INSTRUCTIONS TO CANDIDATES

(Use only blue/black ball-point pen in the space above and on both sides of the Answer Sheet)

1. Within 10 minutes of the issue of the Question Booklet, Please ensure that you have got the correct booklet and it contains all the pages in correct sequence and no page/question is missing. In case of faulty Question Booklet, Bring it to the notice of the Superintendent/Invigilators immediately to obtain a fresh Question Booklet.

2. Do not bring any loose paper, written or blank, inside the Examination Hall except the Admit Card without its envelope.

3. A separate Answer Sheet is given. It should not be folded or mutilated. A second Answer Sheet shall not be provided.

4. Write your Roll Number and Serial Number of the Answer Sheet by pen in the space provided above.

5. On the front page of the Answer Sheet, write by pen your Roll Number in the space provided at the top, and by darkening the circles at the bottom. Also, wherever applicable, write the Question Booklet Number and the Set Number in appropriate places.

6. No overwriting is allowed in the entries of Roll No., Question Booklet No. and Set No. (if any) on OMR sheet and Roll No. and OMR sheet no. on the Question Booklet.

7. Any change in the aforesaid entries is to be verified by the invigilator, otherwise it will be taken as unfair means.

8. This Booklet contains 40 multiple choice questions followed by 10 short answer questions. For each MCQ, you are to record the correct option on the Answer Sheet by darkening the appropriate circle in the corresponding row of the Answer Sheet, by pen as mentioned in the guidelines given on the first page of the Answer Sheet. For answering any five short Answer Questions use five Blank pages attached at the end of this Question Booklet.

9. For each question, darken only one circle on the Answer Sheet. If you darken more than one circle or darken a circle partially, the answer will be treated as incorrect.

10. Note that the answer once filled in ink cannot be changed. If you do not wish to attempt a question, leave all the circles in the corresponding row blank (such question will be awarded zero marks).

11. For rough work, use the inner back pages of the title cover and the blank page at the end of this Booklet.

12. Deposit both OMR Answer Sheet and Question Booklet at the end of the Test.

13. You are not permitted to leave the Examination Hall until the end of the Test.

14. If a candidate attempts to use any form of unfair means, he/she shall be liable to such punishment as the University may determine and impose on him/her.

Total No. of Printed Pages : 20
ROUGH WORK
No. of Questions: 50

Time: 2 Hours

Full Marks: 200

Note: (1) This Question Booklet contains 40 Multiple Choice Questions followed by 10 Short Answer Questions.

(2) Attempt as many MCQs as you can. Each MCQ carries 3 (Three) marks. 1 (One) mark will be deducted for each incorrect answer. Zero mark will be awarded for each unattempted question. If more than one alternative answers of MCQs seem to be approximate to the correct answer, choose the closest one.

(3) Answer only 5 Short Answer Questions. Each question carries 16 (Sixteen) marks and should be answered in 150-200 words. Blank 5 (Five) pages attached with this booklet shall only be used for the purpose. Answer each question on separate page, after writing Question No.

01. “Anubandha” is the synonym of:
   (1) Satwa  (2) Atma  (3) Ayu  (4) Shareera

02. Rodhana comes under:
   (1) Parada dosha  (2) Parada samskara  (3) Rasa pujana  (4) Rasa gathi

03. No plants survive in the surrounding of this species:
   (1) Ahiphena  (2) Vishatinduka  (3) Vatsanabha  (4) Dhatura

04. Mahaguda is a variety of:
   (1) Prameha pidaka  (2) Kaphaja Krimi  (3) Guda vidradhi  (4) Bhagandhara

3  P.T.O.
05. “Jentaka” is the sweda of choice in which of the following ritu?
(1) Vasanta  (2) Varsha  (3) Greeshma  (4) Hemantha

06. Charakopskara commentary on Charaka Samhita was written by:
(1) Shivadas Sen  (2) Gangadhara Rai  (3) Yogendranath Sen  (4) Chakrapani

