

## **Professional Practice**

### **Computer Science 2018 and 2017**

#### **Objective Part**

##### **Question # 1**

**2:If a developer is hospitalized and data has to be taken from him but he is unable then his id is hacked, we can say it is ethical but according to which theory?**

**Ans:**law of enforcement.

##### **Question # 1**

###### **1. What is drawback of patent?**

- A patent can be an expensive process even if it is unsuccessful.
- A patent provides protection from competition.
- A patent is only good for the country it is issued in.
- The protection will only be as good as the claims patented.

###### **2. Due to the paradigm shift from computer technology to information technology what benefits & challenges faced by business world?**

###### **3. Differentiate between criminal law and civil law?**

<b>Criminal law</b>	<b>Civil law</b>
Criminal law is the body of law that deals with crime and the legal punishment of criminal offenses.	Civil law deals with the disputes between individuals, organizations, or between the two, in which compensation is awarded to the victim.

###### **4. In how many ways a commercial organization can be operated?**

A commercial business organization can have public or government ownership, private individual ownership or a mix of both. It can be further broken down into several categories, such as limited-liability companies, corporations, partnerships and others.

## 5. Why it become necessary to terminate a contract?

The contract make provision for terminating the work in an amicable manner. This usually means that the supplier is to be paid for all the work carried out up to the point where the contract is terminated, together with some compensation for the time needed to redeploy staff on other revenue-earning work.

## 6. What do you know about outsourcing?

Outsourcing is a business practice in which a company hires another company or an individual to perform tasks, handle operations or provide services that are either usually executed or had previously been done by the company's own employees.

## 7. Differentiate between primary and secondary infringement?

Primary Infringement	Secondary Infringement
It infringes only the civil rights of the copyright owner.	It breaches the civil rights of a copyright owner.
Six exclusive rights involves: <ul style="list-style-type: none"><li>• Copy the work.</li><li>• Issues copies to the public.</li><li>• Rent or lend the work in the public.</li><li>• Perform, play or show the work in public.</li><li>• Broadcast the work.</li><li>• Make an adaption of work.</li></ul>	It occur when a person: <ul style="list-style-type: none"><li>• Imports an infringing copy other than for private and domestic use.</li><li>• Posses an infringing copy in course of a business.</li><li>• Transmit the work by mean of a telecommunication system.</li><li>• Involves in indirect infringement.</li></ul>

## 8. Which was the first cyber law in Pakistan?

- There are different laws, promulgated in Pakistan.
- These laws not only deal with crime of Internet
- These deal with all dimensions related to computer & networks.
- Two of them are most known.
- They are:
  - Electronic Transaction Ordinance 2002
  - Electronic / Cyber Crime Bill 2007

## 9. Define regulatory bodies?

A regulatory body is a public organization or government agency that is set up to exercise a regulatory function. This involves imposing requirements, conditions

or restrictions, setting the standard for activities, and enforcing in these areas or obtaining compliance.

## **10. In how many types we can define the relation between professional and client?**

A professional and client relationship is a relationship between an expert in a field and a patron who is using their services.

4 types of professional client relationship:

- Agency
- Friendship
- Paternalism
- Fiduciary

## **11. Why characteristics of the computer are unique and also briefly describe its property “unique malleable” . Description should not be more than 3 lines?**

**ans:**1:Speed 2:storage capacity 3:accuracy 4:Reliability 5:versability 6:diligence

**unique malleable:**

"they can be shaped and molded to do any activity that can be characterized in terms of inputs, outputs, and connecting logical operations.

## **12. Write down the characteristics of a professional?**

10 characteristics of a professional possess in the workplace include:

- A neat appearance
- Proper demeanor
- Reliable
- Competent
- Communicator
- Good phone etiquette
- Poised
- Ethical
- Organized
- Accountable

### **13. What is data subject?**

Data subject refers to identified or identifiable natural person. In other words, data subjects are just people human beings from whom or about whom you collect information in connection with your business and its operations.

### **14. Differentiate between data controller and data processor?**

Data controllers and data processors are fundamental roles in handling personal data.

Data controller	Data processor
A data controller determines the purpose and means of processing personal data.	A data processor is responsible for processing data on behalf of the controller.

### **15. What can be patented?**

Patents Act 1977 provides that a patent may only be granted if:

- The invention is new.
- It involves an inventive step.
- It is capable of industrial application.
- The subject matter of the invention does not fall within an excluded class.

### **16. What is to be delivered to the client after producing software?**

- Source code; command files for building the executable code from the source and for installing it.
- Documentation of the design and of the code.
- Reference manuals, training manuals and operations manuals.
- Software tools to help maintain the code.
- User training.
- Training for the client's maintenance staff.

- Test data and test results.

