# Part A (50 marks)

# A. Long Essay . [10 marks]

- Q.1. Explain the Etymology, Derivation, Synonyms, functions, properties & pramana of Ras Dhatu.
- Q.2. Explain the etymology, Derivation, Synonyms, functions, properties & pramana of Rakta Dhatu.
- Q.3. Explain the etymology, Derivation, Synonyms, functions, properties & pramana of Mamsa Dhatu.
- Q.4. Explain the etymology, Derivation, Synonyms, functions, properties & pramana of Asthi Dhatu.
- Q.5. Explain the etymology, Derivation, Synonyms, functions, properties & pramana of Majja Dhatu.
- Q.6. Explain the etymology, Derivation, Synonyms, functions, properties & pramana of Shukra Dhatu.
- Q.7. Define Oja. Explain formation, location, properties, praman, classification & function of Oja.
- Q.8. Explain physiology of Urine formation in Ayurveda & manifestations of Vriddhi and Kshhaya of Mutra.
- Q.9. Define Manas. Write synonyms, location, properties, functions & objects Manas.
- Q.10. Describe classification, function & thickness of each layer of Twak.
- Q.11. Write Etymology, Derivation & Definition of term Dhatu. Explain different theories related to Dhatuposhana.
- Q.12. Explain physiology of Rasavaha Srotas, & Rasa-Samvahana process in detail.
- Q.13. Define Atma. Explain properties of Atma. Write difference between Paramatma and Jivatma.
- Q.14. Explain Nindrotpatti and Svapnotpatti. Write types of Nindra and Svapna. Explain physiology & clinical significance of Nindra.
- Q.15. Write formation of Shukra Dhatu & characteristics of Shukra Sara purush in detail.
- Q.16. Explain Vyadhikshmatva. Write Etiological factors and manifestation of Ojavisramsa, Vyapt and Kshay.
- Q.17. Define the term Mala. Explain process of formation of Aharamala.
- Q.18. Describe formation of Purisha. Write its properties, quantity, function. Write manifestations of Vriddhi and Kshay of Purisha.
- O.19. Describe Dhatumala in detail.
- Q.20. Describe Panchgynendriya. Explain physiology of perception of Shabda, Sparsha, Rupa, Rasa and Gandh.
- Q.21. Define Upadhatu. Write formation of Upadhatus. Explain properties, location & function of each Upadhatu.
- Q.22. Describe classification of Bala. Explain Bala Vriddhikara bhava in detail.
- Q.23. Explain inter- relationship among Dosha, Dhatu, Mala and Srotas.



- Q.24. Explain the Ashtavidha Sara in detail.
- Q.25. Explain features of Shuddha and Dushit Artava. Explain physiology of Artavaha Srotas.
- Q.26. Write characteristic features of Stanya. Describe method of assessing Shuddha and Dushit Stanya.
- Q.27. Explain formation & functions of Sveda. Write manifestations of Vriddhi and Kshaya of Sveda.
- Q.28. Explain location, properties, functions & objects of Manas. Write physiology of Manovaha Srotas.
- Q.29. Explain Manifestation of Kshaya & Vriddhi of Ras & Rakta dhatu in detail.
- Q.30. Explain manifestation of Kshaya & Vriddhi of Mansa and Meda dhatu in detail.

