EXAM NO. _____

Nonprofit Technology Transfer
Final Examination

Professor Hersey IPSI 2003

Instructions

This is a two-hour exam. There is no open book. The exam is separated into three parts, without time limitation as to any particular part. The attached answer sheet should be used for answers to Parts I & II. Blue books should be used for questions in Part III.

Part I: True/False (15 questions)

[Each correct answer is worth two points for a possible score of 30 points.]

Please identify the following statements as True or False (T/F).

1. Technology transfer through licensing has become a significant activity for most major U.S. research universities since 1980 mainly because of changes in U.S. tax laws.

2. Until universities began formal patent licensing programs, the transfer of knowledge from universities to the public was unimportant.

3. The reason that perfecting intellectual property protection is so important to universities is because it enables them to formally transfer title to research assets to their commercial partners.

4. Acquiring rights to use intellectual property through the licensing process is beneficial to both the owner and the user of intellectual property because the licensing contract is based on mutuality.

5. "Antitrust" and "unrelated business income" are important terms in the nonprofit technology transfer glossary because they impose limitations on the legality of licensing activity of universities.

6. Publication of research results serves an important purpose in the technology transfer process since without it, transfer of technology through licensing might require an export license.

7. One of the reasons U.S. universities have been so successful in patent licensing is because the Bayh-Dole legislation encourages universities to license companies that are large and already successful enterprises.

8. The legal principles of "hired to invent" and "work for hire" in U.S. law do not play an important role in university technology transfer because neither has been held by the courts to apply to the intellectual property developed by faculty in universities.

9. In determining the scope of rights you would grant to a licensee under a patent license, among the most important factors that you would consider as a university licensing officer would be the licensee's ability to enter into diverse markets .

10. University start-ups are always more commercially successful when the university takes equity in the start-up instead of running royalties.

11. The most useful purpose of an invention disclosure is as an attachment to a patent license which describes the licensed asset.

12. There are benefits and disadvantages to "open source" copyright licensing for computer software. A potential disadvantage to a licensor is the loss of patent rights.

13. In providing legal representation to a prospective licensee in a patent licensing negotiation with a university, you would benefit from consulting *University Patents, Inc. v. Kligman* to help determine whether your client was negotiating with the proper party.

14. In negotiating a material transfer agreement with industry, it is fortunate that because the materials are owned by industry, issues relating to Bayh-Dole do not arise.

15. The importance of issues concerning access to and availability of "Research Tools" do not apply equally to industry and university

scientists because industry scientists have a commercial interest and university scientists do not.

PART II - Multiple Choice (15 questions)

[Each correct answer is worth 2 points for a possible score of 30 points]

There are 5 short hypotheticals, A-E, below. Each hypothetical tells a story, but each should be read independently of any other. Three questions, which may provide more information relative to the story, follow each of the hypotheticals. Please choose **the best** answer to each question from the choices provided.

A. Professor Susie Q. Kappa, who teaches biochemistry and is a researcher at Singularly Terrific University, believes she has made an invention. She is not sure who owns it because she used university facilities and was paid her regular teaching salary, but is aware that there are some circumstances under which she might be able to claim ownership of the invention. She is also confused as to any obligations she might have to the National Institutes of Health (NIH), who funded her research project. Professor Kappa seeks assistance from you, an attorney in the university's technology transfer office, to help her sort through the issues.

1. Your first step in assisting Professor Kappa would be to:

   a. ask whether she has signed the university's invention assignment agreement
   b. ask Professor Kappa to fill out the university's invention disclosure form
   c. set up a meeting with Professor Kappa's Department Head, Professor Jean Therapy, to establish Professor Therapy's position on who should benefit from the invention
   d. to run Professor Kappa's name through the university's sponsored programs database to establish the funding source for her research

2. As a result of doing your homework in collecting the facts relating to the circumstances of Professor Kappa's invention, you find there are competing interests. Among them are the interest of NIH as the funding source, the interest of Professor Kappa who has a wealthy uncle who would like to set her up in her own company to further develop and market the invention,

and Professor Therapy, who manages a venture fund made up of faculty investors who see Professor Kappa's invention as an excellent target for investment. In deciding which interest should be your first priority to satisfy, you would choose:

a. the NIH interest
b. Professor Kappa's interest
c. Professor Therapy's interest
d. the University's interest