## Subjective Part

### Question # 2

**Differentiate between the field of software engineering and computer science?**

### Answer

Software Engineering	Computer Science
Software engineering focuses on technical and managerial leadership for large and complex systems.	Computer science focuses on theory, fundamentals and foundations of computing including, algorithms design, programming languages, theories of computing, artificial intelligence and hardware design.
It concerns professional decision attained through practical experience, their training is hands-on, project focused and team-centered.	It concentrate on individual assignments, dealing with the development of systems such as databases, compilers and operating systems.
It focuses on how to design and build software in teams.	It is an engineering field that covers the core concepts and technologies involved to prepare a computer system to do something
Software engineering learn working with people (communication, management, working with non-technical customers), processes for developing software, and how to measure and analyze the software product and the software process.	It covers how computers and network operate and behave in detail
Software engineering learn how to design, plan and manage resources.	Computer science learns building a new system, discovering better way to design software or developing new algorithms for projects in entirely different fields

### Glance of computer science:

Some most important points that are covered under Computer science are:

- **Algorithms:** Algorithm is a process or a set of rules to be followed in calculations or other problem-solving operations, especially by a computer.
- **Theory of Computation:** The theory of computation is a branch of computer science that deals with how proficiently problems can be solved on a model of computation, using designed algorithm.
- **Compilers:** A compiler is a special computer program that specially used to processes statements written in a particular programming language and turns them into machine language or “binary code” or “compute understandable code” that a computer’s processor uses.
- **Operating Systems:** The operating system in short OS is the most important program for every computer. In every general-purpose computer must have an operating system to run other programs and applications in other words it provide a bridge or interface among software and hardware.
- **Artificial Intelligence:** Artificial intelligence is the study of human behavior or simulation of human intelligence processes by machines, especially computer systems.

### Glance of software engineering:

Some most important points that are covered under Software engineering, their glance and short of description given below;

- **Software Architecture:** Software architecture is a structured framework used to describe the subsystems, conceptualize software elements, properties and their relationships.
- **Project Management:** Project management oversees the application of processes, methods, knowledge, skills and experience to achieve the project objectives.
- **Technical Planning:** Planning is one of the fundamental functions of management at any level, it consist goals, strategies, objectives, set of activities, hierarchy of activities, resource allocated etc.
- **Risk Management:** It is the process of analysis, identification and acceptance or mitigation of uncertainty in investment decisions.

- **Software Assurance:** It is a part of software management. It concerns the capacity of a system to maintain information about connected components to optimize their operations.

### Question # 3

**Explain the following**

**Sole trader  
Company**

**Partnership**

### Answer

#### **Sole Trader**

- *A sole trader is an individual who is operating his or her own business*
- *no legal formalities*
- *It may then be necessary to register with Customs*
- *Excise for VAT purposes and to negotiate with the Inland Revenue*

A sole trader is responsible for the liabilities of the business. Liability is unlimited and includes all personal assets, including any assets jointly-owned with another person, such as a house.

#### **Advantages**

- Simple to set up and operate.
- You retain complete control of your assets and business decisions.
- Fewer reporting requirements.
- Allows you to use your individuals tax file numbers
- Relatively easy to change business structure if your business grow or if you wish to wind things up.

## Disadvantages

- Unlimited liability which means all your personal assets are at risk if things go wrong.
- Little opportunity for tax planning.

## Partnership

The Partnership Act 1890 defines a *partnership* as :

“The relationship which subsists between persons carrying on a business in common with a view to profit”.

. When two or more people are carrying on business together, the law will treat them as a partnership.

- A partnership is an arrangement between two or more people to oversee business operations and share its profits and liabilities.
- In a general partnership company, all members share both profits and liabilities.

### How a Partnership Works

A partnership can be any endeavor undertaken jointly by multiple parties.

The parties may be governments, non-profits enterprises, businesses, or private individuals. The goals of a partnership also vary widely.

Three main categories of partnership:

general partnership,

limited partnership,

liability limited partnership.

In a **general partnership**,

- All parties share legal and financial liability equally.
- The individuals are personally responsible for the debts the partnership takes on.
- Profits are also shared equally.
- The specifics of profit sharing will almost certainly be laid out in writing in a partnership agreement.



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**Limited liability partnerships** are a common structure for professionals, such as accountants, lawyers, and architects.

**Limited partnerships** are a hybrid of general partnerships and limited liability partnerships. At least one partner must be a general partner, with full personal liability for the partnership's debts.

## Company

- Companies Acts 1985 and 1989.
- Companies may be either *public* or *private*.

**Public companies** are companies which are allowed to offer their shares to the public ; their names must end with the words “Public Limited Company” or the abbreviation “PLC” .

**Private company** cannot offer its shares to the public; its name must end with the word “Limited” or the abbreviation “Ltd” .

- Companies can be *limited* or *unlimited*.

In an **unlimited company** the shareholders are personally liable for all the company's debts.

A **limited company** may be limited *by shares* or *by guarantee*. If a company is limited by guarantee, each member, instead of subscribing for shares, undertakes to pay a fixed, usually small, sum towards the company's debts in the event of the company being wound up. This form of organization is commonly used by professional bodies and charities; it is not used by normal commercial organizations.

### ***The constitution of a company***

All companies must have a written constitution, which consists of two documents:

- **The memorandum of association**, which controls its external relations.  
This document covers the following matters:
  - The name of the company.
  - The country in which its registered office will be located.
  - The objects of the company.
  - A liability clause.
- **The articles of association**, which state how its internal affairs are to be run.  
The articles of association of a company usually need to address at least the following topics:

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- The rules governing the transfer of shares.
- Meetings of members.
- Appointment and removal of directors.
- Powers of directors.
- Dividends and reserves.

### **Director and company secretary**

- Many companies have both *executive* directors and *non-executive* directors. Executive directors are normally also employees of the company, with specific responsibility for certain areas of its activities.
- Non-executive directors are directors who act in advisory capacity only.

### **Disclosure Requirements**

All limited companies must submit an annual return and copies of their accounts to the Registrar of Companies.

Public companies that wish to have their shares listed on a stock exchange must satisfy the disclosure requirements of that exchange.

### **Corporate Exchange**

The relationship between the stakeholders in companies and its most senior management is known as *corporate governance*.