## **B.Short Answer [5 Marks]**

- Q.1. Explain Kedarikulya Nyaya in detail.
- Q.2. Explain Sarvatmparinam Nayaya/Ksheerdadhi Nayay in detail.
- Q.3. Explain Khale- Kapot Nayaya in detail.
- Q.4. Explain Rasa dhatu Samvahana.
- Q.5. Explain Role of Vyana Vayu and Samana Vayu in Ras Samvahana.
- Q.6. Describe function of Hridaya.
- Q.7. Write Manifestation of Kshaya and Vriddhi of Rasa.
- Q.8. Explain panchbhautiktatva of Rakta dhatu.
- Q.9. Explain physiology of Raktavaha Srotas and function of Rakta dhatu.
- Q.10. Describe features of Shuddha Rakta.
- Q.11. Explain characteristics of Rakta sara & Twakasara purusha.
- Q.12. Explain Ranjana of Rasa by Ranjaka Pitta.
- Q.13. Write manifestation of Kshaya and Vriddhi of Rakta dhatu.
- Q.14. Explain mutual interdependence of Rakta and Pitta.
- Q.15. Write characteristics of Mansa sara and Meda sara purusha.
- Q.16. Explain manifestation of Kshaya and Vriddhi of Mamsa and Meda dhatu.
- Q.17. Explain mutual interdependence of Vata and Asthi dhatu.
- Q.18. Write Number of Asthi as per Charak, Susrut, Vaghabhatta and Modern Science.
- Q.19. Write characteristics of Asthisara and Majjasara purisha.
- Q.20. Explain manifestation of Kshaya and Vriddhi of Asthi and Majja dhatu.
- Q.21. Write properties & functions of Shukra dhatu.
- Q.22. Write manifestation of Kshaya and Vriddhi of Shukra dhatu.
- Q.23. Write characteristics of Shukrasara purisha.
- Q.24. Write classification and function of Ojas.
- Q.25. Explain Bala Vriddhikara bhava.

- Q.26. Describe Vydhikshamatva.
- Q.27. Write manifestation of Ojavisramsa, Vyapat and Kshaya.
- Q.28. Write location & function of each Updhatu.
- Q.29. Write characteristic features of Stanya.
- Q.30. Write characteristic features of Shuddha and Dushit Artava.
- Q.31. Write classification, thickness of each layer and function of Twaka.
- Q.32. Describe process of formation of Aharamala.
- Q.33. Write manifestation of Vriddhi and Kshaya of Purisha.
- Q.34. Explain physiology of purishavaha Srotas.
- Q.35. Explain physiology of Urine formation in Ayurved.
- Q.36. Write manifestation of Vriddhi and Kshaya of Sveda.
- Q.37. Explain formation & function of Sveda.
- Q.38. Explain physiology of perception of Panchgyanenidraya.
- Q.39. Write Synonyms, location, properties and function of Manas.
- Q.40. Write objects of manas and physiology of Manovaha Srotas.
- Q.41. Write difference between Paramatma and Jivatma.
- Q.42. Write characteristic feature of existence of Atma in living body.
- Q.43. Explain Nindrotpatti and types of Nindra.
- Q.44. Explain physiology and clinical significance of Nindra.
- Q.45. Explain Svapnotpatti and types of Svapna.

## C. Short Answers [2 Marks]

- Q.1. Properties of Rasa dhatu.
- Q.2. Pramana of Rasa dhatu & Rakta dhatu.
- Q.3. Synonym of Rakta dhatu.
- Q.4. Properties of Rakta dhatu.
- Q.5. Features of Shuddha Rakta.
- Q.6. Synonym of Mamsa dhatu.
- Q.7. Properties of Mamsa dhatu.
- Q.8. Location & Pramana of Mamsa dhatu.
- Q.9. Define Peshi.
- Q.10. Location & pramana of Meda dhatu.
- Q.11. Properties of Meda dhatu.
- Q.12. Functions of Meda dhatu.
- Q.13. Synonym of Asthi dhatu.
- Q.14. Properties & Function of Asthi dhatu.
- Q.15. Numbers of Asthi as per Charak and Susrut Samhita.
- Q.16. Types of Majja dhatu.

- Q.17. Location & Pramana of Majja dhatu.
- Q.18. Pramana of Shukra dhatu.
- Q.19. Features of Shuddha Shukra.
- Q.20. Classification of Ojas.
- Q.21. Pramana of Oja.
- Q.22. Define VyadhiKshamatva.
- Q.23. Classification of Bala.
- Q.24. Define Sira.
- Q.25. Define Kandra.
- Q.26. Define Snayu.
- Q.27. Define Vasa.
- Q.28. Types & Numbers of Sira.
- Q.29. Types & Numbers of Kandra.
- Q.30. Features of shuddha Artava.
- Q.31. Types of Tvak, as per Charak.
- Q.32. Classification of Tvak as per Susrut.
- Q.33. Ahararasa Mala.
- Q.34. Mala of Rasa.
- Q.35. Define Lasika.
- Q.36. Mala of Rakta.
- Q.37. Mala of Mamsa.
- Q.38. Mala of Meda.
- Q.39. Mala of Asthi.
- Q.40. Mala of Majja.
- Q.41. Properties of Mana.
- Q.42. Objects of Manas.
- Q.43. Locations of Manas.
- Q.44. Types of Nindra.
- Q.45. Types of Svapna.
- Q.46. Karmendriya.
- Q.47. Synonyms of Mana.
- Q.48. Define term Indriya.

