PEDIATRICS

S.no.	Topic	Knowledge	Skills	No. of children observed	Done
Emergency and Critical Care					
1	Cardiac arrest	HR, SpO2 monitoring	Method of CPR	20	10
		Drugs used	Method of intubation	40	20
		How to intubate	Bag and mask ventilation technique	50	25
		Which Size of ET to be used What is BMV	How to do suction	50	25
2	Shock	Identify and classify	BP Measurement	50	25
		Management	How to assess CRT	50	25
		Knowledge of drugs used	Pulse assessment	100	50
		When to refer			
3	CHF	Identify	HR, RR monitoring	100	50
		Signs and symptoms of CHF	BP measurement	50	25
		What is the cause of CHF	Liver Span	50	25
		When to refer			
4	Status epilepticus	Identify, type, cause of seizure	IV canulation	200	100
		Drugs used and their doses	How to administered Per rectal Diazepam	10	5
		General management (Airway, breathing, Circulation)	Nasal spray of Midazolam	10	5
		When to Refer			
5	Status asthmaticus	Identify (Pulmonary Score Index)	Method of Nebulization	10	5
		Classification of severity	How to use inhalors	10	5
		Danger sign's	Counselling of parents regarding when to Increase dosing.	10	5
		Management general and specific	Oxygen Therapy	20	10
		Sick day care			
		Drugs used and their doses	Pulse Oxymetry	20	10
		When to refer			

SYLLABUS OF PEDIATRICS

S.no.	Topic	Knowledge	Skills	No. of children observed	Done
6	Poisoning:	Signs and symptoms of common poisons	Gastric lavage	20	10
	Organophosphorus	Investigation	Sample to be preserved	20	10
	Organochlorine	MLC notification	ASV administration & Doses	10	5
	Kerosine oil	Specific antidote used			
	Turpentine	General management			
7	Acute illness and injury care	Recognition	Stitching	20	10
		ABC management	Immobilization	20	10
		Triage management			
8	Fluid and electrolyte	Composition of fluids	ABG	50	25
		Signs and symptoms of dyselectrolytemia			
	Dehydration	How to assess dehydration and classify	How to prepare ORS How to give ORS	50 50	25 25
General Pediatrics					
9.	Habit and behavioural disorder	Pica, Temper tantrums	Identification	20	10
		BHS, PDD, Enuresis, Tics, Anorexia nervosa, Bulimia	Counselling parents	20	10

SYLLABUS OF PEDIATRICS

		nervosa			
S.no.	Topic	Knowledge	Skills	No. of children observed	Done
10.	Normal growth and development and its disorder	Normal growth and deviation from it -Physical and somatic growth Normal development and deviation from it	Anthropometry	50	25
			SMR	50	25
			Growth chart Interpretation	50	25
			Assessment of Normal development	50	25
			Communication	50	25
11.	Nutrition	Complimentary Feeding (Cow, Breast milk composition) Top feeding (Suthi / NG/Tube feeding) Routine food items used – Dose of micronutrients Balanced diet Vitamins and minerals deficiency sign and symptoms	EBM	40	20
			F-75/100 composition and how to prepare	20	10
			Monitoring of Temp/BS/Hydration	20	10
			Calorie calculation	20	10
			Method of formula feed preparation	10	5
			Management of SAM	20	10
			Malnutrition(over/under) identify and grading	20	10
12.	Immunization	Vaccine schedule, Dose, Immunization Programme Common side effects Contraindications Immunization system/register Storage and handling	Route of administration and dose	50	25
			Communication with parents	50	25

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SYLLABUS OF PEDIATRICS

		Vaccine adverse effect reporting			
13.	Infection	Common infectious diseases (TB, Chickenpox, measles, ARI, LRTI, pneumonia, malaria, typhoid, dengue, diarrhoea, hepatitis, scrub typhus, tetanus, swine flu, ebola virus, protozoan, helminthic, fungal, scabies, PUO)	Signs and symptoms	20	10
			Investigations	20	10
			Management	40	20
			Isolation	10	5
			Notifiable disease	20	10
			Management of contacts	10	5
			Preventive measure	20	10
14.	Neonatology	Resuscitation(NRP)	Danger sign and when to refer	40	20
		Perinatal care			
		Essential newborn care in labour room.	History taking and examination	20	10
		Identification and classification(LBW/PT)	Monitoring for respiratory distress	40	20
		Newborn feeding	When to transfuse blood components	40	20
		Common transient phenomenon	Shake test	10	5
		Respiratory distress,	Apgar score	50	25
		Apnoea,	Measurement of temperature	40	20
		Sepsis,	Surfactant therapy	10	5
		Jaundice	Hand washing	50	25
		Bleeding disorder (HDN)			

