

Question Booklet No.

(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 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 Admi 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 changes 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 page 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 : 15

FOR ROUGH WORK

Research Entrance Test – 2014

No. of Questions : 50

Time : 2 Hours

Full Marks : 200

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

(ii) 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.

(iii) 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.

1. **Decrease** in biodiversity in tropical countries is mainly due to :
(1) **Urbanization** (2) **Deforestation**
(3) **Pollution** (4) **Soil erosion**
2. Where does glycolysis occur in a cell ?
(1) Chloroplast (2) **Mitochondria** (3) Cytoplasm (4) Golgi body
3. The process that accounts for transfer of genetic information from DNA to RNA is called as :
(1) Translocation (2) Translation (3) Transformation (4) Transcription
4. **Leydig's** cells produce :
(1) **Thyroxine** (2) **Growth hormone**
(3) **Testosterone** (4) **Progesterone**
5. A tumor suppressor gene which is known as "Guardian of the genome" is :
(1) myc (2) P^{53} (3) Sr C (4) H-Ras
6. Which is the function of interleukins ?
(1) **Stimulation** of wound healing
(2) **Treatment** of infertility
(3) Dissolving blood clot
(4) Enhancement of action of immune system
7. Which of the following is **not** an anticoagulant ?
(1) **Heparin** (2) Protamine sulphate
(3) Warfarin (4) Hirudin
8. Which of the following is **not** a part of triple response ?
(1) White reaction (2) Red reaction (3) Wheal (4) Flare

9. Virus envelope is known as :
(1) Capsid (2) Virion (3) Nucleoprotein (4) Core
10. Peptide synthesis inside a cell takes place in :
(1) Mitochondria (2) Chloroplast
(3) Ribosomes (4) Chromoplast
11. Which vitamin is required for collagen synthesis ?
(1) Vitamin-A (2) Vitamin-C (3) Vitamin-B (4) Vitamin-D
12. Zinc has role in :
(1) Immune function (2) Replacing Iron
(3) Insulin secretion (4) both (2) & (3)
13. Long term diabetes control is best monitored by :
(1) Serum glucose (2) Post prandial blood glucose
(3) HBA_{1c} (4) Proteinuria
14. Most cytokines are made by several cell types except :
(1) IL-1 (2) IL-2 (3) IL-8 (4) IL-13
15. Potassium is essential for :
(1) Heart (2) Liver (3) Brain (4) Eyes
16. Iron in blood is transported by binding to :
(1) Apoferritin (2) Ceruloplasmin
(3) Albumin (4) Transferrin
17. Most common cause of chronic kidney disease in elderly :
(1) Diabetes mellitus (2) Hypertension
(3) Analgesic nephropathy (4) Pyelonephritis

- 18.** Normal Sodium concentration in plasma is :
- (1) 120-130 mEq/L (2) 135-145 mEq/L
 (3) 145-160 mEq/L (4) 190-195 mEq/L
- 19.** Most common cause of dementia :
- (1) Alzheimer's disease (2) Pick's disease
 (3) Multi-cerebral infarct (4) Parkinsonism
- 20.** Which helminth is commonly responsible for anaemia ?
- (1) Wuchereria bancrofti (2) Taenia solium
 (3) Ancylostoma duodenale (4) Ascaris
- 21.** Most common bacteria responsible for UTI in elderly ?
- (1) Streptococcus (2) Proteus mirabilis
 (3) E.Coli (4) Klebsiella
- 22.** Tissue plasminogen activator(tPA) is used as :
- (1) Anticoagulant (2) Anti thrombolytic
 (3) Anti anginal (4) Anti ischemic
- 23.** Glucagon like peptide-1 (GLP-1)are secreted from :
- (1) α -cells of pancreas (2) β -cells of pancreas
 (3) K-cells of Intestine (4) C-cells of thyroid
- 24.** Anti CD-20 monoclonal antibodies are used in the treatment of :
- (1) Renal cell carcinoma (2) Sarcoma
 (3) B cell lymphoma (4) Multiple myeloma
- 25.** Which of the following beta-blocker is safe in pregnancy ?
- (1) Carvedilol (2) Labetalol
 (3) Nebivolol (4) Propranolol