3. As you further unravel the details surrounding Professor Kappa's invention, you learn from her that she was unaware of the requirements of the university's intellectual property policies, although she had heard from colleagues that there was such a policy. Although a tenured professor, she had never signed any kind of assignment agreement and, she tells you that she has learned from the lawyer engaged by her rich uncle to protect her interests, that, as the inventor, she has title to the invention. She now wants written confirmation of her ownership from the university in order to satisfy her uncle's investors. Your **most appropriate** response to Professor Kappa would be to:

   a. provide her with a copy of the university policies and tell her to show the document to her lawyer.
   b. file a U.S. patent application in the name of the university and worry about getting an assignment from Professor Kappa later
   c. call a meeting of Professor Kappa, her lawyer, Professor Therapy and the University's Provost to work out a compromise that will satisfy all parties
   d. tell her that you are investigating what the university's position will be on the matter and will get back to her once you have assembled the information you need and reached a conclusion.

B. Professor Whynot Best has made an invention under a research program funded by the U.S. Department of Energy (DOE). The invention involves a more efficient energy source for sending objects into space and he is excited because he thinks the market for

the invention will be world wide. In addition to funding from DOE, the research was also partially supported by FastFuels, Inc. (FFI), a French company. Professor Best tells you, Director of the university's technology transfer office, that he is a simple professor, not interested in controlling the commercial destiny of his invention, but he has five children to educate, so maximizing any return to him as the inventor under the university's policies is important.

1. In considering the licensing alternatives open to you, you would first establish that:

   a. a patent application had been filed in the European Patent Office
   b. the DOE research contract did not contain a DEC
   c. the research contract with FastFuels, Inc. did not contain an obligation to assign the invention to FFI.
   d. Professor Best is a U.S. citizen

2. FastFuels, Inc., notifies you that as a co-sponsor of the research program that generated Professor Best's invention, they wish to exercise their option for an exclusive license, one of the terms of the research agreement between the university and FFI. In considering the company's request, you are **most concerned** by the fact that:

   a. FFI has only a single manufacturing plant in the U.S.
   b. The major U.S. synthetic fuels company, EnergyMax, Inc., wants a license and threatens to convince DOE to "march in" if it doesn't get one
   c. There is a publication approval requirement in the research contract with FFI
   d. FFI has notified you that as a sponsor of the research it expects you to make some adjustment in the royalty rate

3. Along with its request for exercising its option for an exclusive license, FFI also tells you (i) that it requires the services of Professor Best and is willing to pay the university for the Professor's time; (ii) it is considering entering into a joint venture with EnergyMax in order to capture the world wide market for the new fuel, and (iii) because it is a French

Company, the name selected for the new fuel must be French. Of these demands, you are concerned about:

a. (i) and (iii)
b. (ii) only
c. (i) and (ii)
d. None of them

C. As director of technology transfer at Newstart University, you are concerned because your annual licensing revenues are very low in comparison with Oldmaster University across town. The newspapers continue to compare the productivity of your office and that of your colleague Ms. Ima Mogul, at Oldmaster. Professor Lab Rat has disclosed a new technology to you that has you elated. It appears to be a groundbreaking discovery that will completely change the procedures used for organ transplants, making them safer and more cost effective. You are also pleased to find that while there was a governmental sponsor, there was no industrial sponsor for the research program from which the invention arose, and therefore you are free to look for the best possible licensee.

1. In establishing your marketing strategy for Professor Rat's invention, you would begin by:

   a. putting in a call to Ima Mogul and asking her to lunch so you can get the benefit of her expertise
   b. asking Professor Rat what companies he would recommend for initial contact
   c. calling the university's business school to find a student to help with a marketing survey
   d. putting the disclosure up on your office website to see how many phone calls you receive

2. You have been lucky. Quick Transplants, Inc., learns of the new technology and calls you to set up a meeting. In addition, they have sent you a draft license agreement that they wish to use as the basis for a negotiation. Of the following terms in the draft, the one that you would consider **is not** an immediate barrier to completing the negotiation would be:

a. a fully paid up license at a price to be negotiated
b. an option to any improvement made by Newstart faculty during the life of the licensed patent
c. an obligation to assign the patent if Newstart does not wish to continue prosecuting or maintaining it
d. a right of first refusal to any competing technology developed by Professor Rat over the next five (5) years.