## **Question # 4**

### **Explain the role and characteristics BCS as of professional body?**

**Ans:** The **British Computer Society (BCS)** is a [professional body](#) and a [learned society](#) that represents those working in [information technology](#) (IT) and [computer science](#), both in the [United Kingdom](#) and internationally. Founded in 1956, BCS has played an important role in educating and nurturing IT professionals, computer scientists, computer engineers, upholding the profession, accrediting chartered IT professional status, and creating a global community active in promoting and furthering the field and practice of computing.

British computer Society code of conduct: sets out the professional standards required by BCS as a condition of membership; applies to all members, irrespective of their membership grade, the role they fulfil, or the jurisdiction where they are employed or discharge their contractual obligations – everyone must abide by the rules governs the

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conduct of the individual, not the nature of the business or ethics of any Relevant Authority – judged purely on the conduct and not judged prejudicially.

he BCS Role Someone needs to lead this charge - BCS can and should do it –An independent voice –Bridge between academia, industry and government –The place for expert IT views BCS can take the lead in convincing companies, governments and the market in general that quality is not an option. To do this, the BCS must be perceived as representing the ICT Profession in the UK and in overseas locations where it is active.

It is the only professional body in the United Kingdom with the ability to grant chartered status to IT professionals.

#### Student membership

Students can gain membership and achieve a recognized qualification as a way to prove their commitment to the sector. Membership gives you access to contacts, advice and support. The Young Professional Group exists to support and represent those in the foundation years of their career. It runs the Career Advancement Programme involving seminars and workshops, aimed at aiding young professionals.

#### Accreditations

The society accredits various courses at both undergraduate and postgraduate levels.

**Or**

## **11.2 Professional bodies and the British Computer Society**

The British Computer Society (BCS) introduces itself as 'the leading professional body for those working in IT. We have over 58,000 members in more than 100 countries and are the qualifying body for Chartered IT Professionals (CITP).' Whereas this claim is undoubtedly true in the United Kingdom, it would certainly be disputed in some other countries, particularly in the US by, for example, the Association of Computing Machinery (ACM). Many countries have their own professional bodies in IT or in computing and there is an international professional society, the International Federation for Information Processing (IFIP).

The 'vision' and long-term goal of the BCS 'is to see the IT profession recognised as being a profession of the highest integrity and competence'. The mission statement of the BCS, which it claims encapsulates its 'core purpose', states that:

The BCS will lead the development and implementation of standards for the IT profession through innovative and valued products and services and by being the respected voice informing and influencing individuals, organisations and society as a whole.

The BCS will lead the change in the standing of the IT profession by creating an understanding of what is required to implement successful IT projects and programmes, and to advise, inform and persuade industry and government on what is required to produce successful IT enabled projects.

Of course, any professional society must make some similar set of claims and there is a need to ensure that the BCS is proactive in meeting these well-intended objectives.

There are many tens of thousands of professional societies around the world; some are small, informal groupings of people, but some are very large and, like the BCS, have a legal status. In the case of the BCS it is a 'chartered' organisation, which simply means that it has a charter – a document, that is recognised in UK law. The BCS's Royal Charter was approved in 1984 by Her Majesty Queen Elizabeth II on the advice of her Privy Council. The Privy Council is the highest

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Majesty Queen Elizabeth II on the advice of her Privy Council. The Privy Council is the highest organisation in the UK, sitting between the monarch and the Houses of Parliament. Obviously, arrangements in other countries are different, but there is a critical difference between a legally recognised professional society and other groups who claim to represent some profession.

One obvious difficulty is what is meant by 'a profession'. A naïve distinction is between professionals and amateurs. Professionals are paid for their work and amateurs are not. The definition of a profession, however, needs more than this. It must be recognised that there is a discipline, a body of knowledge, skills and activities that are pursued by some group of people. Although not logically necessary, such recognition should be by people who are not members of the profession. The BCS has itself struggled for years to identify what profession it represents. Its use of 'computer' in its title is a historical legacy, and a more modern preference would be for 'computing', which would recognise the activity, rather than the thing – the computer itself.

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After all, the BCS does not represent computers but the people who work with them. These days, the BCS prefers to use 'IT' to describe its members' profession, but whether this is clearer, or even whether there is a universally acceptable definition of information technology (IT), is doubtful. The title 'information systems' (IS) is also frequently used as, increasingly, is 'information communication technology' (ICT).

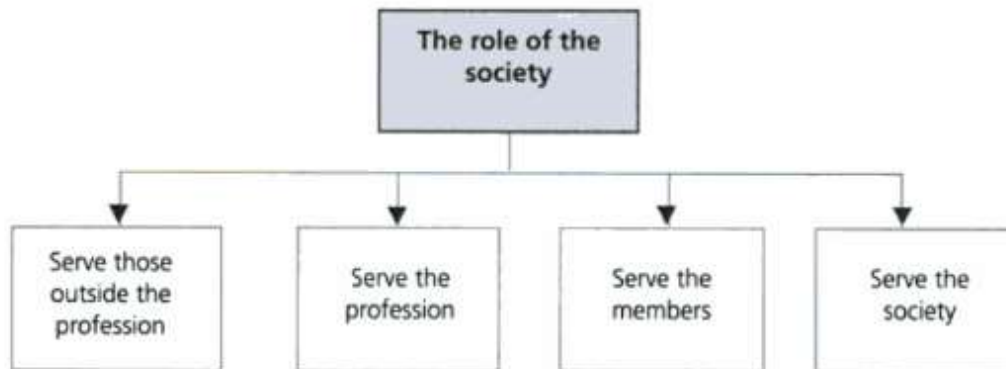
Even when a professional society is recognised in law, there is a further consideration – whether a person must belong to the professional society to practise the profession. The case of mainstream medicine in the UK is fairly straightforward since it is illegal to interfere physically with other people's bodies. Even here, however, there are limits, particularly if the

