

Set No. : 1

2016

Question Booklet No.

RET/16/TEST-B

642

Medicine

(To be filled up by the candidate by blue/black ball point pen)

Roll No.

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Roll No. (Write the digits in words)

Serial No. of OMR Answer Sheet

Day and Date

(Signature of Invigilator)

INSTRUCTIONS TO CANDIDATES

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

1. Within 30 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

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ROUGH WORK

रफ़ कार्य

Research Entrance Test-2016

No. of Questions : 50

प्रश्नों की संख्या : 50

Time : 2 Hours

Full Marks : 200

समय : 2 घण्टे

पूर्णाङ्क : 200

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

इस प्रश्न पुस्तिका में **40** वस्तुनिष्ठ व **10** लघु उत्तरीय प्रश्न हैं।

(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.

अधिकाधिक वस्तुनिष्ठ प्रश्नों को हल करने का प्रयत्न करें। प्रत्येक वस्तुनिष्ठ प्रश्न **3 (तीन)** अंकों का है। प्रत्येक गलत उत्तर के लिए **1 (एक)** अंक काटा जायेगा। प्रत्येक अनुत्तरित प्रश्न का प्राप्तांक शून्य होगा। यदि वस्तुनिष्ठ प्रश्नों के एकाधिक वैकल्पिक उत्तर सही उत्तर के निकट प्रतीत हों, तो निकटतम सही उत्तर दें।

(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.

केवल **5 (पाँच)** लघुउत्तरीय प्रश्नों के उत्तर दें। प्रत्येक प्रश्न **16 (सोलह)** अंकों का है तथा उनका उत्तर **150-200** शब्दों के बीच होना चाहिए। इसके लिए इस पुस्तिका में लगे हुए सादे **5 (पाँच)** पृष्ठों का ही उपयोग आवश्यक है। प्रत्येक प्रश्न का उत्तर एक नए पृष्ठ से, प्रश्न संख्या लिखकर शुरू करें।

01. Which of the following is not synthesized in postganglionic sympathetic neuron ?

- | | |
|--------------------|-----------------|
| (1) L-DOPA | (2) Dopamine |
| (3) Norepinephrine | (4) Epinephrine |

02. Which of the following drug is a tranquilizer ?

- | | |
|-------------|--------------------|
| (1) LSD | (2) Atropine |
| (3) Lithium | (4) Chlorpromazine |

03. Hysterectomy is the removal of ?

- | | |
|------------|------------|
| (1) Kidney | (2) Uterus |
| (3) Ovary | (4) Testis |

04. Which of the following is not essential for normal biosynthesis of thyroid hormone :

- | | |
|-------------------|--------------|
| (1) Iodine | (2) ferritin |
| (3) Thyroglobulin | (4) TSH |

05. Select the best statement for Lymphocytes :

- (1) are unaffected by hormones
- (2) all originate from the bone marrow
- (3) are part of the body's defense against cancer
- (4) convert to monocytes in response to antigen

06. Basic principle involved in the doctors thermometer (mercury thermometer) is :

- (1) Thermal expansion of liquid
- (2) Thermal expansion of gas above the liquid in the thermometer
- (3) Capillary action
- (4) None of the above

07. The compound which serves as antioxidant in living systems and plays a key role in detoxification is :

- (1) glutathione
- (2) glutamate
- (3) proline
- (4) tetrahydrofolate

08. Which of the following vitamins regulates Ca^{2+} metabolism ?

- (1) Vitamin A
- (2) Thiamine
- (3) Ascorbic acid
- (4) Vitamin D

09. An example of antioxidant enzyme is :

- (1) Superoxide dismutase
- (2) Choline oxidase
- (3) Phenylalanine ammonia lyase
- (4) Alcohol dehydrogenase

10. The organ of the body mainly damaged in hepatitis is :
(1) Heart (2) Liver
(3) Kidney (4) Eye
11. *Leishmania donovani* is transmitted by :
(1) Sand fly (2) Tse-tse fly
(3) Anopheles mosquito (4) Culex mosquito
12. The following are vector borne disease except :
(1) Malaria (2) Dengue
(3) Typhoid (4) Japanese encephalitis
13. The maximum amount of electrolytes and water (70-80%) from the glomerular filtrate is resorbed from which part of nephron :
(1) Proximal convoluted tubule (2) Descending loop of Henle
(3) Ascending loop of Henle (4) Distal convoluted tubule
14. Tendons connect :
(1) Bone to Muscle (2) Bone to vertebral column
(3) Bone to bone (4) Bone to cartilage
15. Which one of the following statement is NOT correct regarding trachea ?
(1) Lies posterior to esophagus
(2) It splits into the right and left bronchi
(3) Opening to the trachea is covered by epiglottis.
(4) Tracheal rings are C-shaped

