

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 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 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.

FOR ROUGH WORK

Research Entrance Test – 2013

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. The process of copying genetic information from DNA to RNA is known as
(1) Translation (2) Replication (3) Transcription (4) Ligation
2. Separation and isolation of DNA is carried by
(1) Gel electrophoresis (2) Polymerase chain reaction
(3) Bioreactors (4) Cloning vectors
3. Which is not a sexually transmitted disease
(1) HIV (2) Hepatitis B (3) Listeriosis (4) Chlamydia
4. Barr body is an
(1) Autosome (2) X chromosome
(3) Y chromosome (4) Mutated chromosome
5. Which is not a connective tissue
(1) Bone (2) Cartilage
(3) Adipose tissue (4) Muscular tissue
6. Antibodies are responsible for
(1) Cell mediated immunity (2) Humoral immunity
(3) Innate immunity (4) Autoimmunity
7. Hair is made of
(1) Elastin (2) Fibrin (3) Keratin (4) Reticulin
8. Sympathetic nervous system has
(1) Craniosacral flow (2) Cerebrocortical flow
(3) Thoracolumbar flow (4) Diencephalic flow
9. Microglial cells are present in
(1) Liver (2) Kidney (3) Spleen (4) Brain
10. Mitral valve is present between
(1) Left ventricle and aorta
(2) Right ventricle and pulmonary trunk
(3) Left atrium and left ventricle
(4) Right atrium and right ventricle

11. Richest source of soluble dietary fiber is :
(1) ground nut (2) green gram (3) red gram (4) black gram
12. Fresh fruit are poor source of :
(1) minerals (2) vitamin E (3) antioxidants (4) fiber
13. Which is following is useful to treat anaemia :
(1) vitamin A (2) vitamin B (3) vitamin D (4) vitamin K
14. Kidney failure adversely affects metabolism of :
(1) vitamin A (2) vitamin B (3) vitamin C (4) vitamin D
15. Reduced consumption of salt is most beneficial in :
(1) diabetes (2) hypertension (3) cancer (4) epilepsy
16. Heroin is made from :
(1) Dhatura (2) Fermented starch
(3) Marijuahna (4) Poppy
17. Absorption of orally given iron is increased by :
(1) food (2) lime juice (3) soda bi carb (4) plenty of water
18. Smoking causes increased cancer risk mainly by :
(1) carbon nano particles (2) carbon monoxide
(3) oxadised hydrocarbons (4) nicotine
19. Chronic alcohol consumption is major cause of :
(1) heart failure (2) liver failure
(3) kidney failure (4) bone marrow failure

- 20.** Prolonged broad spectrum antibiotics may commonly cause :
- (1) vitamin A deficiency
 - (2) vitamin B deficiency
 - (3) vitamin C deficiency
 - (4) black gram
- 21.** Sodium bicarbonate is best used in medicine as :
- (1) antacid
 - (2) oral disinfectant
 - (3) alkalinizing agent
 - (4) chelating agent
- 22.** Proper mode of orally administering hydrochloric acid is by :
- (1) gastric tube
 - (2) oral solution
 - (3) capsule
 - (4) enteric coated formulation
- 23.** Popular constituent for mouth wash is :
- (1) boric acid
 - (2) providone iodine
 - (3) chlorheximide
 - (4) chlorocresol
- 24.** Pharmacy is better described as :
- (1) drug store
 - (2) drug company
 - (3) drug development science
 - (4) drug formulation science
- 25.** Pharmacology is study of :
- (1) therapeutic agents
 - (2) interaction of agents with living system
 - (3) drug development
 - (4) regulating use of bioactive agents

26. Most drug require small quantities because they affect :
- (1) nervous system
 - (2) endocrine system
 - (3) specific receptor
 - (4) genes
27. Some drug effects are not reversible because of :
- (1) ionic bonding with target
 - (2) covalent bonding with target
 - (3) no metabolism
 - (4) no excretion
28. Reversible drug effect is best exemplified in :
- (1) sclerosing agents
 - (2) anti infective agents
 - (3) anti cancer agents
 - (4) anti epileptic agents
29. Drug induced heart failure will not cause :
- (1) swelling of feet
 - (2) increasing breathing rate
 - (3) increased blood pressure
 - (4) increased heart rate
30. Acute alcohol consumption essentially causes :
- (1) structural change of central nervous system
 - (2) stimulation of central nervous system
 - (3) depression of central nervous system
 - (4) no effect on central nervous system
31. Common diuretics increase urine output primarily by :
- (1) increasing kidney blood flow
 - (2) increasing water filtration
 - (3) increasing sodium excretion
 - (4) increasing motility of urinary tract
32. Organophosphate pesticides can cause death by :
- (1) excess stimulation of heart
 - (2) excess adrenocortical secretion
 - (3) excess cholinergic stimulation
 - (4) excess burning of body fuel

- 33.** Stressful situations cause increased sweating mediated by
- (1) insulin (2) adrenalin
(3) acetylcholine (4) adreno-corticosteroids
- 34.** Anti-inflammatory effect of drug may best be seen in change of
- (1) body weight (2) blood urea level
(3) erythrocyte sedimentation rate (4) red blood cell count
- 35.** Glucose-6 phosphate deficiency increase risk of drug induced :
- (1) anaphylaxis (2) diarrhea
(3) respiratory failure (4) haemolysis
- 36.** Activation of chloride channel mediates effect of :
- (1) adrenaline (2) acetylcholine
(3) gamma amino butyrate (4) glutamate
- 37.** Very harmful to cardiovascular health is :
- (1) fish oil (2) saturated fat
(3) even small amount of alcohol (4) potato consumption
- 38.** Match method of separation with its principle of separation :
- | | |
|--------------------|---------------------|
| P. Filtration | 1. Specific gravity |
| Q. Ultrafiltration | 2. Electric charge |
| R. Centrifugation | 3. Molecular size |
| S. Ion exchanges | 4. Particle size |
- (1) P-1, Q-2, R-4, S-3 (2) P-4, Q-3, R-1, S-2
(3) P-4, Q-1, R-3, S-2 (4) P-1, Q-3, R-2, S-4

39. By definition homologous genes are genes that :
- (1) Share a common function
 - (2) Share a common evolutionary ancestor
 - (3) Are expressed under similar condition
 - (4) Have at least 50% of nucleotide similarity
40. The lengths of the branches of phylogenetic tree constructed from DNA sequences data indicate :
- (1) The length of time since the organisms diverged
 - (2) The number of synonymous changes between the genes
 - (3) The degree of difference between the genes represented by the nodes
 - (4) None of the above

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. What does body do to ingested drugs ?
2. Give chemical, generic and proprietary names of any single drug.
3. How contraceptive pills prevent pregnancy ?
4. How many standard doses of any drug is determined ?
5. State chemical nature and use of two plant derived drugs.
6. State how stress can adversely affect body health.
7. Why young baby is prone to toxicity of drugs ?
8. Write in brief about RT-PCR.
9. Write in brief about gel electrophoresis.
10. Write in brief about column chromatography.

Roll No. :

Q. No. :

Roll No. :

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FOR ROUGH WORK

