

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 Ojavisramsas, 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.
- Q.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 Vydikshamatva.
- 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 मनसि क्लान्ते कमात्मानः कान्विताः ।

सिषयेभ्यो सनितान्ते तदा स्वपसत मानिः ॥ च. ि. २१.३५

२. आत्मेन्वियमनोथानां िसिकषात् प्रिताते ।

व्यक्ता तदात्वे या बुन्विः प्रयक्षमंमां िा सनच्यतेते ॥ च. ि. ११.२०

३. मासिन्विच्यदाहासता पांचरात्रानुबांसध च ।

नैिसतबहु नायकल्पमातां शुन्विमासदशेत् ॥ च. सच. ३०.२२५

४. माेनोपसचतां कालेधमनीभ्यां तदाताम् ।

ईषत्कृष्णां सिगांधां च िायुयोसनमुखांनयेत् ॥ ि. शा. ३

५ व्यासधषमंमत्वां व्यासधबलसिरोसधत्वां व्याध्युत्पादप्रसतबन्धकत्वसमसत यात् ।
च. ि. २८.७.

६. ओजः िोमात्मकां सिग्धां शुक्लां शीतां न्वथथरां िरम् ।

सिसिकतां मृदुमृत्स्त्रांच प्राणायतनमुत्तमम् ॥

देहः िािस्तेन व्याप्तो भिसत देसहनः ।

तदभां शीयान्ते शरीरासण शरीररणाम् ॥ ि. ि. १५

७. दौबाल्मां मुख शोषश्च पाण्डुत्वां िदनां श्रमः ।

क्लैब्यां शुक्रासिगाश्च षमंीणशुक्रस्य लक्षणम् ॥ च. ि. १७.६९.

८. स्फसतकाभां द्वां 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 गूढश्चेषमंौरो यथा ।

शरररेष तथा शुक्रां नृणां सिद्यात् सभषग्वरः ॥ ि. शा. ४. २०, २१

११. शीयान्त इि चाथथीसन दुबालासन लघूसन च ।

प्रततां िातरोसगणी षमंीणे मज्जसन देसहनाम् ॥ च. ि. १७.६८

१२. मां िाििंघातः परस्परां सिभक्तः पेशी इयक्ुयतेते । ि. शा. ५. ३७.

१३. तसिशिं सह च्सधरां बलिणािुखायुषा ।

युनन्वक्त प्रासणनां प्राणः शोसणतां ह्युनुिताते ॥ च. ि. २४

१४. तेजो रिनाां ििेषाां मनजानाां यदुयतेते।
सपजोष्मणः ि रागेण रिो रक्त्तत्वमृच्चसत ॥ च.सच.१५
- १५.घट्टते िहिते शब्दां नो िैर्द्रिसित शूल्मते।
हदयां ताम्यसत स्वल्पचेष्टस्यासप रिषमंये ॥ च. िू. १७. ६४
१६. व्यानेन रिधातुसहा सिषमंेपोसचत कमाणा।
युगपत् ििातोडजस्त्रां देहे सिसषमंप्यते िदा ॥ च.सच.१५
१७. ि (रिः) शब्दासचाजालिंतानिद् अणुना सिशेषेण अनुधाियक्े ि शरीरां केिलम्।
िु.िू.१४.१६
- १८.सिस्त्रता द्विता रागः स्पांदनां लघुता तथा।
भूम्यादीनां गुणाह्येते दृश्यन्ते चात्र शोसणते ॥ िु.िू.१४
१९. यथा सबिमृणालासनसििधान्ते िमांततः।
भूमौ पांकोदकथथासन तथा मांंिे सिरादयः ॥ िु.शा. ४.८.९
२०. हसद सतष्ठसत यच्चुिां रक्तमीषत्सपीतकम्।
ओजः शरीरे िांख्यातां तिशािा 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. Discuss 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. Discuss in brief the various factors which influence 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 phases 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 corpus 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) Neutrophilia.
- 65) Hypersensitivity.
- 66) Ovulation.
- 67) LDL

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