SYLLABUS OF PEDIATRICS

		Anaemia,	Sampling	100	50
		NEC	Pulse-oxymetry	20	10
		Blood components,	Oxygen therapy (CPAP,	20	10
		Identification and	Hood, nasal prong, mask)		
		classification of HIE and its	Umbilical cannulation	20	10
		management	Exchange transfusion	10	5
		Thermoregulation and	NG tube insertion & NG	50	25
		temperature maintenance	feeding,		
		during transport	NS Enema,	10	5
		Knowledge of perinatal	Stomach wash	20	10
		medicine	Breast feeding techniques	20	10
		Surgical emergencies and	Method of KMC		
		malformations – prognosis	How to use mucus sucker.	20	10
		Breast feeding	Management of neonatal	40	20
		KMC	seizures		
		Phototherapy		20	10
		Benefits of breast feeding			
		Identification of Neonatal			
		Seizures (Hypoglycemia,			
		Hypocalcemia)			
Systemic Pediatrics					
15.	Respiratory system	Identification of respiratory distress	X-Ray Interpretation	50	25
		Cough(acute/chronic)	Management	20	10
		Breathing(noisy, stridor, wheeze, croup)	PSI scoring	20	10
		Asthma,	ICD insertion	10	5
		Bronchiolitis,	Pleural tap	10	5
		Pneumonia	Devices used: MDI and spacer	40	20
		Acute URI-Otitis media,	Nebulization	20	10
		ASOM, CSOM, Adenoiditis,			

SYLLABUS OF PEDIATRICS

		Tonsillitis Pleural effusion, Pneumothorax, Foreign body			
S.no.	Topic	Knowledge	Skills	No. of children observed	Done
16.	GIT	Diarrhoea (acute, persistent, chronic) Vomiting, Dysentery Abdominal pain and distension Constipation Malabsorption syndromes- celiac disease GI bleeding(upper, lower) Liver disease(Jaundice, Acute liver failure and encephalopathy, CLD) HSM, Ascites	History taking and examination Examination Ascitic tap Management of specific disease Liver biopsy Diet Counselling of celiac pateint	40 10 10 10 20	20 5 5 5 10
17.	CVS	Identification and approach to CHD(Acyanotic/Cyanotic), CHF, Shock Rheumatic fever & RHD Infective Endocarditis (signs and symptoms) Hypertension	ECG interpretation	10	5

SYLLABUS OF PEDIATRICS

		Rhythm disorder			
S.no.	Topic	Knowledge	Skills	No. of children observed	Done
18.	Nephrology	Nephritic syndrome	Urine collection procedure	40	20
		Nephrotic syndrome	Urine examination	20	10
		UTI	MCUG	10	5
		AKI (Prerenal, Renal and Postrenal)	Catheterization	20	10
		Hematuria	Suprapubic urine collection	10	5
		CAKUT			
		Indication of peritoneal dialysis			
19.	Hematological	Anaemia identification and classification	PBF	20	10
		Nutritional(iron, B12, FA)	Bone Marrow Aspiration and biopsy	20	10
		Hemolytic,(Thalassemia)	BT ,CT	20	10
		Bleeding disorder (Hemophilia, ITP)			
		Malignancy (leukemias lymphomas)			
20.	Neurology	Convulsions (including Febrile)	Lumbar puncture	40	20
		AFP	CSF examination and gram staining	20	10
		Stroke	Neurological examination	40	20
		Cerebral palsy			
		Hydrocephalus			
		TBM, Encephalitis, Meningitis			
		Floppy infant			
		Comatose patient			
		Headache			

SYLLABUS OF PEDIATRICS

S.no.	Topic	Abnormal development Movements disorders			
		Knowledge	Skills	No. of children observed	Done
21.	Endocrinology	Thyroid disorders	BMI & SMR staging	20	10
		IDDM and DKA	Fluid Therapy in DKA	20	10
		Short stature	Insulin Therapy	20	10
		CAH	Blood sugar monitoring	20	10
		Obesity	Long term management & Counselling	20	10

km

GUIDELINES FOR ONE YEAR CERTIFICATE COURSE IN RADIO- DIAGNOSIS

Programme Objectives : The objectives is to train Govt in service (CAS) Doctors to become a skilled and competent doctors to conduct and interpret various medico legal x rays, fractures, age estimation & Sonography of obstetrics and Gynecology & whole abdomen & basic Knowledge of CT Scan

Programme Training

The training is spread over one year and includes following components :-

- 1) Theory Lectures for Radiation Physics & Radio diagnosis.
- 2) Rotational Posting in medico legal x-rays & sonography.
- 3) Basics of CT Scan

DURING THE ONE YEAR TRAINING THE STUDENT WILL WORK IN THE FOLLOWING AREAS

1	Radiography & Reporting	2 months
2	MLC posting	3 months
3	USG obs. & gynae	3 months
4	USG whole abdomen	3 months
5	C.T.Scan	1 Month

Certificate Course Examination

Examination pattern at the End of one year.

All the papers are to be set by 2 external examiners and modified by internal examiners

A. Theory

Paper 1 Basic sciences related to Radiology (Consists of Anatomy, pathology, Radiation Physics) Dark Room procedures and Apparatus Construction & Radiography.

Paper II Medico legal x ray reporting and age estimation.
Sonography of obstetrics and Gynecology. & whole abdomen.
CT Scan.

B Practical -Practical exam related to the MLC X ray, General X ray. & Sonography of obstetrics and Gynecology. & whole abdomen & CT Scan

Course Contents

A Physics, Apparatus, Photography and Film Faults.

