

## Annexure 02 (16) 03

### Ph. D. Programme in Cognitive Science:

**Basic qualification:** There are different streams in which admission is done based on the availability of the faculty with corresponding expertise. This year the entrance will be done to the following streams from among candidates with the qualifying degree specified.

- a) Neuroscience (Stream I): 2 seats, ( Prerequisite is MSc in Life Sciences, Biology, Biological Sciences, Physiology, Zoology, Animal Sciences, Neuroscience, Genetics, Biophysics, Biochemistry, Molecular Biology, Biotechnology, Systems Biology, Plant Sciences, Physics, MBBS or BTech in Electronics/Electrical Engineering, MTech in Converging Technologies, Integrated BS-MS in Biology, Physics, Chemistry and Mathematics.)
- b) Cognitive Science (Stream B): 2 seats (Prerequisite is Masters in Psychology / any branch of linguistics / natural sciences / computer science or BTech in any Engineering discipline.)

In any streams the basic qualification is that the candidate should have at least 55% marks in their respective prerequisite exam.

**Entrance Procedure:** Selection is made on the basis of a written test or JRF qualification followed by an interview. Candidates with CSIR/UGC recognized JRF can come in for interview with 40 marks or with the marks obtained in the entrance examination (whichever is more) if they satisfy the prerequisite conditions for the respective streams.

The question paper will carry 75 objective type questions (75 marks) to be answered in two hours. There will be negative marking of 0.33 for every wrong answer. There are two streams, Neuroscience (stream I) and Cognitive Science (stream II). The question paper will have two sections A and B for each stream. First section is common to both streams and will be testing on numerical, verbal and logical aptitude (35 marks). Second section will be stream specific (40 marks). Applicant should only attempt the stream in which she/he wants to pursue research. One cannot switch streams at the time of interview. Visit our website for more details on the course structure and faculty profile (<https://sites.google.com/a/uohyd.ac.in/cncs> or <http://www.uohyd.ac.in>).

## **Annexure 02 (16) 04**

### **Feedback of the experts on the syllabus**

#### **Prof. M K Thakur, BHU, Varanasi**

I have gone through the proposed syllabus. It looks impressive. I understand it has been prepared keeping in mind the available faculty. In Semester III, the student has to opt advanced courses, only 3 electives, each of 4 credits. As few papers are overlapping, it may be worth listing all papers together, out of which a student may choose 3 electives.

#### **Dr. Aurnab Ghose, IISER Pune**

I have looked at the syllabus and am impressed at how comprehensive it is. Clearly a lot of thought has gone into framing it. I also noticed that competing views were well represented especially in the cognitive neuroscience section.

I have a few small suggestions:

- 1) The hands-on training is not detailed. While I understand that this varies with available resources, it will be important to suggest a minimum set of components.
- 2) The research methods section is comprehensive however, it is lacking a section of dealing with scientific literature. Experience suggests training on both consumption and generation of scientific literature is extremely useful. This section should include introduction to finding and searching scientific literature, different kinds of literature, how to write a paper, what is plagiarism and how to avoid it, etc.. A short outline is attached.

All in all the syllabus looks very good - I have compared it with text books, syllabi elsewhere and local experience.

#### **Prof. Prajit Basu, Dpt. Of Philosophy, University of Hyderabad**

I think we need to give some details about the course work for the second semester of the first year although not the detailed readings as we have for the courses for the first semester. Some ideas about the lab courses also will help. This will help, I think, elicit more ideas from the advisory committee members.

#### **Prof. Narayanan Srinivasan, CBCS, Allahabad**

If this is like an elective course, you can skip the elective. Again 26 is way too much. Keep the total to 80. Perhaps even down to 72 or give a range between 72-80. Of course, you can also check what is the norm in terms of total credits at HydUniv

Intro to Cog Science and Cog Psych looks like will overlap quite a bit. You may cut Cog Psych in Sem II, if possible

I find teaching Phil of Mind a bit later worthwhile (may be third semester)

24 is too much in a semester. I suggest not crossing 20 credits in a semester. Many IITs and Univs abroad usually do only 16.

For one elective, this is a way long list. I suggest a bit of pruning.

Presumably matlab will be taught as part of the course. Again think Psych/Linguistics/Bio students

Presumably Psych students can manage this and do remember they would not have done differential equations at all unlike Engg students. This is a core course, so even psych students have to take it.

This is computational neuroscience, not exactly model of cognition although in principle one could build. Missing are Cognitive Architectures (ACT-R, SOAR, EPIC, etc). Missing are any example of a connectionist model of cognition. Also Race models are missing. A bit too wide coverage and that is the problem. Dynamic causal modeling is fine but I am not sure what is needed do DCM is taught anywhere. If students, have not done probability and follow up, they will not will be to touch topics like this.

This is not qualitative. Framing hypothesis, sampling, etc are part of quant research. Use different word. Unit III is loaded but also misses two variable ANOVAs which would be definitely later needed. Also within-subject ANOVAs. Unit IV is a bit dummy and light.