१. यदा तु मनिस क्लान्ते कमाात्मानः क□ान्विता: | सिषयेभ्यो सनितान्ते तदा स्वपसत मानाः | च. ्रि. २१.३५ २. आत्मेन्वियमनोथानााःं िसिकषाात् प्रिताते | व्यक्ता तदात्वे या बुन्वि: प्रयक्षमंमां िा सनच्यतेते || च.िू.११.२० ३. मिासिन्विच्चदाहासता पांचरात्रान् बांसध च | नैिासतबहु नायक्ल्पमातािां शुन्विमासदशेत् || च.सच.३०.२२५ ४. मािेनोपसचतां कालेधमनीभ्याां तदातािम् । ईषत्कृष्णां सिगांधां च िायुयोसनमुखांनयेत ॥ िु.शा.३ ५ व्यासधषमंमत्वां व्यासधबलिसरोसधत्वां व्याध्युत्पादप्रसतबन्धकत्वसमसत याित् | च.िू.२८.७. ६.ओजः िोमात्मकां सिग्धां शुक्लां शीतां न्वथथरां िरम् | सिसिक्तां मृद्मृत्स्त्रांच प्राणायतनम्त्तमम् ॥ देह: िाियस्तेन व्याप्तो भिसत देसहनः। तदभािा । शीयान्ते शरीरासण शरीररणाम् ॥ िु. ्रि. १५ ७. दौबाल्मां मुख शोषश्च पाण्ड्त्वां िदनां श्रमः। क्लैब्यां शुक्रासििगाश्च षमंीणशुक्रस्य लक्ष्णम् ॥ च.िू.१७.६९. ८. स्फसतकाभां द्रिां सिग्धां मधुरां मधुगांसध च | शुक्रसमच्चन्वन्त केसचतु तैलषमंौद्रसनभां तथा ॥ िु.शा.२. ११ ९. शुक्रां धैया यतेिनां प्रीसतां देहबलां हषा बीजाथाश्च | िु.िू.१५.५ १०. यथा पयसि िसपास्तु गूढश्चेषमंौ री यथा | शरररेष तथा शुक्रां नृ णाां सिद्यात् सभषग्वर: || ुि.शा.४.२०,२१ ११.शीयान्त इि चाथथीसन दुबालासन लघूसन च | प्रततां िातरोसगणी षमंीणे मज्जसन देसहनाम् ॥ च.िू.१७.६८ १२. माांिाियिांघातः परस्परां सिभक्तः पेशी इयक्ुयतेते | ुि.शा.५.३७. १३. तसिशां सह च्सधरां बलिणाि्खाय्षा | युनन्वक्त प्रासणनां प्राणः शोसणतां हयुनुिताते|| च.िू. २४

१४. तेजो रािनाां िेषाां मनजानाां यद् यतेते। सपजोष्मणः ि रागेण रिो रक्तत्तत्वम् च्चसत्॥ च.सच.१५ १५.घट्टते िहते शब्दां नो□ैद्रॅिसत शूल्मते| हदयां ताम्यसत स्वल्पचेष्टस्यासप रिषमंये || च. िू. १७. ६४ १६. व्यानेन रिधात् सहा सिषमंेपोसचत कमाणा | युगपत् िातोडजस्त्रां देहे सिसषमंप्यते िदा ॥ च.सच.१५ १७. ि (रिः) श्ब्दासचाजालिांतानिद् अण्ना सिशेषेण अन्धाियक्ेि शरीरां केिलम् । िु.िू.१४.१६

१८.सिस्त्रता द्रिता रागः स्पांदनां लघुता तथा |

भूम्यादीनाां गुणाहयेते दृश्यन्ते चात्र शोसणते ॥ ि्.िू.१४

१९. यथा सबिम् णालासन सििधान्ते िमांततः |

भूमौ पांकोदकथथासन तथा माांिे सिरादयः ॥ ्रि.शा. ४.८.९

२०. ह्रसद सतष्ठसत यच्चुिां रक्तमीषत्सपीतकम् |

ओजः शरीरे िांख्यातां ताशािा सिनश्यसत || च.िू.१७ Part-B [50 Marks]