1. Introduction of general properties of radiation and matter. Fundamentals of nuclear physics and radioactivity.
2. Production of X rays.
3. X- Ray Generating Apparatus
4. Interaction of X rays and gamma rays with matter and their effects on irradiated materials.
5. Measurement of X and gamma rays
6. Interaction of X ray with the patient
7. The radiological Image.

By hand

8. The Image Receptor
9. Contrast Enhancement
10. Radition hazards and protection
11. Quality Assurance
12. Fundamentals of electromagnetic radiation.
13. Characteristic properties of X-Rays.
14. X-Ray equipments :-
 - A. Conventional equipments
 - B. Fluoroscopy- Conventional and Imaging Intensifier
 - C. advanced equipments -US ,CT, MRI . .
15. Contrast Media -types ,chemical composition, mechanism of action, dose schedule ,route of administration, adverse reactions and their management.

B. Practical Schedule Physics

1. Film characteristics
2. Effectiveness of Lead Apron and other protective Devices.
3. Beam parameters check
4. Optical Radiation field alignment.
5. Assessment of Scatter radiation.
6. Quality control of X rays and Imaging equipments.
7. Evaluation of performance of a film processing unit.

C. Practical radiography and Dark Room technique.

1. Dark room techniques.
2. Radiography of the extremities.
3. Radiography of the spine, abdomen, pelvic..
4. Radiography of the skull.
5. Contrast techniques and interpretation of GI Tract, biliary tract, etc .
- 6- Contrast techniques and interpretation of the C.N.System.
7. Contrast techniques and interpretation of the cardiovascular system including chest.
8. Dental and portable radiography.
9. Radiation Hazard and protection

D .ANATOMY

Gross Anatomy of all the body systems.

E. PATHOLOGY

Gross morphology of pathological condition of systemic diseases.

F. RADIOLOGY COURSE CONTENTS

- 1 Skeletal System.
- 2 Age estimation
- 3 Sonography of obstetrics and Gynecology
- 4 Sonography of general abdomen.
- 5 CT Scan Principle & Application

Final
any

G.Training Schedule (Regarding no. of cases observed & performed in the different areas)

AREAS	NO.OF CASES OBSERVED	NO. OF CASES PERFORMED
1. Radiography & Reporting	200	400
2. MLC Posting	200	400
3. USG Obstetrics	100	200
4. USG Gynae	50	100
5. USG Whole abdomen	150	300
6. CT Scan	50	100

Final
by

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ONE YEAR CERTIFICATE COURSE IN OPHTHALMOLOGY: GENERAL GUIDELINES AND SYLLABUS

COURSE OBJECTIVE:

The purpose of this training is to enhance the basic knowledge of Govt. In-service doctors in the field of Ophthalmology so that they can actively participate in control of blindness in rural masses.

The primary objective is that at the completion of the training program, the trained MBBS doctors are able to:

1. Do routine eye OPD procedures like vision check-up, slit-lamp examination, IOP measurements, direct ophthalmoscopy and refraction.
2. Diagnose and treat common eye diseases.

COURSE SUPERVISION AND PATTERN OF TRAINING:

Each candidate will be assigned a guide who will be atleast an Assistant Professor in the Department with one year experience.

The guide will be responsible for the day to day training and learning. The candidate will have to attend OPD and ward round with the guide.

The candidate has to participate in departmental seminars and then teaching sessions held time to time in the department.

LOG BOOK:

There will be a log book where the candidate will record the procedures and tasks done by him.

The entries in the log book will signed by the guide and also countersigned by the Unit Head and Head of the Department on a monthly basis.

There will be a minimum requirement of procedures/ tasks performed to make the candidate eligible for final examination.

COURSE EVALUATION:

There will be periodic evaluation as well as year-end Internal assessment and University examination.

(A) PERIODIC ASSESSMENT

The candidate will be evaluated by guide on a regular basis.

At the end of every quarter, there will be a formal assessment by the Departmental committee consisting of H.O.D and two other senior teaching faculties.

If a candidate is found to be grossly unsuitable in the basic competence of skills/ punctuality/ conduct; the committee can recommend to the Principal for his termination.

(B) YEAR-END INTERNAL ASSESSMENT AND UNIVERSITY EXAMINATION

A 'Pass' in internal assessment and 80% attendance is mandatory for appearing in University examination.

There will be two theory papers and one practical examination:

Paper I (100 marks) : Basic science and Refraction

Paper II (100 marks) : Ocular Diseases and Community Ophthalmology

PRACTICAL EXAMINATION (100 marks) :

(For practical examination, there should be one external and one internal in the Examination Panel)

Minimum of 50% marks in each theory paper and practical examination will be necessary for award of certificate.

