



SHREE H.N. SHUKLA

HOMOEOPATHIC

MEDICAL COLLEGE & HOSPITAL

DEPARTMENT OF
PHYSIOLOGY



**DEPARTMENT
OF
PHYSIOLOGY
&
BIOCHEMISTRY**

**QUESTION BANK
PAPER-1**



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ELEMENTS OF BIOPHYSICS

March-2002, Sept-2005-N(5), Sept-2012(5): Osmosis(7.5)

August-2000, April-2003(5): Colloid(8)

April-2006, April-2011, March-2013, August-2013: Diffusion(5)

August-2006, August-2008:(5), Old: Osmosis and its physiological importance(5)

April-2008: sol and gel(5)

April-2008: Starch(5)

March-2009, April-2011, New: Diffusion and its physiological importance(5)

September-2009: Filtration(5)

April-2011: Simple muscle curve(5)



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BLOOD AND LYMPH

March-2002:Thrombocytes(7.5)

March-2002, March-2007(5), August-2013(5):Functions of WBC(7.5)

March-2002, April-2003(5): Plasma protein(7.5)

March-2002, March-2009(5), April-2011(5), Old:Function of lymph(7.5)

August-2000, Sept-2005-N:Describe the development and functions of leucocytes(18)

August-2000, September-2009(5):Hb(9)

August-2000, April-2006(5):Plasma protein(9)

August-2000, April-2003(5): Fate of RBC(9)

August-2002:Describe mechanism of clotting of blood. Ennumerate factors.(12)

August-2002, April-2006(5) :Platelets(6)

Sept-2002: Describe the development of RBCs and factors affecting it?(16)

August-2003: Define blood coagulation. Factors affecting the mechanism, and coagulation mechanism from both the ways in detail(20)

August-2003, September-2009(5):Function of leucocytes(7.5)

August-2003, April-2015:(5): Blood groups(7.5)

April-2003: Describe major blood groups. Write a note on Rh factor. What precautions are necessary for blood transfusion?(20)

April-2006: Explain in detail the erythropoiesis and fate of RBC(20)

Sept-2005-N, August-2008, Sept-2011-N, April-2015: Function of lymph(5)

March-2007, Sept-2011-N: What is haemostasis. Describe the process of coagulation and factor necessary for it.(15)

March-2007:Purpura(5)

March-2007, New: Anaemia(5)

August-2006,August-2008, New: Describe process of erythropoiesis and factors affecting it(15)

April-2008: Factors affecting erythropoiesis(8)

April-2008: Plasma proteins(7)

April-2008: Lymph node(5)

August-2007, Sept-2012: Describe synthesis, function and fate of haemoglobin (15)

March-2009: Describe mechanism of co-agulation(15)

August-2008, Sept-2011-N:Rh incompatibility (5)

August-2008:Give normal platelet count and its life span(1)

August-2008:What is mode of function of T-cells and B-cells(1)

August-2008:When M and N blood group system is used(1)

April-2010:Describe morphology , properties and function of leucocytes in detail(15)

April-2010:Composition and function of lymph(5)

September-2009:Describe the development and function of erythrocytes(15)

April-2011: Describe in detail thhe different systems of blood grouping(15)

April-2011, March-2013(5): Nutritional deficiency anaemia(7.5)

April-2011: Functions of platelets(5)

April-2013: Describe process of co-agulation and factors involved in it(15)

April-2012: Types of leucocytes(5)

March-2013: Describe in detail the process of erythropoiesis(15)

Seot-2011: Composition of plasma(5)

August-2013: Define hemostasis. Describe in detail process of coagulation and factors affecting it.(15)

August-2013: blood group system(5)

Old, April-2015: -Describe process of coagulation and factors necessary for it(15)

Old-Blood volume(5)

New: Histology of lymph gland(5)



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CARDIOVASCULAR SYSTEM

March-2002: Describe the cardiac cycle in detail with a simple diagram and label it.(20)

August-2000, August-2006(20): Describe the property of cardiac muscle(16)

August-2000, Sept-2002:(8), April-2003(5), April-200(5), Sept-2005-N(5), August-2006(5), March-2009(8): Heart rate(9)

August-2002: Describe origin, transmission of cardiac impulse(14)

August-2002: Define cardiac output. Explain fick's principle.(14)

August-2002, August-2003(5): August-2008(5), April-2010(5), September-2009(5), April-2012(5), Sept-2011-N, August-2013, Old: Heart sounds(6)