person receiving some treatment, that is the patient, is willing to receive it. Thus, for example, it is not illegal in the UK for someone to stick needles in other people, to create tattoos or for acupuncture. The situation becomes even more complicated with professions such as accountancy. In the UK there are legal requirements on a variety of types of company to have their accounts approved and reported and this work must be done by a chartered accountant, that is, by someone who is a member of one of the legally recognised chartered accountancy professional societies. The problem for the BCS is that there are no such legal requirements for anyone to practise in the IT profession. Legally, no one has to be a member of the BCS to work on any aspect of IT. Furthermore, it is still far from common in the UK for those who pay IT professionals to require them to be members of the BCS. Whether BCS membership would significantly reduce the number of failed software and IT projects (see Chapter 10) is unknown, but it could not make the situation worse! However, a recent report (March 2007) by a BCS Management and Qualification Working Group found that:

Almost 90 per cent of organisations stated that it was the experience of their IT managers that was important to them, compared with 41 per cent who claimed that their IT qualifications were important.



As with all professional societies, the BCS is in the business of service. There are four types of service identifiable by who, or what, is being served. These are indicated in Figure 11.1.



From an ethical perspective, service to those outside the profession is the most important. People and organisations have to trust the expert advice and the quality of the work of the IT professionals they employ. Often, they have to trust almost 'blindly' because no one disputes that IT systems are extremely complicated, and their potential consequences even more so. Furthermore, because computers are a relatively new invention, and because they often do things that have never been done before, it is difficult for the lay person, who has little or no knowledge of IT, to even recognise that advice or work is of poor quality.

So as to support those outside the profession, it is essential to also serve the profession. This is because IT is a rapidly changing field. All fields of expertise undergo change, but IT is somewhat unusual in that it does not have many firm foundations which can be built upon over time. Thus, previous good practice may rapidly become dated. Therefore, the profession itself must continually change and those working in it must continually develop their skills.

In practice, the main work of a professional society such as the BCS is focused on serving its members and this is undoubtedly the simplest form of activity. The needs and requirements of members can be readily identified. In contrast it is much more difficult to define and address the needs of those who work outside the profession – it is even difficult to accurately identify the types of people who should be targeted for support. However, the membership of the society is clearly defined and their requirements can be readily determined via, for example, questionnaires. The BCS serves its members in a number of ways. In this context, the BCS indicates:

The essential requirement for professional competence coupled with appropriate professional standards lies at the heart of almost all BCS activity and the services that it provides. BCS enables individuals, organizations and society to realise the potential of and maximise the benefits from IT by:

- Setting and maintaining the highest professional standards for IT professionals including

including

- accrediting individual professional competence and integrity through the award of BCS professional qualifications and those of the Engineering Council and of the Science Council; and by inspection and accreditation of university courses and company training schemes
- defining standards for professional conduct through the BCS Code of Conduct and Code of Good Practice
- Initiating and informing debate on IT strategic issues with Government, Industry, and Academia
- Advising the UK Government and its agencies on IT-related matters regarding proposed legislation
- Representing the profession on issues of importance and liaising with other professional bodies, including other engineering institutions and overseas societies
- Examining and initiating debate on topical IT issues, most recently through the BCS programme of Thought Leadership debates
- Supporting individuals in their career development.

source: [www.bcs.org](http://www.bcs.org)

In reality, for the IT professional who is a member of the BCS, the services they receive tend to be quite specific. While the BCS does undoubtedly contribute to all of the above aspirations, its coverage is variable. For example, its 'cutting-edge products and services' are far from exhaustive and there are many areas of computing currently being researched which are not part of central BCS operations. Similarly, the debates on IT strategic issues tend to be relatively short-term. In addition, as we have noted, the IT field is rapidly evolving and advancing.

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## Question # 5

**Explain contractual issues?**

**Answer**

**Contract:**

Contract set out the agreement between the parties. They set out the aims of the parties.

There are gaps in the agreement because the parties have failed to contemplate a particular issue.

Contract provide legal securities to project and parties.

**Structure of contract:**

It might consist of

- A short introductory.
- A set of standard terms and conditions.

- A set of appendices or annexes.

### **The introductory section**

- It states that it is an agreement between the parties
- Names and registered addresses
- Date and signature by authorized representatives of the parties.
- It is also important that the introductory section states that the contract consists of the introductory section itself, the standard terms and conditions.

### **What is to be produced?**

- It is clearly necessary that the contract states what is to be produced.
- A specification sets out the detailed requirements of the client. The specification should be complete, consistent and accurate and set out all that the client wants to be done in the performance of the contract.

### **What is to be delivered?**

- Source code. Command files for building the executable code from the source and for installing it.
- Documentation of the design and of the code.
- Reference manuals, training manuals and operations manuals.
- Software tools to help maintain the code.
- User training.
- Training for the client's maintenance staff.
- Test data and test results.

### **Ownership of rights**

- What legal rights are being passed by the software house to the client under the contract.
- Ownership in physical items such as books, documents or discs will usually pass from the software house to the client;
- Intangible rights, known as intellectual property rights, present more problems. Software is potentially protect-able by a number of intellectual property rights, such as copyright, design rights, confidentiality and trade marks. It is important for the contract to state precisely who is to own these rights.

