Business Studies 1

Describe three criteria a UK patent must exhibit? [3 marks].

A UK patent must be
- Novel. The invention described must be new, and not an obvious adaptation of something already known, or made public in any way before the publication of the patent
- Useful. The invention must have some useful purpose, and be capable of industrial application. It must not be contrary to physical laws, hence no perpetual motion machines.
- Practical. It must be capable of manufacture by one "skilled in the art", and not one of the excluded classes. Excluded classes include
discovery;
a scientific theory or mathematical method;
an aesthetic creation such as a literary, dramatic or artistic work;
a scheme or method for performing a mental act, playing a game or doing business;
the presentation of information, or a computer program.

What is the difference between the protection granted by a patent and that granted by copyright? Is this different in the UK from the USA? How might a computer program be protected? [3 marks]

A patent grants an absolute right to an invention for the period of the patent, usually 25 years from first application. A patent must be registered with and granted by the relevant patent office. Computer programs as such cannot be patented in the UK, but must be reduced to, for example, a description of a mechanism or a specific implementation such as the content of a ROM in an specific configuration.

Copyright provides protection against direct copying, but not re-invention. It is self-declarative, for example by marking the work with the word "Copyright", the name of the owner or author and year publication. Copyright lasts from 70 to 120 years from the date of publication (or in some cases the death of the author) depending on jurisdiction and date of publication. Computer programs can be copyrighted.

The US allows much broader patent base than in the UK. Patents in the US may be taken out on methods, and that potentially includes software. Recent changes, such as the Digital Millenium Copyright Act (DMCA) have considerably strengthened the protection afforded by copyright, for example making it a serious offence to attempt to break electronic copyright protection schemes.

A computer program is usually protected by copyright. Software may be patentable in the US, or in special cases in the rest of the world, but the process is slow and expensive. Nonsense sequences may be included in the code to show whether the program has been copied or re-invented. In either case, enforcement is often difficult, so keeping the source code secret may provide the best protection.

Explain why giving away software might be a good thing. [6 marks]

Software is often given away, under various public licences, such as the General Public License (GPL) from the Free Software Foundation. This is sometimes known as "copyleft", since the provisions of copyright protection are used to ensure public distribution of derivative works.

Software might be distributed for free for a number of reasons:

- The software, such as Linux, may have been developed as a *open source* project, allowing many people to work on it for free (or rather for *reputational rewards*)
- There may be a chicken-and-egg like *network externality* whereby a critical mass of users is needed for the software to have utility. Giving the software away may help achieve this critical mass
- The business model may be to give the some software away, either as a teaser, or to make money on associated training or consultancy or support and maintenance.
- There may be no commercial market for the software, but giving it away can generate publicity and add to the general utility
- It may have been developed with charitable or other funds requiring its public distribution
- The software, such as drivers, may be given away to support sales of the related hardware
- Trial versions may be given away either on trust (e.g. shareware), or with an enforcement mechanism such as ceasing to function unless an encrypted registration key is entered after say, a month of use. This enables the use to try before buying, and Trialability (e.g Rogers, "ACCTO" criteria) has been shown to be a key element in the diffusion of innovation.

A University Technology Transfer Office (TTO) is established to generate income from patenting and subsequently licensing intellectual property developed in a certain University.

By drawing up a five year outline cash flow or otherwise, indicate whether this is a viable activity. How else might a University benefit from the IPR it generates? [8 marks]

Assume:
The TTO is offered about 1000 ideas per annum, and takes up about 10% of them
It typically takes 2 years from patent to license income
About 1 in 1000 ideas eventually generate income of £100K/year
About 1 in 100 ideas eventually generate income of £10K/pa
A patent costs about £5000 initially, and £10K per annum thereafter to maintain and patent internationally
Staff salary costs are about £300K per annum. Overheads are 100% of salary.

Provisions for liability or additional defence costs are not included.

(Candidates should show the general approach. The exact numbers, provided the assumptions are reasonable don't matter)

Year	1	2	3	4	5
No at start	0	100	200	300	400
New in year	100	100	100	100	100
No patents	100	200	300	400	500
100K income	0	1	2	3	4
10K income	0	10	20	30	40
Income					
income £k	0.00	200.00	400.00	600.00	800.00
Expenditure					
Patents	500.00	1500.00	2500.00	3500.00	4500.00
Staff	300.00	300.00	300.00	300.00	300.00
o/head	300.00	300.00	300.00	300.00	300.00
total	1100.00	2100.00	3100.00	4100.00	5100.00
Profit/loss	-1100.00	-1900.00	-2700.00	-3500.00	-4300.00
Cumulative	-1100.00	-3000.00	-4600.00	-6200.00	-7800.00

This indicates that a TTO is unlikely to be viable on these terms

The University can adopt a variant of the "open" model: freely distribute the IPR and look for voluntary charitable contributions