07. In suspected Arsenic poison which part of the body is particularly preserved for chemical analysis?
(1) Heart  (2) Long bones  (3) Skin  (4) Whole body

08. All of the following diseases are transmitted by faeco-oral route EXCEPT:
(1) Cholera  (2) Poliomyelitis  (3) Hepatitis A  (4) Hookworm

09. The most radio-sensitive tissue is:
(1) Brain  (2) Bone marrow  (3) Thyroid  (4) Liver

10. Which of the following is Vishishta purvaroopa of Vataja Jwara?
(1) Angamarda  (2) Jrimbha  (3) Agnimandya  (4) Aswedata
11. "अच्छमु इति अयनमु" is the description found in the commentary authored by the following commentator in the context of अच्छ पिल्ला
   (1) Dalhana
   (2) Cakrapāṇi
   (3) Arunadatta
   (4) Kaśyapa

12. स्वल्पापचारमपि यो न सहते is the description of:
   (1) Kapha Prakṛti Puruṣa
   (2) Mandāgni
   (3) Viṣamāgni
   (4) Vata Prakṛti Puruṣha

13. The individuals who have unctuous urine, sweat, voice, possessing large sized body and who are intolerant to hard work are
   (1) Meda Sāra Puruṣa
   (2) Kapha Prakṛti Puruṣa
   (3) Majjā Sāra Puruṣa
   (4) Meda Vṛddha Puruṣa

14. अतिवर्णो तिमेयास्य खष्णे पावक हकू तथा are the features of which of the following
   (1) Pitta Prakṛti Puruṣa
   (2) Vata Prakṛti Puruṣa
   (3) Titśāgni Puruṣa
   (4) Rakta Sāra Puruṣa
15. Prasandana, Udahana, Purãna, Viveka and Dhärana as the normal functions of Vāta has been described by Ācārya
   (1) Suśruto
   (2) Bhela
   (3) Śarṅgadhara
   (4) Caraka

16. When the donor red cells are treated with the recipient plasma, it is known as
   (1) Minor cross match
   (2) Major cross match
   (3) Landsteiner Law
   (4) Rh incompatibility

17. Which one of the following is not antithyroid substance?
   (1) Thiocynate
   (2) Propylthiouracil
   (3) Loides in high concentration
   (4) Lodides in low concentration

18. Inability to recognize face is known as
   (1) Prosopagnosia
   (2) Dyslexia
   (3) Dyskinesia
   (4) Aphasia

19. Vessels are elastic and forward blood flow is continuous because of recoil during diastole. This recoiling effect is known as
   (1) Wind kessel effect
   (2) Wolf Chaikoff effect
   (3) Law of Laplace
   (4) Adissonian crisis
20. तीक्ष्ण श्रम: शोषण म्लानि: शब्दांजसहिष्णुता are the features of
   (1) Rakta Kṣaya
   (2) Majjā Kṣaya
   (3) Rasa Kṣaya
   (4) Śukra Kṣaya

21. If the electrical potentials of any two of the three bipolar limb electrocardiographic leads are known at any given instance, the third one can be determined mathematically by simply summing the first two. This is known as
   (1) Fremingham Law
   (2) Henry's Law
   (3) Einthoven's Law
   (4) Boyle's Law

22. Smṛti is the function of
   (1) Apāna Vāyu
   (2) Udāna Vāyu
   (3) Vyāna Vāyu
   (4) Alocaka Pitta

23. As per Susruta, the Mula of Mitravaha Srotas are
   (1) Vasti & Međhra
   (2) Vasti & Vañkšaṇa
   (3) Vṛkka & Vañkšaṇa
   (4) Vṛkka & Vasti
24. Folic Acid is antagonized by
   (1) Methotrexate
   (2) Avidin
   (3) Isoniazid
   (4) Dicoumarol

25. Neuritis is not a manifestation of the deficiency of
   (1) Vitamin B1
   (2) Vitamin B12
   (3) Panthathenic Acid
   (4) Vitamin D