26. SIADH is state of :
- (1) Euvolumic hyponatremia (2) Dilutional hyponatremia
(3) Hypovolumic hyponatremia (4) Hyperosmolar hyponatremia
27. One of the clinical sign of Left ventricular failure is :
- (1) Pulsus bisferiens (2) Pulsus bigeminus
(3) Pulsus paradoxus (4) Pulsus alternans
28. Which of the following is Clinical determinant of brain death ?
- (1) Central cyanosis
(2) Absence of heart sounds
(3) Dilated and fixed pupil on light response
(4) Absence of carotid pulse
29. Prolonged diuretic therapy can lead to :
- (1) Metabolic alkalosis (2) Metabolic acidosis
(3) Respiratory alkalosis (4) Respiratory acidosis
30. One of the treatment of primary pulmonary hypertension is :
- (1) Nitroprusside (2) Diazoxide
(3) Endotheline receptor blockers (4) Beta blockers
31. Neutropenic enterocolitis is one of the complications of :
- (1) Crohn's disease (2) Cancer chemotherapy
(3) AIDS (4) Acute bacillary dysentery
32. Which of the following is structurally largest immunoglobulin ?
- (1) IgG (2) IgA (3) IgD (4) IgM
33. Transfusion & drug induced reactions is :
- (1) Type-I hypersensitivity reaction (2) Type-II hypersensitivity reaction
(3) Type-III hypersensitivity reaction (4) Type-IV hypersensitivity reaction

34. Which of the following is *not* true for Immunization against disease ?
- (1) Live Vaccine can be given to pregnant women.
 - (2) Contraindicated in Asthma
 - (3) Contraindicated in premature baby
 - (4) Contraindicated in active tuberculosis
35. Antithrombin is a protein and is produced by :
- (1) Liver
 - (2) Lung
 - (3) Kidney
 - (4) Bone marrow
36. Some but not all HIV infected patients develop persistent generalized lymphadenopathy (PGL). PGL is defined as :
- (1) Lymph node >1 cm in diameter in two anatomical distinct sites for >3 months.
 - (2) Lymph node >1 cm in diameter in two anatomical distinct sites for >6 months.
 - (3) Lymph node >3 cm in diameter in two anatomical distinct sites for >3 months.
 - (4) Lymph node >1 cm in diameter in two anatomical distinct sites for >1 month.
37. Causes of acquired proximal myopathy includes the following EXCEPT :
- (1) Snake venoms
 - (2) Vitamin-E
 - (3) Statins
 - (4) Artesunate
38. Tuberculosis is most important opportunistic infection in HIV. Which of the following is *true* about tuberculosis (TB) in HIV infection ?
- (1) Incidence of TB reflects background prevalence in community
 - (2) TB can occur at any stage of HIV
 - (3) TB is always a new infection
 - (4) Both (1) & (2)

39. In Liposomal based drug delivery system, liposome is used because of which of the following its unique property ?

- (1) Encapsulation of hydrophobic drugs
- (2) Encapsulation of hydrophilic drugs
- (3) Encapsulation of both hydrophobic & hydrophilic drugs
- (4) Encapsulation of inert drugs

40. Which of the following is not the cause of hyperprolactemia?

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|-----------------|---------------------|
| (1) Baby crying | (2) Hyperthyroidism |
| (3) PCOD | (4) Renal failure |

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. Application of Quantum dots.
2. Write *three* functions of human kidney.
3. Enumerate various steps of Polymerase Chain Reaction (PCR).
4. Mention *three* infections which can be transmitted by accidental finger prick while drawing blood sample.
5. Enumerate the component of tumour lysis syndrome (TLS).
6. Enumerate difference between Stable & Unstable Angina.
7. Enumerate *three* X linked disorders.
8. Enumerate components of Glasgow Coma Scale.
9. Define XDR -tuberculosis.
10. What are clinical trial phases, describe?

Roll No. :

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FOR ROUGH WORK