3. You are having a difficult time in negotiating the royalty rate with Quick Transplants. The company is complaining that you are over-valuing the invention which, they point out, has been tested only in a laboratory setting. You are also aware that the local newspapers are watching with interest how the licensing of the invention will affect the university. Of the following royalty strategies, based on the facts presented (in hypothetical C), the one providing the most practical opportunity for **maximum** revenue generation would be:

a. a running royalty based on a percentage of net sales revenues earned by Quick Transplants through its sales and sublicensing of the invention
b. a combination of a license issue fee, annual minimum payments and lower running royalty than in (a) above
c. a one-time lump sum payment for a paid up license
d. terminating the negotiations with Quick Transplants and encouraging Professor Rat to participate in a start-up company giving the University an opportunity to take equity

D. Professor Rhonda Red and her graduate student Greta Green have developed a new writing implement that writes in different colors randomly, the "random righter". The research was funded by a grant from the National Science Foundation with a goal towards developing writing tools for very young children. When she applied for the grant, Professor Red disclosed to the university that she was at that time a paid consultant for the Terrific Toy Company, a global leader in marketing children's toys. Her annual university forms disclosing her consulting activities list her compensation from Terrific Toy at no more than $12,000 per year. Professor Red and Ms. Green approach you as one of the university's technology licensing officers with a business plan to start a company to develop and commercialize the

"random righter". In discussions with Professor Red and Ms. Green, you learn that (i) Professor Red intends to submit a proposal to NSF for further funding to improve the "righter"; (ii) Terrific Toy Company will provide start-up funding for the new company and will hold a 40% interest in the startup; (iii) Professor Red intends to hold a 20% equity interest in the start-up and (iv) Ms. Green feels that she is the sole true inventor of the "righter".

1. In reviewing the four new pieces of information that have come to your attention, there is only one **that does not** cause you immediate alarm. It is:

   a. (i)
   b. (ii)
   c. (iii)
   d. (iv)

2. You know that you will have to settle some of the issues you have been presented with before you can begin to assess the merits of Professor Red's business plan. The most immediate of them is:

   a. inventorship
   b. Professor Red's plan to submit another funding proposal to NSF
   c. Professor Red's consulting relationship with Terrific Toys
   d. whether the "random righter" is patentable

3. Taking into consideration the information you have been given under this hypothetical D, your university would be best able to avoid the appearance of an institutional conflict of interest if it:

   a. disapproved Professor's grant application to NS
   b. limited any equity holdings in the new company to 5%
   c. licensed the "random righter" to the start-up company solely on the basis of a running royalty
   d. took no further research funding from Terrific Toys

E. Your client, GreenSoft, Inc., has retained you to negotiate for license rights to a computer program developed by faculty at Jupiter University. GreenSoft is particularly interested in the program because it will measure the amount of water needed to grow different species of grass at an optimum rate. The market for the software is anticipated to be very large, both for garden center and home use. Since GreenSoft is in the business of marketing computer software, you have already drafted numerous commercial licenses for them to use and are well aware of the kinds of terms that are needed to protect your client. However, you find that licensing negotiations with a university are different from the strictly commercial licensing you have been engaged in.

1. In representing your client as a licensee, the university position as licensor that you consider most risky for your client is:

   a. an unwillingness to provide updates and support services
   b. the refusal to license the source code as a trade secret
   c. a refusal to indemnify your client if the licensed software is found to be infringing
   d. a clause licensing the software to your client "as is"

2. In addition to the numerous disclaimers the university wants your client to accept as the licensee, you are very surprised to find that the university will not warrant or represent that it has title or the right to license. Although there seems to be no ideal solution, you are concerned about leaving your client completely exposed to this kind of risk and you take the following action before approving the deal for your client:

   a. ask to review the university's policies on ownership of software
   b. advise your client to take out a very large insurance policy

c. negotiate a second license with the authors of the software just to be sure your client will have a valid license from either the university or the authors
d. ask the university to grant your client a "copyleft" license

3. The university tells you that in licensing computer software, there are a number of issues that must be taken into consideration. Of the issues listed below, the one that alarms you the most is:

a. the application of an unrelated business income tax on the university's royalties
b. a retained right by the university to use the software for education and research
c. a government purpose license retained by the Department of Defense
d. access to source code belonging to Garden's 'R Uz Software, Inc., by one of the authors during his consulting activities.

4.