26. The difference between PubMed and PubMed Central (PMC) is:
   (1) PubMed records provide only title of the article, whereas PMC provides the abstract also.
   (2) PubMed records provide only the title of the article, author details, journal details, abstract and keywords whereas PMC provides the full text of the article for downloading.
   (3) PMC records provide only the title of the article, author details, journal details, abstract and keywords whereas PubMed provides the full text of the article.
   (4) All full-text articles indexed in PubMed are available for downloading, but all fulltext article on PMC are not available for downloading.
27. Impact Factor of a scholarly journal is defined as:
   (1) Total number of citations the journal has received in the past two years
   (2) The average number of citations each published article has received in the past two years
   (3) The maximum number of citations a published article has received in last two years
   (4) The average number of citations the journal has received in the past five years

28. Identify the statement that is wrong in relation to खालित्व (khālitya) and पालित्व (Pālitya):
   (1) They manifest in people who involve in excessive exertion, excessive fasting and intake of excessive cold substances.
   (2) They manifest in people who consume excessive लवण (Lavaṇa)
   (3) They manifest in people who belong to पित्त प्रकृति- (pitta constitution)
   (4) चरकोक्त कनकारिष्ट- (Carakokta Kanakārisṭa) is used to treat these manifestations.

29. Which of the following statements is correct according to WHO?
   (1) BMI greater than or equal to 35 is overweight.
   (2) BMI greater than or equal to 18 is overweight and a BMI greater than or equal to 25 is obesity.
   (3) BMI greater than or equal to 25 is grade-1 obesity and a BMI greater than or equal to 30 is morbid obesity.
   (4) BMI greater than or equal to 25 is overweight and a BMI greater than or equal to 30 is obesity.
30. Isolated systolic hypertension may be seen in which of the following conditions:
   (1) Hypothyroidism and obesity
   (2) Hyperparathyroidism and associated depression
   (3) Stiffening of aorta and Hyperthyroidism
   (4) Renal-vascular hypertension due to diabetic nephropathy

31. Following are the locations of रमान वायु (Samāna Vāyu):
   (1) Adjacent to Jaṭharāgni, Aṇābuvaha Srotāmsi and Koshta
   (2) Adjacent to Hṛdaya and Raktavaha Srotāmsi and Āmāsaya
   (3) Adjacent to Prāṇa and Śukravaha Srotāmsi and Vṛṣṇa
   (4) Adjacent to Indriya and Monovaha Srotāmsi and Garbhāsaya

32. What is the mean arterial pressure if the systolic BP is 160 mm of Hg and diastolic BP is 100 mm of Hg?
   (1) 134 mm of Hg
   (2) 120 mm of Hg
   (3) 102 mm of Hg
   (4) 140 mm of Hg

33. What is the stroke volume of an adult male individual if the minute cardiac output is 10 litres and the heart rate is 120 beats per minute?
   (1) About 70 ml
   (2) About 100 ml
   (3) About 120 ml
   (4) About 85 ml
34. Slow, deep breathing is more efficient than rapid, shallow breathing because:

(1) \[ \text{AVR (ml/min)} = \text{frequency (Breaths/min)} \times (\text{Tidal Volume} + \text{Dead space}) \]

(2) \[ \text{AVR (ml/min)} = \text{frequency (Breaths/min)} \times (\text{Expiratory reserve Volume}) \]

(3) \[ \text{AVR (ml/min)} = \text{frequency (Breaths/min)} \times (\text{Tidal Volume} - \text{Dead space}) \]

(4) \[ \text{AVR (ml/min)} = \text{frequency (Breaths/min)} \times (\text{Inspiratory Reserve Volume}) \]

35. Read the following statements and answer the question that follows:

a. Jvara cannot manifest without Pitta Vṛddhi.

b. Vāgbhaṭa has not listed Santāpa/Jvara under Pitta Vṛddhi features

c. Vāgbhaṭa has described the role of Pitta Vṛddhi under Jvara Saṃprāpti.