### **Confidentiality:**

- The commissioning client may well have to pass confidential information about its business operations to the software house.
- On the other side of the coin, the software house may not want the client to divulge to others details of the program content or other information gleaned about its operations by the client.
- It is usual in these circumstances for each party to promise to maintain the confidentiality of the other's secrets, and for express terms to that effect to be included in the contract.

### **Payment terms:**



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The standard term end conditions will specify the payment conditions.

- An initial payment of, say, 15 per cent of the contract value becomes due on signature of the contract;
- Further stage payments become due at various points during the development, bringing the total up to, say, 65 per cent;
- A further 25 per cent becomes due on acceptance of the software;
- The final 10 per cent becomes due at the end of the warranty period.

#### **Calculating payments for delays and changes:**

- It happens not infrequently that progress on the development of a piece of software is delayed by the failure of the client to meet obligations on time.
- The contract should therefore make provision for payments to compensate for the wasted effort, incurred, for example, when the client fails to provide information on a due date or when changes are requested which result in extra work.

#### **Penalty clauses**

- Contract should include a penalty clause which provides that the sum payable to the supplier is reduced by a specified amount for each week that acceptance of the product is delayed, up to a certain maximum.

#### **Obligations of the client:**

- Provide documentation on aspects of the client's activities or the environment in which the system will run;
- Provide access to appropriate members of staff;
- Provide machine facilities for development and testing;
- Provide accommodation, telephone and secretarial facilities for the company's staff when working on the client's premises;
- Provide data communications facilities to the site.

#### **Standards and methods of working:**

- The supplier is likely to have company standards, methods of working, quality assurance procedures, etc. and will normally prefer to use these.

#### **Progress meetings:**

- Regular progress meetings are essential to the successful completion of a fixed price contract and it is advisable that standard terms and conditions require them to be held.

#### **Project Managers:**

- Each party needs to know who, of the other party's staff, has day-to-day responsibility for the work and what the limits of that person's authority are. The standard terms and conditions should therefore require each party to nominate, in writing, a Project Manager.

#### **Acceptance procedure:**

- They provide the criteria by which successful completion of the contract is judged.
- A fixed set of acceptance tests and expected results and that successful performance

of these tests shall constitute acceptance of the system.

**Warranty and maintenance:**

- Any errors found in the software and reported within this period will be corrected free of charge.
- Once the warranty period is over, the supplier may offer, or the client demand, that maintenance will continue to be available on request.
- Time and materials basis.

**Indemnity:**

- The supplier is led unwittingly to infringe the intellectual property rights of a third party or that, through carelessness or dishonesty, the supplier provides a system which infringes such right.
- By using proprietary software as a component of the system delivered.

**Termination of the contract:**

- There are many reasons why it may become necessary to terminate a contract before it has been completed.
- The contract make provision for terminating the work in an amicable manner. This usually means that the supplier is to be paid for all the work carried out up to the point where the contract is terminated, together with some compensation for the time needed to redeploy staff on other revenue-earning work.

**Arbitration:**

- Court action to resolve a contractual dispute is likely to be expensive.
- For this reason, it is common practice for contracts to include a statement that, in the event of a dispute that cannot be resolved by the parties themselves, they agree to accept the decision of an independent arbitrator.

**Inflation:**

- The supplier will wish to ensure protection against the effects of unpredictable inflation.
- To handle this problem, it is customary to include a clause which allows charges to be increased in accordance with the rise in costs.

**Applicable law:**

- Where the supplier and the client have their registered offices in different legal jurisdictions or performance of the contract involves more than one jurisdiction, it is necessary to state under which laws the contract is to be interpreted.

## Question # 6

**Explain data protection principles?**

## Answer:

### Data Protection:

Data protection is the process of safeguarding important information from corruption, compromise or loss. It is the legal control over access to and use of data stored in computers.

### Principles of data protection:

Seven principles of data protection are:

- Lawfulness, fairness and transparency
- Purpose limitations
- Data minimization
- Accuracy
- Storage limitation
- Integrity and confidentiality (security)
- Accountability

**Lawfulness, fairness and transparency:** Processed lawfully, fairly and in a transparent manner in relation to individuals.

**Purpose limitation:** collected for specified, explicit and legitimate purposes and not further processed in a manner that is incompatible with those purposes; further processing for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes shall not be considered to be incompatible with the initial purposes.

**Data minimization:** adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed.

**Accuracy:** accurate and, where necessary, kept up to date; every reasonable step must be taken to ensure that personal data that are inaccurate, having regard to the purposes for which they are processed, are erased or rectified without delay.

**Storage limitation:** kept in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the personal data are processed; personal data may be stored for longer periods insofar as the personal data will be processed solely for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes subject

to implementation of the appropriate technical and organisational measures required by the GDPR in order to safeguard the rights and freedoms of individuals.

**Integrity and confidentiality:** processed in a manner that ensures appropriate security of the personal data, including protection against unauthorised or unlawful processing and against accidental loss, destruction or damage, using appropriate technical or organisational measures.

## Question # 7

**(a) Explain why it is necessary to display terms and conditions of purchase on an ecommerce website and (b) why it is necessary to have a disclaimer on a website to inform users of website when cookies are being used?**

Ans: (a) **Reason #1: Prevent Abuses**

A Terms and Conditions acts as a legally binding contract between you and your users.

This is the agreement that sets the rules and guidelines that users must agree to and follow in order to use and access your website or mobile app. The Privacy Policy agreement informs users what kind of data you collect and how you are using that data.