COURSE SYLLABUS / CONTENTS:

1. Embryology, Anatomy and Physiology of eye
2. Clinical Methods in Ophthalmology
3. Optics and refraction
4. Diseases of Conjunctiva
5. Diseases of Cornea
6. Diseases of Sclera
7. Diseases of the Uveal tract
8. Diseases of Lens
9. Glaucoma
10. Diseases of Vitreous
11. Diseases of Retina
12. Vision and Neuro-Ophthalmology
13. Strabismus and Nystagmus
14. Diseases of Lids
15. Diseases of Lacrimal Apparatus
16. Diseases of Orbit
17. Basic principles of Ocular Therapy
18. Systemic Ophthalmology
19. Community Ophthalmology

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LOG BOOK

DEPARTMENT OF OPHTHALMOLOGY

Period of postings: From to

Duration of postings : 1 month

Date of reporting :

Signature of staff

MONTHLY WORK DONE STATEMENT

Activity	Observed	Assisted	Performed	Sig of staff with date
I.Diagnosis and manage				
(a)Trauma				
(b)Acute conjunctivitis				
(c)Allergic conjunctivitis				
(d)Xerosis				
(e)Entopion				
(f)Corneal ulcer				
(g)Iridocyclitis				
(h)Myopia				
(i)Hypermetropia				
(j)cataract				
(k)Glaucoma				
(l)ocular injury				
(m)sudden loss of vision				
II. Assessment of refractive errors				
III.Perform investigative procedures				
(a)Tonometry				
(b)Syringing				
(c)Direct Ophthalmoscopy				
(d)Fluroscein staining of cornea				

[illegible]

6

CERTIFICATE OF ASSESSMENT

(to be signed every month)

Certified that Ms./Mr.....
worked in Ophthalmology Department from..... to
and satisfactorily completed the training postings. The trainee has been assessed
as follows:

Attribute	Score given 0- 5
1. Proficiency of knowledge	
2. Competency of skills	
3. Responsibility and punctuality	
4. Capacity to work in a team	
5. Initiative	

A score of less than 5 for any attribute may warrant repetition/extension of
postings as per the discretion of the guide.

Signature of Guide

Signature of Unit Head

Signature of Head of Department

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(24)

To

Dr. Bharti Malhotra

Professor,

Department of Microbiology

S.M.S Medical College, Jaipur

Subject: 1 year certificate course in Ophthalmology: General guidelines and Syllabus

Respected madam,

The general guidelines and syllabus of 1 year certificate course in Ophthalmology are being submitted to you for consideration and necessary action.

Thanking you.

Prof. Dr. J. K. Chauhan

Prof. Dr. K. Khilnani

Prof. Dr. Kishore Kumar

Dr. Manish Sharma

6/

25

Department of ENT SMS Medical College and Hospital, Jaipur

No. 185 /ENT/2015

Date. 27 /03/2015

To,
Dr. Bharti Malhotra
Dean RUHS
Jaipur.

Sub:- One year certificate course for upgradation of skills in ENT for MBBS Doctors in Rajasthan state service.

Madam,

Please find enclosed herewith One year certificate course for upgradation of skills in ENT for MBBS Doctors in Rajasthan state service. (6 pages)

Thanking You

Sincerely Yours

hlm
Professor & Head

काहोती एवं विभागाध्यक्ष
कान-नास-गला विभाग
ए. ई. मानसिंह चिकित्सालय, जयपुर

CURRICULUM

SUBJECT SPECIFIC THEORETICAL COMPETENCIES

Course Contents

The course contents may be divided into 'should know' and 'good to know' areas.

Should Know:

1. Anatomy and Physiology of Ear, Nose and Throat, Trachea and esophagus.
2. The generation and reception of speech
3. Radiographic anatomy of the ear, nose, throat and imaging.
4. Bacteriology in relation to Otorhinolaryngology
5. Allergy and rhinitis
6. Haematology in relation to Otolaryngology
7. Anaesthesia for Otolaryngology
8. Pharmacology of drugs used in ENT
9. Electrolyte, fluid balance/shock conditions
10. Preparation of slides
11. Should be well acquainted to Audiometric tests like pure tone Audiometry, Impedance Audiometry, Free field Audiometry, Specialized tests of hearing including SISI, Tone decay, ABLB, Speech discrimination score etc.
12. Vestibular tests like caloric testing.
13. Evoked response audiometry.

Ear:

1. The physical and functional examination of the ear
2. The functional and physical examination of the vestibular system.
3. Tinnitus
4. Affections of external ear
5. Traumatic conductive deafness
6. Acute inflammation of the middle ear cleft
7. Non-suppurative otitis media
8. Chronic suppurative otitis media
9. Management of chronic suppurative otitis media
10. Complications of infections of middle ear
11. Tumors of the middle ear cleft and temporal bone
12. Diseases of the otic capsule-otosclerosis
13. Diseases of the otic capsule-other diseases
14. The deaf child
15. Acoustic neuroma
16. Ototoxicity
17. Presbycusis
18. Diagnosis and management of sudden and fluctuant sensorineural hearing loss
19. Meniere's disease
20. Neurologic aspects of vertigo
21. Facial paralysis
22. Rehabilitation of adults with acquired hearing loss-Hearing aids
23. Nystagmus
24. Otoacoustic emissions

Nose:

1. Examination of the nose
2. Conditions of the external nose
3. Injuries of the facial skeleton
5. The nasal septum
6. Foreign bodies in the nose, rhinolith
7. Epistaxis
8. Acute chronic inflammations of the nasal cavities
9. Vasomotor rhinitis-allergic and non-allergic
10. Nasal polyposis
11. Abnormalities of smell
12. Acute sinusitis
13. Chronic sinusitis
14. Nasal Allergy/Fungal allergic sinusitis
15. Complications of acute and chronic sinusitis
16. Tumors of nose and sinuses
17. Facial pains
18. FESS