16. Inner surface of the bronchi, bronchioles and fallopian tubes are lined by :
- (1) Cubical epithelium (2) Columnar epithelium
(3) Squamous epithelium (4) Ciliated epithelium
17. Which one is the cofactor of carbonic anhydrase ?
- (1) Cu (2) Zn (3) Fe (4) Mg
18. Bile's contribution to digestion is :
- (1) Nucleic acid metabolism
(2) Phagocytosis
(3) Emulsification of dietary lipids
(4) Carbohydrate digestion
19. Aggregates of lymphoid tissue present in the distal portion of the small intestine are known as :
- (1) Villi (2) Peyer's patches
(3) Rugae (4) Choroid plexus.
20. Alzheimer's disease in humans is associated with the deficiency of :
- (1) Gamma aminobutyric acid (2) Dopamine
(3) Glutamic acid (4) Acetylcholine

26. Difference between pulmonary artery and Pulmonary Vein is that pulmonary artery has :

- | | |
|--------------------|----------------------|
| (1) No endothelium | (2) Valves |
| (3) Thicker walls | (4) Oxygenated blood |

27. Infection with which organism predisposes you for cancer :

- | | |
|----------------------------|---------------------------|
| (1) Hepatitis A virus | (2) Human Papilloma virus |
| (3) Varicella Zoster virus | (4) Hepatitis E virus |

28. Which is not an indication of Genetic counseling ?

- (1) Maternal age <35 year
- (2) Consanguinity
- (3) High risk ethnic group
- (4) Family history suggestive of a genetic disorder.

29. Which of the following immunoglobulins does constitute the largest percentage in human milk ?

- | | | | |
|----------|----------|----------|----------|
| (1) Ig G | (2) Ig D | (3) Ig M | (4) Ig A |
|----------|----------|----------|----------|

30. Which is correct type of vaccine used in tuberculosis :

- | | |
|---------------------|-----------------------|
| (1) Harmless virus | (2) Inactivated toxin |
| (3) killed Bacteria | (4) Harmless bacteria |

- 31.** HIV infection is not transmitted by :
- (1) Splash of HIV positive blood into the eye
 - (2) Needle stick injury from infected patient
 - (3) Splash of HIV positive blood into intact skin
 - (4) Splash of amniotic fluid from infected patient in the oral mucosa
- 32.** Commonly used vectors for human genome sequencing are :
- (1) T-DNA
 - (2) BAC and YAC
 - (3) Expression vectors
 - (4) T/A cloning vectors
- 33.** Biolistics (gene gun) is suitable for :
- (1) DNA fingerprinting
 - (2) Disarming pathogen
 - (3) Transformation of plant cells
 - (4) Constructing recombinant DNA by joining with vectors
- 34.** Which one of the following DNA will have the highest melting temperature ?
- (1) DNA with 15% guanine
 - (2) DNA with 30% cytosine
 - (3) DNA with 40% thymine
 - (4) DNA with 50% adenine
- 35.** During DNA fingerprinting separation of DNA fragments is done by :
- (1) Autoradiography
 - (2) Hybridization
 - (3) Denaturation
 - (4) Electrophoresis

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.

- 01.** Life cycle of *Leishmania donovani*.
- 02.** Highly sensitive C-reactive protein.
- 03.** Restriction Fragment Length polymorphism.
- 04.** DNA fingerprinting.
- 05.** Stem cells.
- 06.** Difference between RNA polymerase and DNA polymerase.
- 07.** Massively parallel sequencing.
- 08.** Meiosis-I.
- 09.** Differentiate between linkage and recombination.
- 10.** ELISA.