Which of the following is correct on the basis of the above statements?

(1) The list of symptoms given under Pitta Vṛddhi is complete and the description of Jvara Saṃprāpti is questionable.

(2) Jvara can manifest even without the involvement of Pitta.

(3) The list of symptoms given under Pitta Vṛddhi is not complete: it is only indicative. The description of Jvara Saṃprāpti is correct.

(4) The statements given in the question are wrong. Vāgbhaṭa has listed Jvara under the features of Pitta Vṛddhi.
36. The utilization of oxygen by metabolic processes is correctly referred to as
   (1) Respiration
   (2) Ventilation
   (3) External respiration
   (4) Cellular respiration

37. The main force causing the exhalation of air is the ...........
   (1) Contraction of diaphragm
   (2) Elastic recoil
   (3) Diaphragmatic relaxation
   (4) Intercostal muscles

38. Steroid hormones bind to
   (1) Carbohydrate receptors on the cell membrane of the target cell
   (2) Carbohydrate receptors in the cytoplasm of the target cell
   (3) Protein receptors in the cytoplasm of the target cell
   (4) Protein receptors in the cytoplasm or nucleus of the target cell

39. The nervous system regulates the secretion of each of these hormones EXCEPT
   (1) Oxytocin
   (2) Calcitonin
   (3) ADH
   (4) Epinephrine

40. Beta-2 adrenergic receptors are found in the following structures:
   (1) Neuromuscular junction
   (2) Bronchial smooth muscle
   (3) Urinary bladder
   (4) Adipose cells
Short Answer Questions

Note: Attempt any five questions. Write answer in 150-200 words. Each question carries 16 marks. Answer each question on separate page after writing Question Number.

1. Describe the physiology of digestion and metabolism as per Ayurveda classical textbooks and its relevance in today’s context.

2. Discuss the issue of Plagiarism in the context of scholarly publishing and discuss the methods of detecting it.

3. Describe the methods of calculating the sample size for different kinds of studies.

4. Explain Kedari-Kuliyā Nyāya and Khale-Kapota Nyāya. Discuss the possible application of these two theories in terms of clinical physiology.

5. Translate the following verse into English/Hindi, interpret its meaning in terms of clinical physiology with special reference to Medha Kṣaya and Rakta Vṛddhi:

6. Translate the following verse into English/Hindi, interpret its meaning with special reference to “बहवबद्धं मेदो” in terms of applied physiology of Prameha, keeping in view the disturbances in fat metabolism observed in diabetes mellitus.

बहवबद्धं मेदो मांस शरीरज्ञातं शुक्रं शोणितं वसा मन्त्रा लसीका रसश्चीजः
सहस्वात्त इति दृष्टविशेषः।।
7. Translate the following verse into English/Hindi, interpret its meaning in terms of applied physiology of Ischemic Heart Disease keeping in view the physiology of Rasa and Vāyu:

कफपितावस्था तु मातृती रसामूचित:। हृदिरोधः कुरुस्ते शूलमुच्य्यासरोधवर्त्मकं परम्।
स हृद्धार्थं इति ख्यातो रसमारुतसम्भवः।

8. Discuss the natural biological rhythms as described in Ayurveda textbooks. Compare these descriptions with the recent trends in chronobiology.

9. What do you mean by gut microbiota? Discuss the significance of recent advances in the knowledge related to gut microbiota with special reference to Ayurveda physiology.