Throat:

1. Methods of examination of the mouth and pharynx
2. Diseases of the mouth
3. Diseases of the salivary glands
4. Pharyngeal lesions associated with general diseases
5. Diseases of the tonsils and adenoids (excluding neoplasms)
6. Tumors of the pharynx
7. Hypopharyngeal diverticulum (Pharyngeal Pouch)
8. Methods of examining and larynx and tracheobronchial tree
9. Congenital diseases of the larynx
10. Laryngeal disorders in singers and other voice users
11. Neurological affections of larynx and pharynx
12. Intubation of the larynx, laryngotomy and tracheostomy

Miscellaneous and head and neck:

1. Cranial nerves
2. Anatomy and physiology of thyroid gland, other diseases of the thyroid and carcinoma of thyroid

General:

1. Physiology of circulation, regulation of blood pressure, reactions of body to haemorrhage, patho-physiology of shock, fluid balance, blood transfusion and its hazards, fluid replacement therapy, burns.
2. Agents used in shock like states.

Good to know

1. The ears and nasal sinuses in the aerospace environment
2. Physiological consideration of pressure effects on the ear and sinuses in deep water diving
3. The principles of cancer immunology with particular reference to head and neck cancer
4. Principles of chemotherapy in head and neck cancer
5. Recording of nystagmus by ENG and its interpretation.

Ear:

1. Traumatic lesions of the inner ear
2. Inflammatory lesions of the vestibular and auditory nerve
3. Vascular lesions of the inner ear
4. Electronystagmography
5. Skull base/Neurologic surgery

Nose:

1. Cosmetic surgery of the nose
2. Non-healing granuloma of the nose
3. Surgery of the pterygopalatine fossa.

Throat:

1. Oesophageal conditions in the practice of ear, nose and throat surgery
2. Disorders of speech
3. Lower respiratory conditions in Otolaryngology

Miscellaneous and head and neck

1. Functional Anatomy of cerebellum and brainstem
2. Anatomy of mediastinum
3. Pleura, pleural cavity, broncho-pulmonary segments and their clinical importance
4. Facial plastic surgery

Drugs used in Ent:

1. Antibiotics Antihistaminic
2. Nasal vasoconstrictors
3. Local anaesthetics
4. Corticosteroids
5. Cyto-toxic agents
6. Antibiotics
7. Radioactive isotopes
8. Antifungal agents
9. Vasopressive and other agents used in shock and states.

by

Syllabus for Individual Papers:

Paper I: Applied Basic Sciences related ENT

- ☐ Physiology - Mechanism of perception of smell and taste, mechanism of breathing and voice production, lacrimation, deglutition and salivation. Functional tests of the nose and paranasal sinuses, mechanism of cough and sneezing.
- ☐ Physics of sound, theories of hearing, mechanism of perception of sound and speech production, physiology of equilibrium and cerebral function. Physiology of brain in connection with hearing, speech, smell and phonation. Audiologic tests like audiometry, impedance, evoked potentials, OAE, Speech audiometry.
- ☐ Physiology of larynx, tracheobronchial tree and oesophagus - Histology of mucous membranes, internal ear and other associated organs and structures, nose, PNS NPx, Larynx, Tracheo-Bronchial tree, Lymphoepithelial system. Mechanism of immune system/immunology and genetics.
- ☐ Anatomy - Embryogenesis of ear, nose and throat including palate and the larynx, Oesophagus, trachea and lungs, tongue, salivary gland Head and Neck and skull base etc.
- ☐ Parapharyngeal spaces in the neck including connective tissue barriers of larynx.
- ☐ Applied anatomy of the skull bones, accessory sinuses, external, middle and inner ears, nose, PNS, nasopharynx, meninges, brain, pharynx, larynx, trachea and bronchi, lungs, pleurae, oesophagus and the mediastinum.
- ☐ Anatomy of all cranial nerves with their functions.

Paper II: Clinical and Surgical ENT

- ☐ Clinical Methodology as applied to ORL HN diseases in adult and children and the accessory sinuses, diagnosis and surgical treatment of diseases of nose, throat and ear in adult and children. Prevention and treatment, infectious diseases of Otolaryngology and Head Neck region. Circulatory and nervous disturbances of the nose, throat and ear and their effects on other organs of the body. Deformities, injuries sinus infections, polyps and the tumors of the nose, and paranasal sinuses.
- ☐ Examination of the ear, deafness and allied diseases, complications of diseases of the ear. Injuries, tumors, nervous and circulatory neurological disturbances of the ear. Diagnosis and treatment of tinnitus and vertigo. Diagnosis and rehabilitation of the Hearing handicapped including, dispensing of hearing aid other vibrotactile aids.
 - o Surgical pathology of Otolaryngology and Head Neck region.
 - o Basic knowledge of anaesthesia as related to ENT.
 - o Neurological and vascular disturbances.
 - o Congenital and neonatal stridor.
 - o Pathology of various diseases of the larynx and throat, tracheobronchial tree and their causative organisms.
 - o Indications and various techniques of direct laryngoscopy, nasal endoscopy, Bronchoscopy and oesophagoscopy, including microlaryngoscopic procedures.
- ☐ Recent developments in the diagnosis, pathogenesis and treatment of the ENT diseases.