21. Which part of the human brain is concerned with the regulation of body temperature ?

- | | |
|------------------|-----------------------|
| (1) Hypothalamus | (2) Medulla oblongata |
| (3) Cerebellum | (4) Cerebrum |

22. Which hormone is released by the neurohypophysis :

- | | |
|--------------------|----------------------------------|
| (1) Growth hormone | (2) Adrenocorticotrophic hormone |
| (3) Oxytocin | (4) Prolactin |

23. Which of the following increase the calcium level in the blood :

- | | |
|------------------|----------------|
| (1) Thyroxine | (2) Calcitonin |
| (3) Parathormone | (4) Insulin |

24. Insufficient amount of antidiuretic hormone in blood leads to :

- | | |
|-----------------------|------------------------|
| (1) Diabetes Mellitus | (2) Diabetes Insipidus |
| (3) Glycosuria | (4) Uremia |

25. Erythroblastosis foetalis can occur if :

- | |
|--|
| (1) Mother is Rh-ve and fetus is Rh+ve |
| (2) Both Mother and fetus is Rh-ve |
| (3) Mother is Rh+ve and fetus is Rh-ve |
| (4) Both Mother and fetus is Rh+ve |

Question No.

Page for Short Answer

Question No.

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ROUGH WORK

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ROUGH WORK

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अभ्यर्थियों के लिए निर्देश

(इस पुस्तिका के प्रथम आवरण पृष्ठ पर तथा उत्तर-पत्र के दोनों पृष्ठों पर केवल नीली-काली बाल-प्वाइंट पेन से ही लिखें)

1. प्रश्न पुस्तिका मिलने के 30 मिनट के अन्दर ही देख लें कि प्रश्नपत्र में सभी पृष्ठ मौजूद हैं और कोई प्रश्न छूटा नहीं है। पुस्तिका दोषयुक्त पाये जाने पर इसकी सूचना तत्काल कक्ष-निरीक्षक को देकर सम्पूर्ण प्रश्नपत्र की दूसरी पुस्तिका प्राप्त कर लें।
2. परीक्षा भवन में लिफाफा रहित प्रवेश-पत्र के अतिरिक्त, लिखा या सादा कोई भी खुला कागज साथ में न लायें।
3. उत्तर-पत्र अलग से 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 अनुक्रमांक तथा उत्तर-पत्र का क्रमांक प्रथम आवरण-पृष्ठ पर पेन से निर्धारित स्थान पर लिखें।
5. उत्तर-पत्र के प्रथम पृष्ठ पर पेन से अपना अनुक्रमांक निर्धारित स्थान पर लिखें तथा नीचे दिये वृत्तों को गाढ़ा कर दें। जहाँ-जहाँ आवश्यक हो वहाँ प्रश्न-पुस्तिका का क्रमांक तथा सेट का नम्बर उचित स्थानों पर लिखें।
6. ओ० एम० आर० पत्र पर अनुक्रमांक संख्या, प्रश्नपुस्तिका संख्या व सेट संख्या (यदि कोई हो) तथा प्रश्नपुस्तिका पर अनुक्रमांक और ओ० एम० आर० पत्र संख्या की प्रविष्टियों में उपरिलेखन की अनुमति नहीं है।
7. उपर्युक्त प्रविष्टियों में कोई भी परिवर्तन कक्ष निरीक्षक द्वारा प्रमाणित होना चाहिये अन्यथा यह एक अनुचित साधन का प्रयोग माना जायेगा।
8. प्रश्न-पुस्तिका में प्रत्येक प्रश्न के चार वैकल्पिक उत्तर दिये गये हैं। प्रत्येक प्रश्न के वैकल्पिक उत्तर के लिए आपको उत्तर-पत्र की सम्बन्धित पंक्ति के सामने दिये गये वृत्त को उत्तर-पत्र के प्रथम पृष्ठ पर दिये गये निर्देशों के अनुसार पेन 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 अथवा एक वृत्त को अपूर्ण भरने पर वह उत्तर गलत माना जायेगा।
10. ध्यान दें कि एक बार स्याही द्वारा अंकित उत्तर बदला नहीं जा सकता है। यदि आप किसी प्रश्न का उत्तर नहीं देना चाहते हैं, तो संबंधित पंक्ति के सामने दिये गये सभी वृत्तों को खाली छोड़ दें। ऐसे प्रश्नों पर शून्य अंक दिये जायेंगे।
11. रफ कार्य के लिए प्रश्न-पुस्तिका के मुखपृष्ठ के अंदर वाला पृष्ठ तथा उत्तर-पुस्तिका के अंतिम पृष्ठ का प्रयोग करें।
12. परीक्षा के उपरान्त केवल ओ एम आर 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 अभ्यर्थी परीक्षा में अनुचित साधनों का प्रयोग करता है, तो वह विश्वविद्यालय द्वारा निर्धारित दंड का/की, भागी होगा/होगी।