PART III – Essay (Choose 1 out of 3)

[The essay will be scored on the basis of 0-10 points and will count for 40% of your exam grade. Since the essay accounts for 40% of your score, it will be important to consider the topic you choose to discuss carefully and to be as complete in your discussion as you can. Please use your bluebooks and be sure to record the number of the essay question you are responding to. ESLs should not worry about language; you will not be graded on your use of English.]

1. As an in-house lawyer for Littlepharm, Inc., a small biotech company, you have been notified by a senior research scientist in your company, Merrilee Tester, Ph.D., that a number of university scientists have been calling her trying to get samples of a new and potentially patentable material she has just developed. Dr. Tester is interested in having academic scientists work with her material, but is also aware of the material's potential commercial value for the company. She has asked you to draft a term sheet outlining the terms under which the company would be willing to share the materials with academic scientists. She is anxious for feedback from the requesting scientists and instructs you to propose the minimum terms the company would need to protect its interests rather than turning the material transfers into commercial opportunities for the company. Please briefly outline terms you think would satisfy Dr. Tester's requirements and support your reasoning.

2. Professor Pie N. Sky, a noted materials engineer and Dean of the School of Engineering at Nobel University has a new idea for enhancing the research revenues available to his department. The members of his faculty are tired of submitting endless proposals to the National Science Foundation for funding. Dean Sky believes that he can interest a number of companies in forming a "venture consortium" that will invest funds in research projects that are likely to develop new technologies that will be candidates for start-up companies. Shares in the new companies would be available on a preferential basis to the companies funding the research, inventors, the Department of Materials Engineering, senior management in the Department and Nobel University. As an in-house attorney for Nobel University, you are asked to render an opinion on the conflicts of

interest that might arise as a result of Dean Sky's proposal and to suggest ways for minimizing the conflicts. Please advise the Dean on the potential conflicts of interest that might occur and discuss steps the University might take to minimize the conflicts that you identify.

3. The Provost at Novice University has just received word that researchers in the Biochemistry Department have made what they believe is an invention. Novice University heretofore has done little research and this is the first time that the word "invention" has been used by faculty. The Provost knows nothing about the formalities associated with making an invention but at professional meetings of his Private University Provosts Association (PUPA) he has learned that other universities are earning significant revenues from an activity called "technology transfer". This term is unknown at Novice University and so the Provost calls you, an in-house real estate lawyer for Novice U, and gives you two weeks to come up with a roadmap for getting into the business of technology transfer. He particularly wants to know what arrangements would have to be made with faculty, what procedures would have to be put in place within the university to achieve a viable technology transfer program and tells you that it must be "legal". He does not want any bad publicity or law suits as a result of launching Novice's technology transfer program. Please develop a roadmap for the Provost that will meet his criteria, pointing out to him why you are making the recommendations he will find in the roadmap.

Nonprofit Technology Transfer Answer Sheet – 1
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PART I. True/False (check one)

	T	F
1.	___	___
2.	___	___
3.	___	___
4.	___	___
5.	___	___
6.	___	___
7.	___	___
8.	___	___
9.	___	___
10.	___	___
11.	___	___
12.	___	___
13.	___	___
14.	___	___
15.	___	___

Nonprofit Technology Transfer Answer Sheet – 2
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PART II – Multiple Choice (check one best answer)

A. 1	**a.___**	**b. ___**	**c. ___**	**d. ___**
A. 2	**a. ___**	**b. ___**	**c. ___**	**d. ___**
A. 3.	**a. ___**	**b. ___**	**c. ___**	**d. ___**
B. 1	**a. ___**	**b. ___**	**c. ___**	**d. ___**
B. 2	**a. ___**	**b. ___**	**c. ___**	**d. ___**
B. 3	**a. ___**	**b. ___**	**c. ___**	**d. ___**
C. 1	**a. ___**	**b. ___**	**c. ___**	**d. ___**
C. 2	**a. ___**	**b. ___**	**c. ___**	**d. ___**
C. 3	**a. ___**	**b. ___**	**c. ___**	**d. ___**
D. 1	**a. ___**	**b. ___**	**c. ___**	**d. ___**
D. 2	**a. ___**	**b. ___**	**c. ___**	**d. ___**
D. 3	**a. ___**	**b. ___**	**c. ___**	**d. ___**
E. 1	**a. ___**	**b. ___**	**c. ___**	**d. ___**
E. 2	**a. ___**	**b. ___**	**c. ___**	**d. ___**
E. 3	**a. ___**	**b. ___**	**c. ___**	**d. ___**