- ☐ General Surgery, Head and Neck oncology, and Medicine as applicable to the ENT disorders/diseases. Surgery of congenital deformities of nose, ear (Pinna) and trachea/oesophagus etc.
- ☐ Radiology, Imaging – computed tomography and magnetic resonance imaging, (MRI) and intervention radiology and angiography as related to ENT.
- ☐ General Pathologic aspects such as wound healing and also pathology and Pathogenesis of ENT diseases, Pharmacology, molecular biology, genetics, cytology, haematology, and immunology as applicable to otolaryngology.
- ☐ General Principles of faciomaxillary traumatology and neck injury.

Practical Examination: Viva voice
Case Presentation

Examiners - External
Internal

Assessment during training period:

there will be two tests pre-assessment & mid-assessment which will include theory & practical assessment & 25% marks will be added in final examination.

SUBJECT SPECIFIC PRACTICE BASED OR PRACTICAL COMPETENCIES

A student should be adept at the following:

- ☐ good history taking,
- ☐ physical examination,
- ☐ providing basic life support and advanced cardiac life support,
- ☐ common procedures like FNAC, biopsy.
- ☐ He/she should be able to choose the required investigations to enhance the attitude, communicative skills, including dealing with patient's relatives with the required empathy, adapt to changing trends in education, learning methods and evolving new diagnostic and therapeutic techniques in the subject of ENT.

TEACHING AND LEARNING METHODS

Although didactic lectures are of least importance, such lectures may be taken by senior faculty on newer areas in which expertise is available. Emphasis may be made on presenting seminars, journal clubs, symposia, posters and guest lectures and they should get priority for theoretical knowledge. Bedside teaching, grand rounds, interactive group discussions and clinical demonstrations, CPOs should be the hallmark of clinical/practical learning. Student should have hands-on training in performing various procedures in ENT on Simulated models and cadavers before practicing on the patient, albeit under supervision and develop ability to interpret various tests/investigations. Exposure to newer specialized diagnostic/therapeutic procedures concerning his ENT should be given. During the course, the students are expected to participate in scientific meetings, paper presentations and hands-on workshops to enhance clinical exposure.

**One year certificate course for upgradation of skills in ENT for MBBS
Doctors in Rajasthan state service**

Preamble:

A specialist having undergone the required training should be able to recognize the health needs of the community, should be competent to handle effectively the medical problems, emergencies, basic OPD and common ENT procedures and surgeries and should be aware of the recent advances pertaining to his specialty.

SUBJECT SPECIFIC LEARNING OBJECTIVES

At the end of the training, the candidate should be able to:

1. Practice his specialty ethically keeping in mind the requirement of the patient, his community and people at large.
2. Demonstrate sufficient understanding of basic sciences related to his specialty and be able to integrate such knowledge in his Clinical practice.
3. Diagnose and manage majority of conditions in his specialty (clinically and with the help of relevant investigations)
4. Plan and advise measures for the promotive, preventive and rehabilitative aspects of health and diseases in the specialty of ENT.
5. Play the assigned role in the implementation of National Health Programs.

Specific learning objectives:

1. Theoretical knowledge:

A candidate should have fair knowledge of basic sciences (Anatomy, Physiology, Biochemistry, Microbiology, Pathology and Pharmacology) as applied to ENT and be able to integrate such knowledge in his clinical practice. He/she should acquire in-depth knowledge of his subject including recent advances. He should be fully conversant with the bedside procedures (diagnostic and therapeutic) and having knowledge of latest diagnostics and therapeutics available.

2. Clinical / Practical skills:

A candidate should be adept at good history taking, physical examination, providing basic life support and advanced cardiac life support, common procedures like FNAC, Biopsy, aspiration etc. He/she should be able to choose the required investigations to enhance the attitude, communication skills, handling dealing with patient's relatives with the required empathy, adapt to changing trends in education, learning methods and evolving new diagnostic and therapeutic techniques in the subject of ENT.

OFFICE OF THE PROFESSOR & HEAD, DEPARTMENT OF MEDICINE,
SMS MEDICAL COLLEGE & HOSPITALS, JAIPUR

No. MC/Med/2015/.....

Dated:

To,

The Registrar
Rajasthan University of Health Science
Jaipur.

Subject: Proposed Syllabus for one Year Certificate course in Emergency Medicine

Sir,

Please find enclosed the Proposed Syllabus for one Year Certificate course in
Emergency Medicine enclosed here with.