In this agreement, you can include the necessary sections to inform users of the guidelines of using your website or mobile app, what happens if users are abusing your website or mobile app, and so on.

## **Reason #2: Own Your Content**

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As the website owner, you're the owner of your logo, content (except for user-generated content, as most websites will inform users that any content created by users is theirs), the design of the website, and so on.

In the Terms and Conditions, you can inform users that you are the owner of such content (as mentioned above) and that the content you own is protected by international copyright laws.

## **Reason #3: Terminate Accounts**

If Reason #1: Prevent Abuses suggested that you could temporarily ban users, another common clause that Terms and Conditions agreements include is **the Termination clause**.

This clause informs users that abusive accounts will be terminated and banned from using the service.

The Termination clause is aimed at websites that have a registration section (e.g. user must register before using and/or accessing certain sections of the website), as you can disable or ban the abusive users based on the activity of their accounts

## **Reason #4: Limit Liability**

Terms and Conditions agreements commonly include a warranty disclaimer that tries to limit the website owner's liability in cases where errors are found in the content presented on the website.

This kind of clause notifies users that the owner can't be held responsible for any errors in the content presented, or for the information provided being accurate, complete, or suitable for any purpose

## **Reason #5: Set The Governing Law**

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Usually, the **Governing Law** clause of a Terms and Conditions agreement refers to the jurisdiction that applies to the terms presented in the agreement.

(b) Disclaimers are necessary to ensure that liability of your website is limited wherever possible. They are necessary as the company, business or website owner controlling the website may not always be able to ensure that the information provided is up to date or control how any information on the site is used or interpreted.

Other instances include articles or pieces posted to a website, which the site or owner may not necessarily agree with. To ensure that they are not liable for this type of information and to ensure any liability may be limited, there is need to provide a website disclaimer.

Finally, it is important for your site to include a disclaimer when a site makes reference to another site or provides any type of link to another website. Most websites fall into this category and in almost all of the situations where a link is provided to another site, it is highly unlikely that the site providing the link has control over or reviews the content of the referenced site. As a result, a website owner will not want to be held liable for unintended or unknown representations made by another site, which may be protected by a website disclaimer on their own site.

### **BSCS 2017:**

#### **1:Describe consequentialism theory with example?**

**Ans:** Consequentialism and rule-based morality can be regarded as in some ways complementary. It is quite possible to accept that the foreseeable consequences of an action are often an important element in judging it, without accepting that they must always be the primary factor. And one can accept rules on the grounds that complying with them is the best way of achieving good consequences. Thus it is perfectly possible for a consequentialist to accept that rules regarding human rights should always be obeyed, because the consequences of universal obedience to them will be good, even though the rules themselves are not intrinsically “right”. Equally, it is possible to accept a set of rules governing behaviour but to judge on the basis of their foreseeable consequences those actions that are not covered by the rules.

In practice, most of us accept this latter position, that is, there are some rules we are not prepared to break but, within those constraints, we consider the potential

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consequences of our actions before deciding what to do.

To the extent that our behaviour is governed by rules, these rules may have several origins. They may come from our own moral convictions, which may derive from the culture in which we have been raised, or they may derive from the rules promulgated by a religious organization to which we belong; such rules are likely to be the ones that we regard as most important and are the ones we are least likely to break. They will apply to

the whole of our lives, not just to our professional activities.

Secondly, there are rules that relate to our professional lives; these may be rules laid down and enforced by our employers or they may be contained in a code of conduct established by a professional body of which we are a member. Our attitude to these will depend partly on how far they correspond to our own moral convictions, partly on how widely respected and observed they are by our peers, and partly on the consequences of breaking them.

Thirdly, there are rules that we accept, more or less willingly, because they make social or professional life easier or because the consequences of breaking them might be unfortunate. "Drive on the left" is an excellent example of such a rule. It is one that we obey, not from any moral conviction or authoritative teaching, but because the consequences of breaking it would be unfortunate. Furthermore, it is clearly relative in that it varies from country to country (and even sometimes from time to time in the same country). While the nature of such rules is not a matter for ethical debate, our attitude to them is; if we ignore them, we may prejudice the well-being of other people and that is an ethical matter.

## **2:What is contract? Advantages and disadvantages and how it is terminated?**

**Ans: #note: read highlighted lines .**

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this. Contracts set out the agreement between the parties: they set out the aims of the parties; provide for matters arising while the contract is running, ways of terminating the contract and the consequences of termination. Where there are gaps in the agreement because the parties have failed to contemplate a particular issue, it is a function of contract law to fill them, for example by implying terms; also contract law provides rules for the termination of the contract if performance becomes impossible; and sometimes, although fairly rarely, it sets aside contracts which are too harsh or unconscionable.

There are almost never disputes over contracts which run perfectly. An analogy can be made with a good marriage, where there is no need for the law to intervene. But, if things go wrong, in a contract or in a marriage, the law provides a framework for the settlement of points of disagreement, and for the termination of the relationship.

Contract law since its inception has handled disputes. An example can be given of a ship chartered to carry a cargo, where, for instance, the cargo rots before reaching port, or the ship sinks, or the ship and its cargo are impounded in the course of a war. What are the rights and remedies of the parties to the charter agreement? Is there a contract of insurance covering the loss of the goods or the ship, and is liability for any matter excluded under the insurance contract, such as loss caused through warfare? Agreements for the provision of goods and services etc. connected with computing present no insuperable problems for a set of laws which has been regulating commercial dealings and handling disputes for many hundreds of years.

exchanged over the Net. Since the advent of the Internet, the market has globalized to a far greater extent than ever before, and there is greater need for international harmonization of laws. The EU has therefore been very active in line with its policy of removing distortions of trade within the internal market and also in facilitating trade by EU businesses. There are therefore directives and proposals for directives on:

1. legal protection for encrypted services in the internal market;
2. electronic signatures;
3. electronic commerce;
4. distance contracts;
5. distance selling of financial services.

