



Jharkhand State Paramedical Council

RIMS Campus, Bariatu, RANCHI 834009

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Certificate course in Medical Laboratory Attendant

Theory Paper (50 Marks)

1. Introduction
 - (i) Role of medical laboratory attendant
 - (ii) Basics of laboratory principle and procedure
 - (iii) Basic knowledge about laboratory safety, laboratory accident and first aid
 - (iv) Method of collection and labeling of samples
 - (v) Units of measurement
 - (vi) Solutions
 - (vii) Sterilization of equipment instrument and laboratory
 - (viii) Care and maintenances of equipment & Instrument
2. Laboratory Equipments: Principle and working knowledge of
 - (a) Structure of laboratory
 - (b) Laboratory Apparatus
 - (i) Glassware
 - (iii) Flasks
 - (iv) Beepers
 - (v) Bottles
 - (vi) Funnels
 - (vii) Cylinders
 - (viii) Tubes
 - (ix) Pipettes
 - (x) Bunsen Burner
 - (xi) Water bath
 - (c) Laboratory Instruments :Sterlisation, Care and Maintences
 - (d) Micro scope
 - (i) Structure of Microscope
 - (ii) Principle of Microscope
 - (ii) Parts of Microscope adjustment
 - (iv) Use of Microscope : Method of use, care, cleaning and Serving of microscope, Magnification, Resolving Power
 - (v) Special application of microscope
 - Phase Contrast illumination
 - Dark ground illumination



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- Fluorescence

- (e) Caroni meter
- (f) Spectrophotometer
- (g) Balance/Weighing Scale
- (h) Fridge

3. Hematology

- (i) Constituent and function of blood
- (ii) Plasma
- (iii) Routine hematological test
 - (a) Cell count : WBC / RBC / Platelet count
 - (b) Staining of blood film
 - (c) White cells and abnormal cells Total count and different count
 - (d) Red cell series
 - Morphology of RBC / reticulocyte count / ESR / Pached cell estimation
 - (e) Haemoglobin estimation
 - (f) Blood coagulation and anti coagulation laboratory investigation of bleeding disorder
 - (g) Blood transfusion

4. Pathology

- (i) Urine analysis
- (ii) Laboratory examination of different body fluids
- (iii) Semen analysis
- (iv) Stool examination

5. Biochemistry : Estimation of

- (i) Blood sugar
- (ii) Blood urea
- (iii) Serum protein
- (iv) Serumbiruter
- (v) Serum cholesterol

6. Bacteriology

- (i) Introduction, Nature & Classification of bacteria
- (ii) Transmission of bacteria
- (iii) How bacteria causes disease
- (iv) Laboratory diagnosis of bacteria
- (v) culture and antibody sensitivity

7. Serology

- (i) Introduction





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- (ii) Antigens – antibody reaction
- (iii) Hypersensitivity
- (iv) Collection and labeling of specimen
- (v) Different diagnostic technique

8. Parasitology

- (i) Basic knowledge of pathogenic parasites in blood, stool and urine
- (ii) Collection and labeling of sample
- (iii) Laboratory diagnostics technique

9. Virology

Introduction, Nature & Classification of virus

Practical(100 Marks)

1. Cleaning and maintenance of the glassware, instruments, equipment
2. Cleaning, maintenance and method to operate microscope
3. Preparation of solution
4. Collection and labeling of Specimen
5. Collection of blood
6. Blood smears preparation and their staining
7. Identification and use of kits and Strips Tests
8. To handle auto analyzer
9. Identification & diagnostic technique of bacteria fungi & virus
10. Culture and antibiotic sensitivity Testing

VIVA (50 MARKS)