**CSCI 6314**

**Final Exam Fall 2020**

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1. Define 2 Methods of Accounting [4]

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| **There are two methods of accounting: cash and accrual. Cash method – the payment is reported when it is received. The tax is reported in the year of receiving.** |
| **Accrual method – the payment is reported when the transaction occurs, regardless when the transaction ends and the money reaches. The tax is reported in the next year of transaction.** |

1. What taxes should be withheld by the employer [3]? What payroll taxes do the employer pay [2]?

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| **The employer should withheld the FIT tax (provided in the IRS tables), FICA tax, Medicare tax from an employee.** | **The employer pays the FIT tax (provided in the IRS tables), FICA tax, Medicare tax. If the employer pays for the employee, the money to be paid is doubled.** |
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1. List 4 IRS forms related to payroll [4]?

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| **Form 941** | **Form W-2** | **Form W-3** | **Form W-4** |

1. What is the purpose of the Schedule C, what are some of the items in it [4]?

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| **The Schedule C is one of the schedules of 1040 Forms. In the schedule, the information about sole proprietorship is described. The possible items are: the type of the proprietorship, the gross pay from the proprietorship, the total tax to be withheld, etc.** |
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1. Define two-tier and three-tier architectures for e-commerce [4].

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| **Two-tier architecture: When a client conducts directly in the server of the e-commerce company/organization.** |
| **Three-tier architecture: When a client conducts with a middle tire that conducts with a server. It might be the web-application getting the information from the server, the query service handling with the server, and the database provided by the server.** |

1. What makes up a Balance Sheet (what goes in it?)[6]

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| **The balance sheet is the sheet providing the assets (the things that belongs to the company/organization) and liabilities (what should be paid). The possible assets are properties, stocks, manufacturing devices, etc. The liabilities are obligations (bonds, salaries to be paid, credits to be paid, etc). If the liabilities are more than assets, it might lead to the bankruptcy after some time.** |

1. What is a triple net (NNN) Real estate lease [4]?

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1. Differentiate IRA and Roth IRA [10]

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| **The main difference between provided Individual Retirement Accounting types is in the taxing of the money in the account. In IRA, the payment to the account is done without any tax holding, because the tax is held when the money is withdrawn. In the Roth IRA, however, the tax is withdrawn when it is added in the account. When the money is withdrawn from the account, no tax is held.** |

1. Define Selling short, put, and call [9].

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| Selling short | **It is the strategy when the participant borrows some stocks from the broker to sell them in the price higher than the total price of stocks.** |
| Put | **The type of options that gives the right (but not obligation) to sell the stocks to the seller for the strike price before the expiration day provided in the option.** |
| Call | **The type of options that gives the right (but not obligation) to buy the stocks from the stockholder for the strike price before the expiration day provided in the option.** |

1. What is a zero coupon bond [4]? How can one lose money in bonds [6]?

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| **The zero coupon bond is the bond with zero percent (coupon). The main advantage of such coupons in the case that they are cheaper than their strike price provided on the bond, and in the maturity day, the strike price paid makes an income. Usually, provided by a government.** |
| **There are several possible scenarios when the money might be lost from the bonds:**  **1) When the company is in the decreasing market. In this case, the bond loses its value, and to avoid losses, the bond might be sold for the price lower than the price it is bought;**  **2) When the company is bankrupt and there is no chance to pay for the obligations;**  **3) When the country provided the government bonds is deprived (Czar Russia, U.S.S.R.);**  **4) Hyperinfilation (U.S.S.R in the first period.);** |

1. Define Forex [2].

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| **ForEx (Foreign Exchange) – is the non-centralized currency market. The participants could get the income by predicting a behavior of the pair of currencies.** |

1. Define any two auction models [4].

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| **There are two type of auction models: first-price based and second-price based. In the first-price based, the winner pays for a clicked ad its highest bid. There are several models, such as open, dutch, etc.** |
| **In the second-price model, the winner pays for a clicked ad the second highest bid. There are VCG and GSP second-price models. In the VCG model designed for the multiple items, the winner also pays the harm. In the GSP model, if the bid for a clicked ad in position *x* is not the highest one, the money to be paid is equal to the position in *x*+1.** |

1. Define supply chain management [4]

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| **Supply chain management – is the management of goods starting from raw materials and ending with a potential customer. The chain is raw materials → manufacturer → distributor → retailer → customer.** |

**Minimum of 1/2 page each.**

1. Show mathematically the benefits of purchasing a real estate rather than renting, show tax advantages, tax bracket etc. (you can make up tax brackets for explanation) [10].

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| **There are several possible advantages of the purchasing to the renting in the long-term. The first advantage is that the money to be paid might be less than in the renting. For example, if the rent is for 1700$, and the monthly payment is for 1000$, after 6-11 years (dependent on the deposit), the total money is paid for purchasing becomes lower than the money is paid for the renting. The second advantage is that the mortgage, repair costs, travel costs related to the housing, housing insurance etc. might be claimed back as the return. For example, if the tax for the insurance is 3% per year, the total money is paid for an insurance might be claimed back in the tax declarations. The third advantage that having the purchasing allows the passive income, and other freedom related to the house. The fourth advantage is that after repairing, the price of the house might be restated. For example, if the cost is 176000$, and after spending 40000$ the future price might be 300000$. For example, if the value must be paid is 350000$, the bank might allow to restate the price and decrease the value to be paid for the house (For example, if 170000$ is remained, after checking it might be 40000$).** |

1. Explain steps one takes to start a business in Texas [10].

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| **1) The crucial step is to write the business plan;**  **2) Checking the funds. If there are enough funds to pay for renting the place for 1 year and pay salaries for 6 months, go to the next steps.**  **3) Check the zoning, lending, etc. issues. If everything is OK, go to the next steps. In the case when the zone is not proper, ask for changing the zone type or find another place.**  **4) If there are required certificates, get all of them. In Texas, the retailers should get Texas State Sales Certificate.**  **5) Check registered names and register the name that is available. If the assumed name is used for the documents, register it, too.**  **6) After creating the company, open the proper (cash or accrual) account.**  **7) Hire the employees.**  **8) Start the activity related to the business, check the business, fill in proper forms, etc.** |

1. Explain non-repudiation using asymmetric encryption (define asymmetric encryption first) [10].

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| **The asymmetric encryption is the encryption with two different keys. The key is known for everyone is called public, the specific key for a user is called private. Used for the short message due to the computation times. Dependent on the case, there are two possible scenarios:** |
| **1) Sending the message from A to B. In this case, A uses the public key of B to encrypt and send the cypher to B. To decrypt the cypher, B uses its own private key and gets the message. In this case, only B might read the message;**  **2) Digital signs – A sends the signed document to B: A cyphers with his private key, and provides the private key with the document to B. In this case, only the public key of B allows to decypher the document.**  **In the first case, non-repudiation occurs due to fact that it is encrypted with public key of B, so only decryption by private key of B allows to get the real message. In the second case, In the first case, non-repudiation occurs due to fact that only A’s public key allows to decrypt the document.** |