August-2002: Peripheral resistance(6)

Sept-2002, August-2008(15): Describe basic properties of cardiac muscle(18)

August-2003: What is normal cardiac output? Write brief about its regulation(15)

April-2003: Describe the events during cardiac cycle(20)

April-2006: Define and give normal values of blood pressure and explain in detail the role of vasomotor centre in its regulation.(15)

April-2006, August-2008, Sept-2011-N: Explain how cardiac impulse is originated and conducted in the heart and mention various leads use to record ECG(15)

Sept-2005-N: What is heart sound? Describe the heart sound with its duration, causes, clinical identification and signification(20)

Sept-2005-N: AV node(5)

April-2008: Describe cardiac cycle. Discuss pressure volume changes occur in heart and aorta during cardiac cycle(15)

August-2007: Describe various events of cardiac cycle(8)

August-2007: Cardiac output(7)

August-2007, March-2009(7): Coronary circulation(5)

August-2008: Just name various phases of ventricular systole with their time(1)

April-2010: Define cardiac output, its physiological and pathological variations and factors maintaining cardiac output(15)

April-2010: Pacemaker(5)

September-2009, March-2013: Describe cardiac cycle in detail(15)

September-2009: Rhythmicity(5)

April-2011: Long term regulation of blood pressure(7.5)

April-2011: ECG(7.5)

April-2011: SA node(5)

April-2012: Describe various events in cardiac cycle in detail(15)

September-2012: Explain role of sino-aortic reflex in regulation of blood pressure(15)

August-2013: Define ECG. Describe the origin and conduction of cardiac impulse in heart and various leads of ECG.(15)

Old- Describe properties of cardiac muscle fiber(15)

New: Discuss pressure-volume changes occurring during cardiac cycle(8)

New: Cardiac output(7)

April-2015: Describe cardiac output and factors regulating it(15)

April-2015: Conduction system of heart(5)

April-2015: ECG(7)



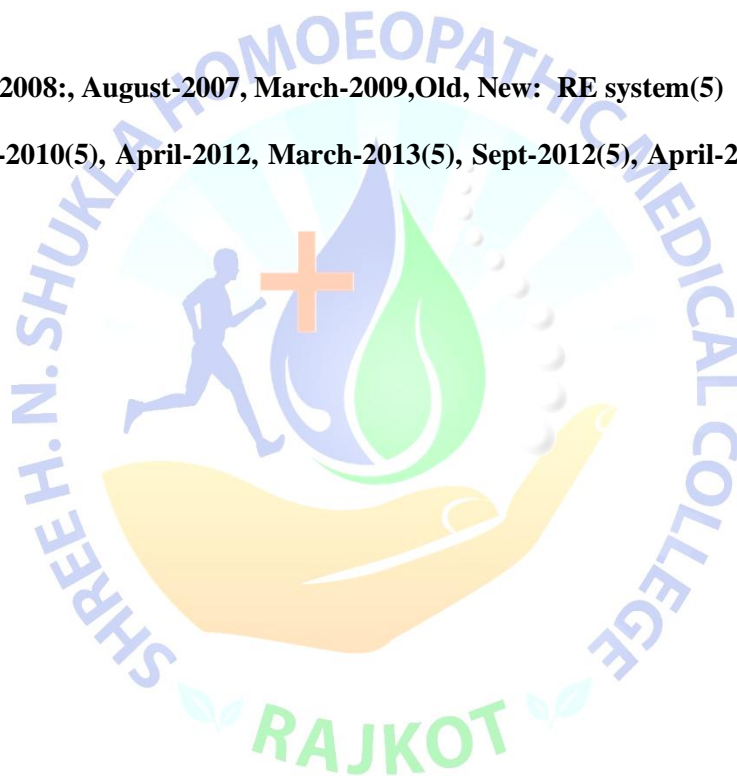
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RETICULOENDOTHELIAL SYSTEM

March-2007, April-2008:, August-2007, March-2009,Old, New: RE system(5)

August-2006, April-2010(5), April-2012, March-2013(5), Sept-2012(5), April-2015:(5) : Function of RE system(15)