One of the problems with computing contracts is that many lawyers are still not familiar

with the technology. But, on the other hand, even fewer computer scientists are familiar with the law; and as both lawyers and computer scientists use jargon known almost only



It is important that a contract is set out in a clear and logical manner and that it is complete and consistent. There should be no ambiguity and the parties to the agreement should be left in no doubt as to their rights and duties. Ambiguity and doubts can lead to performance which is viewed as unsatisfactory. This can lead to disagreement and the expenditure of time, effort and therefore money, in resolving the matter. This is the last thing that the parties to a commercial agreement need and want. As stated earlier, it is much better to avoid the problems initially by careful preparation and drafting. However, if there is a dispute, and often these are unavoidable because they are caused by circumstances beyond the control of the contracting parties, it is again important that the contract is properly drawn up, for at this stage it will be interpreted by outsiders, for example by lawyers and judges, or maybe by accountants or a trustee in bankruptcy if one of the parties has become insolvent; and outsiders, even more than the contracting parties themselves, will need to be able to envisage and understand the intricacies of the deal, and will require clarity and consistency in the documentation.

In the course of their work, software engineers are likely to come across many different

types of contract—insurance contracts, contracts of employment, contracts with hardware suppliers, consultancy contracts and so on. In this chapter we shall concentrate on

## Contract types



Contract type	Pros	Cons
Permanent (including sessional tutors)	Attract best candidates Minimum employment period for trialling	Redundancy costs Termination process Limits to flexibility of hours?
Fixed term (including term only child care employees)	No cost when contract expires (NHACE Agreement imposes a cost of 4 weeks pay)	Restricts pool of candidates & undermines retention strategy if over-used for ongoing roles
Casual	Easy to vary hours & end engagement – in the short term	Cost of loading – diminishing return over long-term Lower commitment
Independent contractor	Easy to end contract Contractor assumes risk	Technical minefield if really an employee (ABN not enough!)

## How Contracts Terminate

There are 4 main ways to terminate a contract:

- **Performance:** The contract runs its course, and the contract is performed
- **Agreement:** The parties agree to end the contract by agreement

- **Breach:** The innocent party elects to terminate the contract when the defaulting party is in repudiatory breach, or another agreed standard of breach specified in the contract
- **Frustration:** the underlying circumstances of contract change, which material alter the performance requirements of the contract

**3: You and your friends are thinking of going into business together to offer software development and system integration services to small businesses. Explain why it would be wise to perform yourselves into a limited company?**

**Ans:** Due to the following points it is wise to perform yourselves into a limited company

**(1) Tax:** One of the biggest advantages for many is that running your business as a limited company can enable you to legitimately pay less personal tax

**(2) Distinct Entity:** A limited company is a completely separate entity from its owners. Everything from the company bank account, to ownership of assets and involvement in tenders and contracts is purely company business and separate from the interests of the company's shareholders.

**(3) Limited Liability:** Running your business as a limited company means you have the reassurance of 'limited liability'.

**4. Professional:** In some businesses and industries, having a limited company can provide a more professional image

**5. Funding:** Finding funding can be difficult for all types of new businesses. But because a limited company is a distinct entity from its owners it may be a little easier for a company to secure business finance

**6. Naming:** Once you register your company with [Companies House](#), your company name is protected by law. No-one else can use the same name as you, or anything deemed to be too similar.

**7. Shareholders:** A limited company can issue various classes of shares. This means you can easily sell stakes in the company, or transfer ownership of shares.

**8. Costs:** because the start-up and running costs are perceived to be significantly lower. However, you can form a limited company with our [Company Formation Partner](#) from as little as £9.99, so the cost of setting up a company really is minimal.

**9. Pensions:** A limited company can fund its employees' executive pensions as a legitimate business expense which means that pension contributions can be made before tax is deducted.

**10. Succession:** If a shareholder wishes to retire, sell his shareholding, or dies, it is far easier to transfer ownership of a limited company than a non-registered business structure.

**4: Describe the liability and responsibility of the board of directors of a company?**

**Ans: Duties and Responsibilities**

Under the Company Law, the Board of Directors is under obligation to, among other things:

- a. deliver an annual report (that includes the financial statement of the Company) after it has been examined by the Board of Commissioners to the General Meeting of Shareholders within 6 months the end of the Company's financial year;
- b. prepare a business plan (that includes an annual budget plan) for the next financial year prior to the commencement of the next financial year and submit the business plan to the Board of Commissioners or General Meeting of Shareholders of the Company as regulated in the Articles of Association of the Company;
- c. prepare and maintain a Register of Shareholders of the Company and a Special Register containing information on the share ownership in the company and/or other companies of members of the Board of Directors and the Board of Commissioners and their immediate family members;
- d. archive the resolutions of the Shareholders and Board of Directors of the Company and all other corporate documents;
- e. obtain approval from the General Meeting of Shareholders for the transfer or the encumbrance of more than 50% of the total assets of the Company in one or more transactions, whether related or not, in one or more financial years as regulated in the Articles of Association of the Company;
- f. hold a General Meeting of Shareholders (including to send invitations or summons to the shareholders) either annually or extraordinary as necessary or requested by certain Shareholders, Commissioners or Directors of the Company as regulated in the Articles of Association of the Company;
- g. notify the Minister of Law and Human Rights (the "MLHR") of any change to the composition of the Boards of Directors or Commissioners of the Company within 30 days as of the date of the resolution of the General Meeting of Shareholders with regard to the change;
- h. record any transfer of shares (or encumbrance of shares) in the Company in the Company Register and notify the MLHR regarding the change of the shareholders within 30 days as of the date of the transfer of shares;
- i. notify the creditors of the Company if there is a reduction in the capital of the Company in at least one newspaper within 7 days of the resolution of the General Meeting of Shareholders regarding the reduction.