This is for your kind information & necessary action


(Dr. C.L. Nawal)

Professor & Head
Department Of Medicine,
SMS Medical College, Jaipur

No. MC/Med/2015/..... 440

Copy to:

01. Dr. Bharti Malhotra, Dean Medicine, Rajasthan University of Health Science
Jaipur.

02. File.

Dated: 27/03/15


(Dr. C.L. Nawal)

Professor & Head
Department Of Medicine,
SMS Medical College, Jaipur

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Proposed Syllabus for one Year Certificate course in Emergency Medicine

(A) Management of Common Emergency Problems

Approach to the Emergency patients and Peripheral venous catheterization, Endotracheal Intubation, Nasogastric tube Insertion Thoracocentesis, Abdominal paracentesis, Lumbar Puncture, Tube thoracostomy, cardiopulmonary Resuscitation (CPR)

01. Emergency Procedures
02. Basic and Advanced Cardiac life Support (BLS&ACLS)
03. Compromised Airway management
04. Shock
05. Approach to multiple Injury patient
06. Dyspnea, Respiratory distress and Respiratory Failure
07. Approach to chest Pain
08. Approach to Abdominal pain
09. Approach to Gastrointestinal Bleeding
10. Approach to Diarrhea and Vomiting
11. Approach to Coma
12. Approach to Syncope, Seizures and loss of Consciousness
13. Approach to motor / sensory Weakness and Stroke
14. Approach to Headache
15. Approach to Delirium and Acute Confusional states
16. Approach to Arthritis and Back Pain

(B) NON TRAUMA EMERGENCIES

- | | |
|----------------------------|---|
| 01. Pulmonary Emergencies | Hemoptysis Pneumothorax
Asthma and COPD
Acute Pulmonary Embolism |
| 02 Cardiac Emergencies | Acute MI, Shock, CHF including
Pulmonary oedema, Hypertensive
crisis, cardiac tamponade,
Cardiac Arrhythmias |
| 03 Hematologic Emergencies | Thrombocytopenias, Anemia
Acute Leukemias |

- | | | |
|----|---|---|
| 04 | Infectious Disease Emergencies | Complications of Transfusion therapy
Septic Shock, Meningoencephalitis

Rickettsial Diseases(Scrub typhus)
AIDS and HIV Infection etc.
Malaria, Typhoid and parasitic infections
Diabetic Ketoacidosis, |
| 05 | Metabolic and Endocrine Emergencies | Hyperglycemia Hyperosmolar coma
Hypoglycemia
Thyroid Storms and Myxedema
Acute Adrenal Insufficiency
Electrolyte disorders |
| 06 | Fluid Electrolyte and acid base Emergencies | Acidosis and Alkalosis(Metabolic and Respiratory) |
| 07 | Poisonings and Venomous Animal Bites | |
| 08 | Dermatologic Emergencies | Anlgioedema, Stevens Johnson syndrome, Dermatitis, etc.
(Bioterrorism) |
| 09 | Nuclear, Biologic and Chemical agents | |
| 10 | Psychiatric Emergencies | Acute Psychotic states , Dementia
Hysterical states |

21/6/01

Amey

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Subject: Fwd: ONE YEAR DIPLOMA COURSE

From: Bharti Malhotra (drbhartimalhotra@gmail.com)

To: ruhsreg@gmail.com; ruhsacademic@yahoo.in; vc.sectt.ruhs@gmail.com;

Date: Wednesday, 1 April 2015 4:09 PM

----- Forwarded message -----

From: ASHOK SONI <smssurgery888@gmail.com>

Date: Wed, Apr 1, 2015 at 2:57 PM

Subject: ONE YEAR DIPLOMA COURSE

To: drbhartimalhotra@gmail.com, jenawrk@yahoo.com

ONE YEAR DIPLOMA COURSE

--

Dr. (Ms.) Bharti Malhotra, MD,
Professor,

Department of Microbiology & Immunology
Nodal Officer, Advanced Research & TB Laboratory,
SMS Medical College, Jaipur - 302004.



DEPARTMENT OF SURGERY
SMS MEDICAL COLLEGE & HOSPITAL JAIPUR.

NO. _____ MC/SURG/2015 _____ DT. _____

Dr. Bharti Malhotra
Din, Medicine Professor,
Microbiology
S.M.S. Medical College,
Jaipur

- A. Basic Principles**
- B. Trauma**
- C. GIT, GUT**

Basic Principles

01. The Metabolic response to injury.
02. Shock and blood transfusion.
03. Wounds, tissue repair and scars.
04. Surgical Infection
05. Surgery in the tropics
06. Principles of paediatric surgery
07. Principles of Oncology
08. Surgical audit and research
09. Surgical ethics
10. Diagnostic Imaging
11. Tissue diagnosis
12. Preoperative preparation
13. Anaesthesia and pain relief
14. Care in the operating room
15. Perioperative management of the high – risk surgical patient
16. Nutrition and fluid therapy
17. Basic surgical skills and anastomoses.
18. Postoperative care
19. Clinical examination
20. The Spine
21. Foot and ankle
22. Inflammation and infection and musculoskeletal tumours
23. Skin and subcutaneous tissue
24. The eye and orbit

BM

- 25. The nose and sinuses
- 26. Pharynx, Larynx and neck
- 27. Oropharyngeal cancer
- 28. Disorders of the salivary glands
- 29. The thyroid and parathyroid glands
- 30. The breast
- 31. The thorax
- 32. Arterial disorders
- 33. Venous disorders
- 34. Lymphatic disorders

10. Part 13: Transplantation

- a. Transplantation
- b. Appendix 1:

Trauma

- 01. Introduction to trauma
- 02. Early assessment and management of trauma
- 03. Head Injury
- 04. Trauma to the face and mouth
- 05. Chest and abdomen
- 06. Burns
- 07. Plastic and reconstructive surgery
- 08. Disaster surgery