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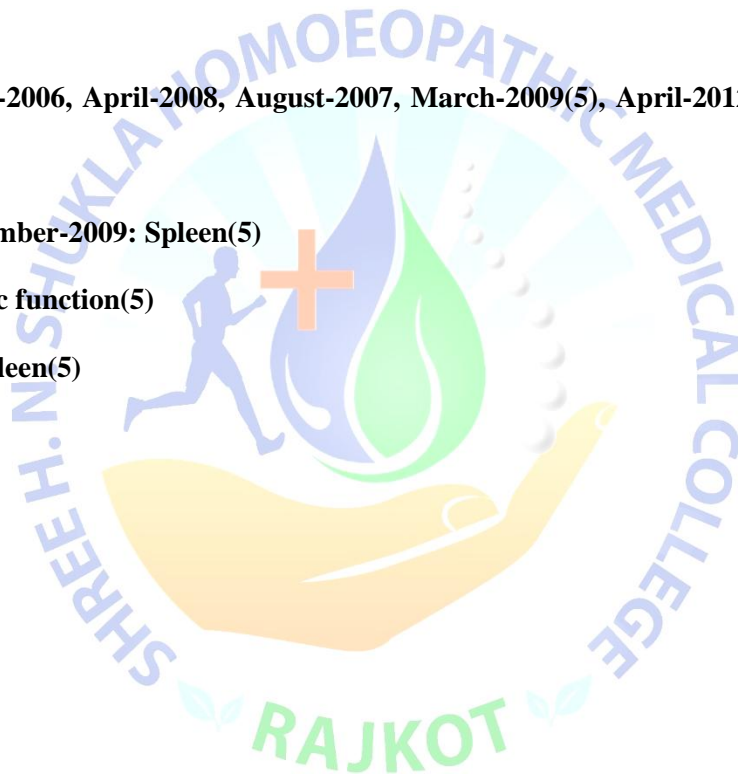
SPLEEN

April-2003, August-2006, April-2008, August-2007, March-2009(5), April-2012, New: Functions of spleen(5)

Sept-2005-N, September-2009: Spleen(5)

March-2007:Splenic function(5)

Old-Histology of spleen(5)





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RESPIRATORY SYSTEM

March-2002, Sept-2012: Describe carriage of oxygen from lungs to tissue(15)

March-2002: Respiratory centre(7.5)

March-2002: Periodic breathing(7.5)

August-2000, Sept-2002:, Sept-2005-N(5), August-2006(15), April-2008(7), August-2007(8), March-2009(15), New: Describe the nervous control of respiration(16)

August-2000, August-2003(5), April-2003(5), April-2006(5), April-2011(5): Hypoxia(9)

Sept-2002, August-2006(5), Sept-2011-N(5) : Cyanosis(8)

August-2003, April-2006: Describe the chemical regulation of respiration.(20)

April-2003, March-2013: Describe the transport of oxygen. (15)

Sept-2005-N: Carriage of oxygen(7.5)

April-2008, old(5): Anoxia(8)

August-2007: Oxygen dissociation curve(7)

April-2010: Explain oxygen transport in detail(15)

April-2010: Write in detail about the artificial methods of respiration(15)

April-2011: Describe in detail the mechanics of respiration (15)

April-2011, Sept-2011-N: Vital capacity(5)

April-2012: Discuss chemical control of respiration(15)

April-2012: Asphyxia(5)

Sept-2011-N, Old: Describe the process of O₂ transportation from lung to tissue(8)

March-2013:Respiratory dead space(5)

August-2013: Describe in detail regulation of respiration(15)

August-2013: Lung volumes and capacities

April-2015:Artificial respiration(5)

April-2015:Anoxia or hypoxia(5)





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EXCRETORY SYSTEM

March-2002:Function of kidney(7.5)

August-2000, August-2003(15):Role of kidney to maintain acid-base balance(16)

August-2000, August-2003(5), April-2003(5), April-2006(5): Nephron(9)

Sept-2002:Dialysis(9)

Sept-2002:Draw labelled diagram showing the structure of nephron. Explain the function of glomerulus(16)

Sept-2002, Sept-2005-N, Sept-2011-N(5),August-2013(5): Micturition reflex(8)

August-2003, New: Micturition(5)

April-2003, Sept-2005-N,Old, New: GFR(5)

Sept-2005-N: Mechanism of urine concentration (5)

Sept-2005-N: Renal threshold for sugar(5)

April-2008, August-2007(15), March-2009(15),September-2009(15),Sept-2011-N(15), March-2013(15): Describe mechanism of formation of urine(5)

August-2007: Dialysis and its physiological importance(5)