## A. Long Essay (10 marks)

- 1. Describe the composition, functions and properties of blood.
- 2. Describe Erythropoiesis and factors required for Erythropoiesis.
- 3. Describe Haemopoiesis in details.
- 4. Write composition and functions of bone marrow.
- 5. Describe a structure types and functions of Haemoglobin
- 6. Explain mechanism of blood clotting.
- 7. Explain Physiological basis of blood groups in details.
- 8. Define immunity. Explain Classification of immunity.
- 9. Explain Physiology of muscle contraction.
- 10. Explain cardiac cycle in detail.
- 11. Explain regulation of cardiac output and venous return.
- 12. Explain physiological basis of ECG.
- 13. What is menstrual cycle? Explain the ovarian changes taking place during menstrual cycle.
- 14. Describe in Details the synthesis and functions of thyroid hormones.
- 15. Explains counter current mechanism in concentration of urine.
- 16. Explain hormone regulation of menstrual cycle.
- 17. Define GFR. Explain factors regulating GFR in details.
- 18. Give an account of composition and functions of pancreatic juice. How is the secretion regulated?
- 19. Describe Ovarian and endometrial changes of menstrual cycle.
- 20. Write the actions of Parathormone.
- 21. Enumerate the hormones secreted by anterior pituitary gland. Describe the actions of growth hormone.
- 22. Define haemostasis. Describe the briefly about the mechanism of clotting.

- 23. Define arterial blood pressure. Describe the nervous regulation of arterial blood pressure.
- 24. Define cardiac output. Discus the factors regulating cardiac output.
- 25. Describe the structure and function of the conducting system of heart List the properties of cardiac muscle.
- 26. Define Blood pressure. Discus in brief the various factors which influences pressure.
- 27. Explain functions of cholesterol.
- 28. Describe renal function test in detail.
- 29. Describe structure and function of skin.
- 30. Describe lymphatic system in details.
- 31. What are blood groups? What is their importance in blood transfusion?
- 32. Describe the structure and functions of anterior pituitary.
- 33. Discuss the structure and functions of thyroid gland.
- 34. Describe the structure of kidney. Discuss the different events involved in the urine formation by the kidney.
- 35. Describe the different phase of menstrual cycle.
- 36. Describe the structure and function of the male reproductive system.
- 37. Describe properties of skeletal muscle, cardiac muscle and smooth muscles.
- 38. Explain the developmental stages of WBC and importance of WBC in immunity.
- 39. Write about the developmental stages of RBC and physiological basis of blood groups.
- 40. Describe lipoproteins in details.

#### B. **Short essay** (5 Marks)

- 1. Describe composition of semen.
- 2. Explain micturition reflex.
- 3. Write functions of glucocorticoids
- 4. Write functions of placenta.
- 5. Write functions of pancreatic juice.
- 6. Describe erythropoiesis.
- 7. Describe spermatogenesis.
- 8. Write functions of plasma proteins.
- 9. Describe puberty.
- 10. Describe hormones of adrenal cortex.
- 11. Explain excitation contraction coupling in skeletal muscle.
- 12. Describe briefly the formation and function of corpus luteum.
- 13. Write significance of Rh group.
- 14. Explain defecation reflex.
- 15. Write functions of skin in details.
- 16. Describe red cell indices.
- 17. Draw normal ECG and label it.
- 18. Explain preload and afterload in heart.