GIT, GUT

1. Part 11: Abdominal

- 01. History and examination of the abdomen
- 02. Acute abdomen
- 03. Hernias, umbilicus and abdominal wall
- 04. The gall bladder and bile ducts
- 05. The small and large intestines
- 06. Intestinal Obstruction
- 07. The vermiform appendix
- 08. The rectum
- 09. The anus and anal canal

2. Part 12: Genitourinary

- 01. Urinary symptoms and investigations
- 02. The kidneys and ureters
- 03. The urinary bladder
- 04. The prostate and seminal vesicles
- 05. Testis and scrotum

6m

06. Gynaecology

(Dr. Laxman Agarwal)
Professor, Surgery

(Dr. Rajendra Mandia)
Professor, Surgery

(Dr. Richa Jain)
Assoc. Prof. Surgery



Subject: Fwd: syllabus for certificate course
From: Bharti Malhotra (drbhartimalhotra@gmail.com)
To: ruhsreg@gmail.com; ruhsacademic@yahoo.in;
Date: Thursday, 19 March 2015 4:54 PM

----- Forwarded message -----

From: Pathology SMSMC <pathsmsmc@yahoo.in>
Date: Thu, Mar 19, 2015 at 11:22 AM
Subject: syllabus for certificate course
To: "drbhartimalhotra@gmail.com" <drbhartimalhotra@gmail.com>

Madam,

Please find the attached SYLLABUS FOR CERTIFICATE COURSE IN CLINICAL PATHOLOGY INCLUDING BLOOD BANK, MICROBIOLOGY AND BIOCHEMISTRY...

Thanks & Regards,
PHOD Path

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**SYLLABUS FOR CERTIFICATE COURSE IN CLINICAL PATHOLOGY
INCLUDING BLOOD BANK, MICROBIOLOGY AND BIOCHEMISTRY:**

(A) PATHOLOGY -

(a) Clinical Pathology

- Introduction to clinical pathology and safety measures in laboratory, various equipments and glassware.
- Collection of blood for various hematological, biochemical tests and hormone assay, anticoagulants, vacutainers.
- Biomedical waste disposal.
- Collection of Urine, Physical chemical and microscopic examination of urine. Automation in urine examination.
- Examination of CSF, pleural and peritoneal fluids.
- Semen Analysis.
- Preparation of Leishman stain, Giemsa stain, buffer solution.
- Various methods like TLC, Hb, DLC, Reticulocyte count, Platelet count, PBF examination, ESR, PT, BT, CT, MP Examination and their interpretation (MP by card test).
- Automation in Hematology - with specification -
 - Principle of 3 part differential hematology hematology analysis
 - Principle of 5 part differential hematology hematology analysis
 - Principle of Semi Automated Coagulation Analyser with specification

(b) Histopathology -

- Collection of sample numbering and giving tissue bits (gross) preparation HE stain.
- Fixatives and Transport of sample.
- Tissue processing and staining and mounting.
- Interpretation of common disorders like Acute inflammation, carcinoma and sarcoma.
- IHC and Diagnosis of malignancy by markers.

(c) Cytology-

- Preparation of Giemsa, May Grunwald Giemsa and Papanicolous stains.
- Method of FNAC and Exfoliative cytology smears.
- Fixation of cytological smears and fluid and their transport to other laboratory.
- Interpretation of smears of Inflammatory lesion tuberculosis, malignancy and other common condition.

(d) Hematology -

- Method of Bone marrow aspiration and trephine biopsy.
- Fixative of Bone marrow smears and trephine biopsy sample.
- Interpretation of Bone marrow smears.
- HPLC Interpretation
- Flowcytometry interpretation

(B) BLOOD BANKING -

- Minimum essential requirement for starting blood bank and storage center, Equipment required.
- Screening of blood donor and blood collection (Phlebotomy)
- Storage of Blood and its components.
- Preparation of Blood components.
- Blood grouping forward and reverse grouping.
- Cross matching - Coombs cross matching technique.
- Screening for irregular antibodies.
- Transfusion reaction.
- Investigation for transfusion reaction.
- Serological tests in blood banks.
- Disposal of infected and expired blood.
- Record keeping.

(C) MICROBIOLOGY AND IMMUNOLOGY -

- Sterilization various methods.
- Collection of sample for blood culture, urine culture, throat swab for culture, Swine flue.
- Transport of material to the laboratory.
- Morphology and culture for Gram positive cocci bacilli Gram Negative cocci and bacilli of commonly seen organisms and sensitivity test.
- Identification of Fungus by KOH medium.
- Serological tests (Rapid and ELISA) for HIV, HB, HCV, Dengue, Widal test, VDRL test.
- Gram staining.
- AFB by lepra bacilli and tubercle bacilli.
- Stool Examination.
- Culture for TB Bacilli.

(D) BIOCHEMISTRY -

- Collection of blood for various biochemical tests and transport of sample to higher laboratory Identification of sample and record keeping.
- Separation of Serum.
- Working of Colorimeter, Spectrophotometer, Semiautomated biochemistry analyser and fully automated chemistry analyser.
- Method and principal of estimation of Blood sugar, urea, creatinine, LFT, Lipid profile and Cardiac profile.
- Interpretation of GTT, LFT, Renal function test, cardiac profile test, thyroid function test.

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