**Examination questions**

**on "Organization and planning of scientific research"**

What is research? Name different kinds of research.

Explain structure of science system in Kazakhstan since the period of its independence (1991) as it changed and transformed.

Specify distinctions in system of science funding in Kazakhstan before and after 2011 year

Explain the basic and main requirements to publication in scientific magazines.

Explain the meaning of an impact-factor, give an example of its calculation.

Explain the meaning of Hirsh index, give an example.

Explain classification of patents. Estimate and explain patenting conditions. Give an example.

Explain structure of the patent.

What is intellectual property right?

Explain what kind of rights for the invention will give patent to you from position of the law on patenting in RK

Explain by what criteria it is possible to estimate the magazine, using Journal Citation Report?

What are the differencies between PhD, the candidate of science and the doctor of science ranks?

Explain which kind of activity National scientific council provides in RK?

Explain how to carry out searching of any field of scientific research, using Thomson Reuters. What type of the information can be received?

What is IAEA (International Atomic Energy Agency )?

What can be patented?

What is the meaning of the patent obtaining process?

Explain how to write discussion of results into the scientific article correctly .

Explain how to work with references, using End Note Web?

Explain a path which your publication goes through before it can be published in the international magazine.

Explain the meaning of ethical standards of scientific research, give examples.

What is Cite While You Write?

Explain what kind of research objects can be considered as the invention?

The scientist A published 150 articles included in the Thomson Reuters database. h-index of the scientist A is 7. Other scientist B published 75 articles included in the Thomson Reuters database. The scientist's B h-index is 19. Explain which of them made more significant contribution to development of world science?

The scientist A published 120 articles included in the Thomson Reuters database. A median number of one article's citings of the scientist A is 9. Other scientist B published 80 articles included in the Thomson Reuters database. A median number of one article's citings of the scientist B is 17. Explain which of them made more significant contribution to development of world science?

Explain the structure of science organization in the former USSR. Compare it to the modern situation in Kazakhstan.

Explain distinction in activity of the organizations at MES RK leading scientific activity in Kazakhstan.

Compare systems of scientists' accreditation in Kazakhstan (before and after 2010) and abroad.

Explain an education system in Kazakhstan, provide the historical review of its development. Compare features of the western and Kazakhstan education.

Give an assessment to activity of the international funds for science funding.

Find Hirsh's index of the scientist A if it is known that he published 66 articles included in the Thomson Reuters database. Among them: 17 articles (each article was quoted 19 times), 19 articles (each article was quoted 15 times), 3 articles (each article was quoted 3 times) and 27 articles (each article was quoted 15 times). Explain the answer.

Find Hirsh's index of the scientist of B if it is known that he published 21 articles, included in the Thomson Reuters database. Among them: 21 articles (each article was quoted 12 times), 9 articles (each article was quoted 18 times), 4 articles (each article was quoted 30 times) and 27 articles (each article was quoted 21 times). Explain the answer.

*Requirement literature:*

* + - 1. Hofmann A. Scientific writing and communication: Papers, Proposals, and Presentations, Oxford University Press, 2009, ISBN 01953-90059
      2. Carter M. Designing Science Presentations: A Visual Guide to Figures, Papers, Slides, Posters, and More, Academic Press, 2013, ISBN 01238-59697
      3. Carey S.S. A Beginner's Guide to Scientific Method. – Wadsworth Publishing, 2003. – 160 p.
      4. Gauch H.G. Scientific Method in Practice. - Cambridge University Press, 2002. - 456 p.
      5. Reardon D. Doing your undergraduate project. Sage Publications, 2006, ISBN 978-0761942078
      6. Закон Республики Казахстан о науке .- Алматы: Жеті жарғы, 2011.–40 с.
      7. Каудыров Т.Е. Право интеллектуальной собственности в Республике Казахстан, Алматы: Жетi жаргы, 1999 – 68с.