- 19. Write significance of ejection fraction.
- 20. Describe coronary circulation.
- 21. Describe basic metabolic rate in detail.
- 22. Explain sweat glands in detail.
- 23. Describe classification of hormones.
- 24. Write name of endocrine gland and their hormonal secretions.
- 25. Explain thyroid function tests.
- 26. Functions of calcitonin and parathormone.
- 27. Describe thymus gland.
- 28. Properties of skeletal muscle.
- 29. Properties of cardiac muscles.
- 30. Functions of RBC.
- 31. Functions of haemoglobin.
- 32. Functions of leucocytes.
- 33. Functions of platelets.
- 34. Functions of bone marrow.
- 35. Functions of plasma proteins.
- 36. Short note on blood transfusion.
- 37. Describe clotting factors.
- 38. Composition of lymph.
- 39. Functions of lymphatic system.
- 40. Describe reticulo- endothelial system.
- 41. Function of reticulo- endothelial system.
- 42. Describe conducting tissue of heart.
- 43. Describe complement system.
- 44. Describe immunoglobulin.
- 45. Functions of oestrogens.
- 46. Functions of progesterone.
- 47. Functions of testosterone.
- 48. Describe secondary sex characteristics in males and females.
- 49. Describe functions of calcium and phosphorous in the body.
- 50. Describe structure of a lymph node. What are its functions?
- 51. What is normal heart rate? How it is maintained?
- 52. Describe cardiac output.
- 53. Describe baroreceptors and chemoreceptors.
- 54. Describe juxtaglomerular apparatus.
- 55. Name the hormones of adrenal medulla. What are their actions?
- 56. Write short note on mineralocorticoids.
- 57. Write short note on glucocorticoids.

- 58. Insulin secretion and its regulation.
- 59. Describe hormones of parathyroid glands and its functions.
- 60. Write short note on concentration of urine.
- 61. Write short note anti- diuretic hormone.
- 62. Describe regulation of acid base balance by kidney.
- 63. Describe fertilization.
- 64. Describe structure of nephron in details.
- 65. Describe humoral (B cell mediated) and T cell mediated immunity.
- 66. Describe sweat glands and sebaceous gland,
- 67. Describe oogenesis.
- 68. Describe functions of kidney.
- 69. Describe mechanism of defecation.
- 70. Describe adipose tissues.

## C. Very short (2 marks)

- 1) Functions of eosinophil.
- 2) Name anticoagulant used in laboratory.
- 3) Difference between adult Hb and foetal Hb.
- 4) Functions of sertoli cells.
- 5) Hormones of hypothalamus.
- 6) Actions of prolactin.
- 7) GFR.
- 8) Phagocytosis.
- 9) ESR and its clinical significance.
- 10) Na+ k+ pump.
- 11) Functions of bile salts.
- 12) Menarche.
- 13) Functions of post. Pituitary
- 14) Acromegaly.
- 15) Cretinism
- 16) Name hormones of hypothalamus.
- 17) Functions of corpous luteum.
- 18) Heart sounds.
- 19) Cardiac index.
- 20) Stroke volume
- 21) Cardiac output.
- 22) End diastolic volumes.
- 23) Bowman's capsule.
- 24) Filtering membrane
- 25) Loop of henle's
- 26) Myxoedema.
- 27) Tetany
- 28) Pineal gland.
- 29) Isometric contraction.

- 30) Isotonic contraction.
- 31) Jaundice
- 32) Anaemia
- 33) Thrombocytopenia.
- 34) Oedema.
- 35) Cardiac reflex.
- 36) Cardiac centre.
- 37) Tachycardia
- 38) Bradycardia.
- 39) Water hammer pulse.
- 40) Arterial pulse.
- 41) Local hormones.
- 42) Vasopressin.
- 43) Oxytocin function.
- 44) Diabetes insipidus.
- 45) Acromegaly.
- 46) Dwarfism.
- 47) Muscle proteins.
- 48) Functions of neutrophils.
- 49) Rh group.
- 50) Haemophilia.
- 51) Polycythaemia
- 52) Purpura.
- 53) Leukaemia.
- 54) Normal RBC count.
- 55) Normal WBC count.
- 56) Normal platelets count.
- 57) Name the veins opening in left atrium.
- 58) Name the veins opening in right atrium.
- 59) Functions of uterus.
- 60) Bile pigments.
- 61) Uraemia.
- 62) Mary's law.
- 63) Leucocytosis.
- 64) Neutrophillia.
- 65) Hypersensitivity.
- 66) Ovulation.
- 67) LDL



- 68) VLDL
- 69) HDL.
- 70) Lipoprotein.
- 71) PCV
- 72) MCV
- 73) MCH
- 74) MCHC.
- 75) ESR