10. Explain concept of Immunity as described in Ayurveda with special reference to Ojas, Bala and Ślesma.
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18
अभ्यासियों के लिए निर्देश

(इस पुस्तिका के प्रथम आवरण पृष्ठ पर तथा उत्तर-पत्र के दोनों पृष्ठों पर केवल नीचे-काली बाल-व्याख्या भें से ही लिखें)

1. प्रश्न पुस्तिका मिलने के 10 मिनट के अंदर ही देख ले कि प्रश्नपत्र में सभी पृष्ठ मांजूद हैं और कोई प्रश्न छूटा नहीं है। पुस्तिका दोपहर पारे जाने पर इसकी सूचना तत्काल कक्ष-निरीक्षक को देकर समृद्ध प्रश्नपत्र की दृश्यी पुस्तिका प्राप्त कर ले।

2. परीक्षा भवन में लिफाफा रहित प्रश्न-पत्र के अंतिम रिक्त लिखिक, लिखित या सादा कोई भी खुला कागज साथ में न लायें।

3. उत्तर-पत्र अंत तक दिया गया है। इसे न तो मोड़ें और न ही विकृत करें। दूसरा उत्तर-पत्र नहीं दिया जायेगा। केवल उत्तर-पत्र का ही मूल्यांकन किया जायेगा।

4. अपना अनुक्रमक तथा उत्तर-पत्र का क्रमांक प्रथम आवरण-पृष्ठ पर पें से निर्धारित स्थान पर लिखें।

5. उत्तर-पत्र के प्रथम पृष्ठ पर पें से अपना अनुक्रमक निर्धारित स्थान पर लिखिए तथा नीचे दिये वृत्तों को गाढ़ा कर दें। जहाँ-जहाँ आवश्यक हो वहाँ प्रश्न-पुस्तिका का क्रमांक तथा सेट का नब्बे उचित स्थानों पर लिखिए।

6. ओे एम और र यह उत्तर-पत्र अनुक्रमक संख्या, प्रश्नपुस्तिका संख्या व लेख संख्या (यदि कोई हो) तथा प्रश्नपुस्तिका पर अनुक्रमक और ओे एम और र यह उत्तर-पत्र संख्या की प्रविधियों में उपरोक्त नक्सल की अनुमति नहीं है।

7. उपरोक्त प्रविधियों में कोई भी परिवर्तन कक्ष मित्रिक द्वारा प्रणालित होने चाहिए अन्यथा यह एक अनुचित साधन का प्रयोग माना जायेगा।

8. प्रश्न-पुस्तिका में प्रत्येक प्रश्न के बाद बैकल्पिक उत्तर दिये गये हैं। प्रत्येक प्रश्न के वैकल्पिक उत्तर के लिए आपको उत्तर-पत्र की सम्बन्धित खंडित के सामने दिये गये वृत्त को उत्तर-पत्र के प्रथम पृष्ठ पर दिये गये निर्देशुओं के अनुसार पें से गाढ़ा करना है।

9. प्रत्येक प्रश्न के उत्तर के लिए केवल एक ही वृत्त को गाढ़ा करें। एक से अधिक वृत्तों को गाढ़ा करने पर अनुबंध को अपूर्व होने पर यह उत्तर गलत माना जायेगा।

10. ध्यान दें कि एक जांच स्थायी द्वारा अंकित उत्तर बदलना नहीं जा सकता है। यदि आप किसी प्रश्न का उत्तर नहीं देंगे खास भाँति, तो संबंधित खंडित के सामने दिये गये सभी वृत्तों को खाली छोड़ दें। ऐसे प्रश्नों पर एक अंक दिये जायेंगे।

11. रफ कार्य के लिए प्रश्न-पुस्तिका के मुखपृष्ठ के अंदर वाला पृष्ठ पर तथा उत्तर-पुस्तिका के अंतिम पृष्ठ का प्रयोग करें।

12. परीक्षा के उपरान्त केवल ओे एम और र यह उत्तर-पत्र परीक्षा भवन में जमा कर दें।

13. परीक्षा समाप्त होने से पहले परीक्षा भवन से बाहर जाने की अनुमति नहीं होगी।

14. यदि कोई अवयव परीक्षा में अनुचित साधनों का प्रयोग करता है, तो वह विशेष विधालय द्वारा निर्धारित दंड का/की, मानी होगा/होगी।