April-2010:Describe urine formation in detail(5)

April-2011: Mechanism of micturition(7.5)

April-2011: Glomerular filtration rate(7.5)

April-2012: Define GFR. Its normal value and factors affecting it(15)

Sept-2011-N,March-2013,August-2013, April-2015(renal glycosuria): Glycosuria(5)

Sept-2012: Describe the structure and function of nephron(15)

Old-Describe the process of micturition(10)

New: Proteinuria(5)

April-2015:Describe tubular reabsorption in renal tubules(15)





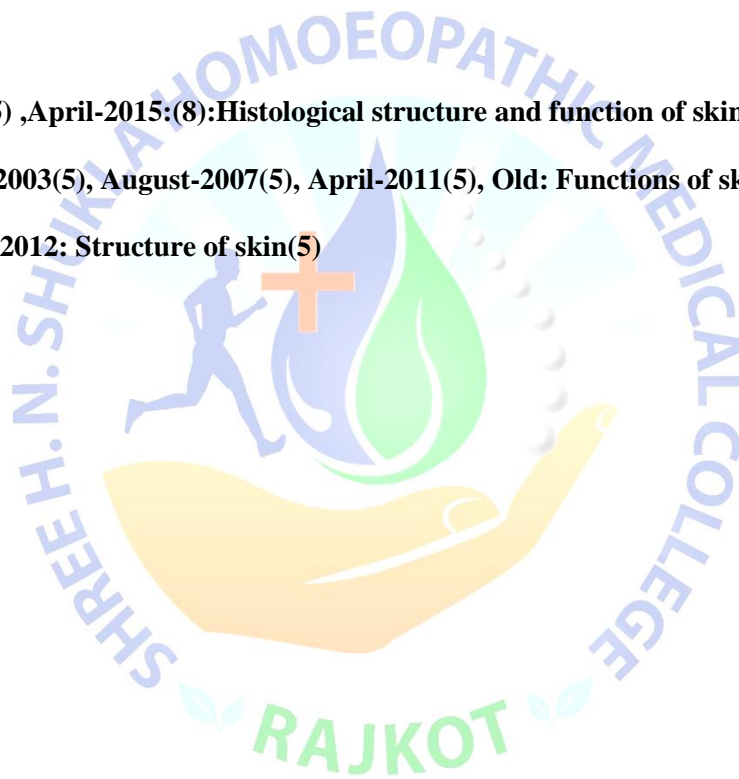
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SKIN

March-2002, New(5) ,April-2015:(8):Histological structure and function of skin(7.5)

Sept-2002, August-2003(5), August-2007(5), April-2011(5), Old: Functions of skin(8)

March-2009, April-2012: Structure of skin(5)





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REGULATION OF BODY TEMPERATURE

March-2002, April-2003, April-2006(5), April-2011(7.5): Describe regulation of body temperature.

(15)

Sept-2005-N: Body temperature (5)

March-2009: Mechanism of heat loss from body(5)

April-2012: Regulation of body temperature in hot environment (5)

Sept-2011-N, March-2013: Explain the process of thermotaxis(15)

August-2013: Temperature regulation(7)

Old: Role of hypothalamus in maintenance of body-temperature(5)

New: Maintenance of body temperature in detail and what is pyrexia(15)

April-2015:Pyrexia(5)



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SENSE ORGANS

March-2002, August-2000(16), August-2003(15), April-2003(15), April-2006(15), September-2009(15), March-2013(15): Describe visual pathway(20)

August-2000, August-2003: (Myopia)(7.5), April-2006(5), April-2011(5), March-2013(5):Myopia(8)

August-2000:.,Sept-2005-N(5), August-2007, March-2009(5), Old: Organ of corti(8)

Sept-2002,March-2007(15), Sept-2011-N(7),August-2013(8) :Describe auditory pathway(16)

Sept-2002,March-200(5), April-2012(5): Errors of refraction(9)

Sept-2002, August-200(7.5),March-2007(5), August-2007, March-2009(5), April-2011(5), March-2013(5), August-2013(5), Old, New, April-2015(5)::Taste buds(9)

April-2006: Explain how normal waves of sound are conducted in the ear.(15)

April-2011:Describe the structure of internal ear and write a note on auditory pathway(15)

April-2012, Sept-2011-N:(5),August-2013: Rods and cones(5)

Old-Describe the physiology of vision- visual pathway(10)

New: Describe pathway of olfaction(5)