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.

Total No. of Printed Pages: 15
FOR ROUGH WORK
Research Entrance Test – 2015

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. Neoprene is polymer of:
   (1) Orlon  (2) SAN  (3) ABS  (4) All of these

2. The reagent that can be used to distinguish between Glucose and Fructose is:
   (1) Bromine water  (2) Fehling's solution  
   (3) Tollen's reagent  (4) Phenyl hydrazine

3. What will happen if a lysosome leaks inside the cell?
   (1) The lysosomal enzymes will digest cell organelles
   (2) The lysosomal enzymes will become nonfunctional at pH 7.4 of the cytoplasm
   (3) The lysosomal enzymes will be secreted out of the cell
   (4) The leaked suicidal bag will make cell to commit suicide

4. Oxygen evolved during photosynthesis in plants comes from:
   (1) Splitting of water molecules
   (2) Breakdown of carbon dioxide
   (3) Carbohydrates accumulated by plants
   (4) Lipids

5. The contribution of Gregor Johann Mendel is related to the area of:
   (1) Plant classification  (2) Genetics
   (3) Cell structure  (4) Plant functions

6. Himalaya is:
   (1) Paleozoic tectonic mountain  (2) Recent Folded mountain
   (3) Indian mountain  (4) Eurasian mountain

7. A particle executes simple harmonic motion under the restoring force provided by a spring. The time period is T. If the spring is divided in two equal parts and one part is used to continue the simple harmonic motion, the time period will:
   (1) remain T  (2) become 2T  (3) become T/2  (4) become T/√2
8. The efficiency of the Carnot's engine working between the steam point and the ice point is:
   (1) 36.81%   (2) 26.81%   (3) 40%   (4) 16.8%

9. If \( \vec{a} = 2i - 3j + 4k \) and \( \vec{b} = 3i + 2j \), then the angle between \( \vec{a} \) and \( \vec{b} \) is:
   (1) 45°   (2) 90°   (3) 180°   (4) 120°

10. The value of the integral \( \int_{0}^{\frac{\pi}{2}} \frac{\sqrt{\sin x}}{\sin x + \sqrt{\cos x}} \, dx \) is
    (1) \( \pi \)   (2) \( \frac{\pi}{2} \)   (3) \( \frac{\pi}{4} \)   (4) \( -\frac{\pi}{4} \)

11. Who among the following has not contributed to diffusion studies?
    (1) Ratzel   (2) Kniffen   (3) Hagerstrand   (4) Zelinsky

12. 'Cyberspace' is a term coined by whom?
    (1) W. Gibson   (2) P. Holland   (3) D. Simon   (4) R. J. Johnston

13. Multi-nuclei model of urban land use has been proposed by:
    (1) David Harvey & Chauncy Harris   (2) Chauncy Harris & David Smith
    (3) Chauncy Harris & Edward Ullman   (4) Keith Harris & Edward Said

14. Which one of the following is not true about 'Neo-geography'?
    (1) Coined by a non-geographer
    (2) About creation of maps
    (3) Does not involve shared use of mapping resources
    (4) De-professionalizes cartography

15. Von Thunen's model is concerned with:
    (1) Agricultural diversification
    (2) Agricultural location
    (3) Market locations
    (4) Agriculture-industry interaction

RET/15/Test-B/898   (3)   P. T. O.
16. New unit of measurement of atmospheric pressure is:
   (1) Millibar   (2) Dyne   (3) Newton  (4) Pascal

17. Gutenberg discontinuity separates:
   (1) Crust & upper mantle
   (2) Upper mantle & lower mantle
   (3) Mantle & core
   (4) Outer core & Inner core

18. Nappe is produced by:
   (1) Compressional forces
   (2) Tensional forces
   (3) Volcanic eruption
   (4) Earthquake

19. Bornhardt is landform of:
   (1) Humid region
   (2) Arid region
   (3) Glacial region
   (4) Coastal region

20. Lysimeter is used to measure:
   (1) Infiltration
   (2) Transpiration
   (3) Evaporation
   (4) None of these

21. The survey of India Organisation was established in:
   (1) 1767   (2) 1797   (3) 1867   (4) 1897

22. Suez canal was opened in the year of:
   (1) 1980   (2) 1967   (3) 1945   (4) 1869

23. The theory of Growth Pole was developed by:
   (1) Pitamber Pant
   (2) Gunar Mirdal
   (3) Francois Perroux
   (4) Christaller
24. The habitat of Gaddi Tribe is:
   (1) Tamil Nadu     (2) Himachal Pradesh
   (3) Odisha        (4) Madhya Pradesh

25. European Economic Community (E. E. C.) was founded in:
   (1) 1957    (2) 1960    (3) 1970    (4) 1980

26. In India Ninth Five Year Plan was launched in:

27. In how many agro-ecological regions India is divided by Planning Commission?
   (1) 25    (2) 21    (3) 15    (4) 10

28. Which one of the following pair of crops is most suitable for the upper Ganga plain?
   (1) Paddy and Wheat (2) Wheat and Cotton
   (3) Wheat and Sugarcane (4) Paddy and Sugarcane

29. Workers of stone quarries suffer from:
   (1) Tuberculosis (2) Fluorosis (3) Asbestosis (4) Silicosis

30. Who used the term 'biodiversity hotspots' firstly?
   (1) Norman Myers (2) E. P. Odum
   (3) C. C. Park (4) A. G. Transley

31. The biggest biosphere reserve of India is:
   (1) Sunderban (2) Nilgiri
   (3) Nanda Devi (4) Bay of Mannar

32. As per 2011 census the highest sex ratio is found in the Union Territories of:
   (1) Delhi (2) Puducherry
   (3) Chandigarh (4) Lakshadweep
33. The highest male-female literacy difference is found in the state of:
   (1) Jharkhand
   (2) Bihar
   (3) Rajasthan
   (4) Chhattisgarh

34. Who one of the following attempted to divide India into natural regions for the first time?
   (1) L. D. Stamp
   (2) O. H. K. Spate
   (3) M. B. Pithawala
   (4) Q. S. Ahmad

35. Whose climatic classification scheme belongs to the genetic approach of climatic classification?
   (1) Budyko
   (2) Koeppen
   (3) Thornthwaite
   (4) Miller

36. Isohel refers to:
   (1) Equal amount of rainfall line
   (2) Equal sunshine line
   (3) Equal degree of cloudiness line
   (4) Equal humidity line

37. Average albedo of the Planet Earth is:
   (1) 78%
   (2) 50%
   (3) 30%
   (4) 10%

38. The climograph was introduced firstly by:
   (1) J. B. Leighly
   (2) E. E. Foster
   (3) E. N. Munns
   (4) Griffith Taylor

39. The name of the First Indian Satellite was:
   (1) Rohini
   (2) Apple
   (3) Bhaskar
   (4) Aryabhatta

40. Eastern most point of East-West Corridor is:
   (1) Imphal
   (2) Agartala
   (3) Silchar
   (4) Kohima

RET/15/Test-B/898
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. 'World has many places where people are few and few places where people are many.' Elucidate.

2. Discuss the efforts made at international level for the conservation of biodiversity.

3. 'Tribal regions of India are rich in resource base but poor in economic development'. Elaborate.

4. Describe the different biological indicators helpful in climate change detection.

5. Discuss the major implications of postmodernism for Geography.

6. Briefly examine any one morphological interaction model of Indian Villages.

7. Give an account of the multi-level planning.

8. Discuss any one principles of human geography.


10. Describe the evidences given in support of plate tectonic theory.
FOR ROUGH WORK