

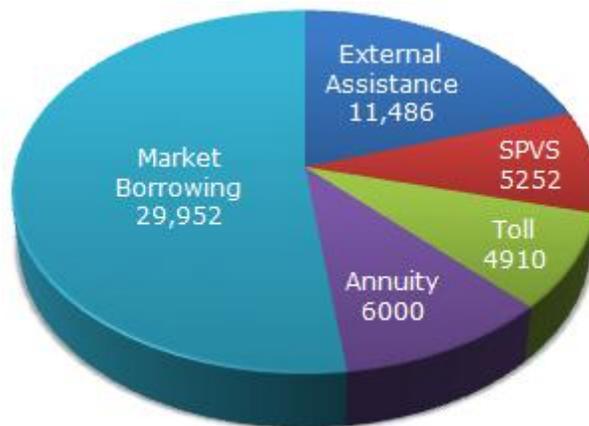
### Syllabus for Research Aptitude Test for Ph.D. Entrance Examination 2020-21 (Even Semester)

Mathematical Reasoning and Aptitude, Analysis of quantitative and qualitative data, Data Interpretation, Logical Reasoning, Comprehension, Research Aptitude, Verbal and Non Verbal Communication , Information & Communication Technology.

### Research Aptitude Test – Sample Questions

1. Students receive a B.A. degree only after passing all their tests and submitting all their papers. Out of 300 students, 250 passed all their tests and 215 submitted all their papers. How many students received a B.A. degree?
  - a. At least 215
  - b. No more than 185
  - c. At least 165
  - d. Exactly 215
2. K is an even number and P is an odd number. Which of the following statements is not correct?
  - a.  $P - K - 1$  is an odd number
  - b.  $P + K + 1$  is an even number
  - c.  $P * K + P$  is an odd number
  - d.  $P^2 + K^2 + 1$  is an even number
3. If ROAD is written as URDG, then SWAN should be written as:
  - a. VXDQ
  - b. VZDQ
  - c. VZDP
  - d. UXDQ
4. The following pie-chart shows the sources of funds to be collected by the National Highways Authority of India (NHAI) for its Phase II projects. Near about 20% of the funds are to be arranged through:

Sources of funds to be arranged by NHAI for Phase II projects (in croresRs.)



- a. SPVS
- b. Annuity
- c. Market Borrowing
- d. External Assistance

Read the following passage and answer the following questions:

Unusual incidents are being reported across the Arctic. Inuit families going off on snowmobiles to prepare their summer hunting camps have found themselves cut off from home by a sea of mud, following early thaws. There are reports of igloos losing their insulating properties as the snow drips and refreezes, of lakes draining into the sea as permafrost melts, and sea ice breaking up earlier than usual, carrying seals beyond the reach of hunters. Climate change may still be a rather abstract idea to most of us, but in the Arctic it is already having dramatic effects- if summertime ice continues to shrink at its present rate, the Arctic Ocean could soon become virtually ice-free in summer. The knock-on effects are likely to include more warming, cloudier skies, increased precipitation and higher sea levels. Scientists are increasingly keen to find out what's going on because they consider the Arctic the 'canary in the mine' for global warming - a warning of what's in store for the rest of the World. For the Inuit, the problem is urgent. They live in precarious balance with one of the toughest environments on earth. Climate change, whatever its causes, is a direct threat to their way of life. Nobody knows the Arctic as well as the locals, which is why they are not content simply to stand back and let outside experts tell them what's happening. In Canada, where the Inuit people are jealously guarding their hard-won autonomy in the country's newest territory, Nunavut, they believe their best hope of survival in this changing environment lies in combining their ancestral knowledge with the best of modern science. This is a challenge in itself. The Canadian Arctic is a vast, treeless polar desert that's covered with snow for most of the year. Farming is out of the question and nature offers meagre pickings. Humans first settled in the Arctic a mere 4,500 years ago, surviving by exploiting sea mammals and fish. The environment tested them to the limits: sometimes the colonists ' were successful, sometimes they failed and vanished. But around a thousand years ago, one group emerged that was uniquely well adapted to cope with the Arctic environment. These Thule people moved in from Alaska, bringing kayaks, sleds, dogs, pottery and iron tools.

5. The unusual incidents that are being reported from the Arctic are:
  - a. Igloos losing their insulating properties
  - b. Lakes draining into the sea
  - c. Sea ice breaking up
  - d. All of the above
6. How many years ago Humans first settled in the Arctic ?
  - a. 1000
  - b. 4500
  - c. 3000
  - d. 4000

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#### ANSWER KEY

1. C
  2. A
  3. B
  4. D
  5. D
  6. B
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