Also, in certain transactions such as the merger, acquisition, consolidation, segregation or dissolution of the Company, the Board of Directors also has a number of obligations regarding the transaction, such as to prepare the transaction plan, announce the proposed transaction in the newspapers, or act as the liquidator in the dissolution of the Company.

## **2. Liabilities**

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Directors must manage the company in good faith and with full responsibility. Every member of the Board of Directors is personally liable for any loss suffered by the Company if he/she acts wrongfully or fails to perform his/her duties in the manner stated above. If the Board of Directors consists of more than one member, the above liability applies jointly among each of the members.

However, a Director will not be personally held liable if he/she can prove that:

- a. the loss suffered by the Company is not due to his/her wrongful actions or failure to perform his/her duties;
- b. he/she has managed the Company in good faith and prudently for the benefit of the Company and in accordance with the purpose and objectives of the Company;
- c. he/she has no conflict of interest either directly or indirectly in the management of the Company that causes a loss; and
- d. he/she has taken all the necessary actions to prevent the occurrence or continuance of the loss.

In the case of the bankruptcy of the Company, a Director will not be held liable for the Company's bankruptcy if he/she can prove that:

- a. the bankruptcy is not due to his/her fault of negligence;
- b. he/she has managed the Company in good faith, prudently and with full responsibility for the benefit of the Company and in accordance with the purpose and objectives of the Company;
- c. he/she has no conflict of interest either directly or indirectly in the management of the Company; and
- d. he/she has taken all necessary actions to prevent bankruptcy.

Further, the Board of Directors may also be held liable in the following transactions/situations:

- a. Share buyback

The Directors are jointly and severally liable to shareholders acting in good faith who suffer a loss from a share buyback transaction conducted by the Company but voided by law.

- b. Inaccurate or misleading financial reports

Unless the Directors can prove that it was not caused by their fault or negligence, the members of the Boards of Directors will be held jointly and severally liable to third parties who suffer a loss due to an inaccurate, untrue or misleading report being presented.

- c. Failure to accept returned interim dividends

The Directors will be held jointly and severally liable for company losses if the Shareholders cannot return interim dividends that have been declared.

- d. Failure to report their share ownership

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Members of the Board of Directors who fail to report their shareholdings will be held personally liable if the failure causes the Company to make a loss.

e. Liability for bankruptcy losses

In the event that bankruptcy occurs as a result of the fault or negligence of the Board of Directors and the assets of the Company are insufficient to cover the losses incurred in the bankruptcy, the members of the Board of Directors may be held jointly and severally liable for the balance of the obligations that cannot be repaid from the assets.

### **5: Explain IEEE code of Ethics?**

**Ans:** 1. to accept responsibility in making decisions consistent with the safety, health and welfare of the public, and to disclose promptly factors that might endanger the public or the environment; 2. to avoid real or perceived conflicts of interest whenever possible, and to disclose them to affected parties when they do exist; 3. to be honest and realistic in stating claims or estimates based on available data; 4. to reject bribery in all its forms; 5. to improve the understanding of technology, its appropriate application, and potential consequences; 6. to maintain and improve our technical competence and to undertake technological tasks for others only if qualified by training or experience, or after full disclosure of pertinent limitations; 7. to seek, accept, and offer honest criticism of technical work, to acknowledge and correct errors, and to credit properly the contributions of others; 8. to treat fairly all persons regardless of such factors as race, religion, gender, disability, age, or national origin; 9. to avoid injuring others, their property, reputation, or employment by false or malicious action; 10. to assist colleagues and co-workers in their professional development and to support them in following this code of ethics.

### **6: Why a British legislature is two chamber and how it works?**

**The business of Parliament takes place in two Houses: the House of Commons and the House of Lords. Their work is similar: making laws (legislation), checking the work of the government (scrutiny), and debating current issues.**

The House of Commons is also responsible for granting money to the government through approving Bills that raise taxes. Generally, the decisions made in one House have to be approved by the other.

In this way the two-chamber system acts as a check and balance for both Houses.

### **The Commons**

The Commons is publicly elected. The party with the largest number of members in the Commons forms the government.

Members of the Commons (MPs) debate the big political issues of the day and proposals for new laws. It is one of the key places where government ministers, like the Prime Minister and the Chancellor, and the principal figures of the main political parties, work.

The Commons alone is responsible for making decisions on financial Bills, such as proposed new taxes. The Lords can consider these Bills but cannot block or amend them.

■ [Find out more about the work of the House of Commons](#)

### **The Lords**

The House of Lords is the second chamber of the UK Parliament. It is independent from, and complements the work of, the elected House of Commons. The Lords shares the task of making and shaping laws and checking and challenging the work of the government.

**Ans:** ■ [Find out more about the work of the House of Lords](#)