UNIVERSITY COLLEGE LONDON

University of London

EXAMINATION FOR INTERNAL STUDENTS

For The Following Qualification:-

B.Sc.

ES1120: Economics

COURSE CODE	:	**ENVS1120**
UNIT VALUE	:	**0.50**
DATE	:	**13-MAY-05**
TIME	:	**10.00**
TIME ALLOWED	:	**3 Hours**

TURN OVER

ENVS 1120 ECONOMICS

Answer Five Questions. All Questions Carry Equal Marks.

This paper consists of two sections. You have to choose four questions from Section A and one from Section B.

Section A

Question 1

For each of the following scenarios, use a supply and demand diagram to illustrate the effect of the given shock on the equilibrium price and quantity in the specified competitive market. Explain whether there is a shift in the demand curve, the supply curve, or neither.

(a) The price of Apple's iPod (a portable digital music player) decreases. Show the effect on the market for Dell's (portable) digital music players.

(5 marks)

(b) California is a major producer of grapes used in wine production. There is an unexpected bushfire in California that destroys some of the grapes. Show the effect on the market for wine.

(5 marks)

(c) Suppose the government imposes a price ceiling on milk at the maximum price . Show the effect on the milk market.

(5 marks)

(d) A method has been discovered to increase steel production by 20 percent. Show the effect on the market for steel sheet metal.

(5 marks)

Question 2

(a) If the elasticity of demand for hamburgers with respect to consumer's income is -1/2, their initial income is $40/week, and they are initially purchasing 50 oz. of hamburgers per week, how many oz. of hamburger will they purchase each week if their income rises to $48/week?

(10 marks)

(b) Assuming that a consumer's individual demand curve for peanut butter is downward sloping, if the price of peanut butter increases, the total amount the consumer spends on peanut butter must decrease. True or false. Explain.

(10 marks)

Question 3

Microscoff is the monopoly manufacturer of computer operating systems. In a recent landmark verdict, the courts fined Microscoff $1 billion dollars in punitive damages for violating the nation's antitrust laws. Microscoff appealed the ruling, saying that... "A fine of this magnitude will force us to raise the prices of our product by at least $(1,000,000,000 / q0) where q0 is the number of units of our product sold at the old price, and that will be very bad for consumers and businesses that rely on our product." State whether you agree or disagree with this quote and support your answer.

(20 marks)

Question 4

Assess whether each of the following statements is true, false or uncertain and explain.
(a) In the short run, perfectly competitive firms with higher fixed costs will charge a higher price.

(5 marks)

(b) Suppose that in a perfectly competitive market in the short run, some firm's average cost exceeds its long run minimum average cost. Then in the long run, the firm will increase its output.

(5 marks)

(c) Any equilibrium in a market with a perfectly inelastic demand curve and an upward sloping supply must give rise to an infinitely large consumer surplus, no matter how high the equilibrium price is.

(5 marks)

(d)) Why does short run marginal cost typically increase as the firm increases its level of output?

(5 marks)

Question 5

Comment on the following statements.
(a) A monopolist will earn zero profits if it produces at a quantity where marginal cost equals average cost.

(5 marks)

(b) The difference between a monopolist and a perfectly competitive firm is that a monopolist will always want to produce at the quantity where MR = MC in order to maximize profits.

(10 marks)

(c) As long as firms are identical and there is free entry and exit, a long-run market supply curve never slopes upward.

(5 marks)

Question 6

You find the following economic data for Utopia: Marginal propensity to consume = 0.6, Investment = 30, Governement spending = 20, Government revenues =20 (Tax collection) People will consume a minimum of 10, no matter what their income is.

(a) What is the equilibrium output for this economy?

(5 marks)

(b) What's the value for the multiplier and autonomous spending?

(5 marks)

(c) In how much will output increase if the government decides to increase spending in 1 more unit?

(5 marks)

(d) The governmet decides to increase total savings in the economy. In order to do that it implements a program that reduces the marginal propensity to consume to 0.5. How much will the total savings increase? Explain.

(5 marks)

Section B

Question 7

The average cost per square foot for office rental space in the central business district of London is £23.58, according to Martin & Jones. A large real estate company wants to confirm this figure. The firm conducts a telephone survey of 95 offices in the central business district of London and asks the office managers how much they pay in rent per square foot. Suppose the sample average is £22.83 per square foot, with a standard deviation of £5.11.

(a) Conduct a hypothesis test using α=0.05 to determine whether the cost per square foot reported by Martin & Jones should be rejected.

(10 marks)

(b) If the decision in part (a) is to fail to reject the null hypothesis and if the actual average cost per square foot is £22.30, what is the probability of committing a Type II error?

(10 marks)

Question 8

(a) An entrepreneur wants to open an appliance service repair shop. She would like to know about what the average home repair bill is, including the charge for the service call for appliance repair in the area. She wants the estimate to be within £20 of the actual figure. She believes the range of such bills is between £30 and £600. How large a sample should the entrepreneur take if she wants 95% confidence in the results?

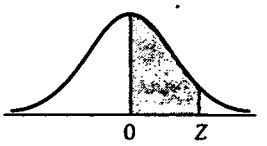
(10 marks)

(b) A survey of 77 commercial airline flights of under 2 hours resulted in a sample average late time for a flight of 2.48 minutes. The sample standard deviation was 12 minutes. Construct a 95% confidence interval for the average time that a commercial flight of under 2 hours is late. What is the point estimate? What does the interval tell us about whether the average flight is late?

(10 marks)

END OF PAPER

Areas of the Standard Normal Distribution



The entries in this table are the probabilities that a standard normal random variable is between 0 and Z (the shaded area).

Z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	.0000	.0040	.0080	.0120	.0160	.0199	.0239	.0279	.0319	.0359
0.1	.0398	.0438	.0478	.0517	.0557	.0596	.0636	.0675	.0714	.0753
0.2	.0793	.0832	.0871	.0910	.0948	.0987	.1026	.1064	.1103	.1141
0.3	.1179	.1217	.1255	.1293	.1331	.1368	.1406	.1443	.1480	.1517
0.4	.1554	.1591	.1628	.1664	.1700	.1736	.1772	.1808	.1844	.1879
0.5	.1915	.1950	.1985	.2019	.2054	.2088	.2123	.2157	.2190	.2224
0.6	.2257	.2291	.2324	.2357	.2389	.2422	.2454	.2486	.2517	.2549
0.7	.2580	.2611	.2642	.2673	.2704	.2734	.2764	.2794	.2823	.2852
0.8	.2881	.2910	.2939	.2967	.2995	.3023	.3051	.3078	.3106	.3133
0.9	.3159	.3186	.3212	.3238	.3264	.3289	.3315	.3340	.3365	.3389
1.0	.3413	.3438	.3461	.3485	.3508	.3531	.3554	.3577	.3599	.3621
1.1	.3643	.3665	.3686	.3708	.3729	.3749	.3770	.3790	.3810	.3830
1.2	.3849	.3869	.3888	.3907	.3925	.3944	.3962	.3980	.3997	.4015
1.3	.4032	.4049	.4066	.4082	.4099	.4115	.4131	.4147	.4162	.4177
1.4	.4192	.4207	.4222	.4236	.4251	.4265	.4279	.4292	.4306	.4319
1.5	.4332	.4345	.4357	.4370	.4382	.4394	.4406	.4418	.4429	.4441
1.6	.4452	.4463	.4474	.4484	.4495	.4505	.4515	.4525	.4535	.4545
1.7	.4554	.4564	.4573	.4582	.4591	.4599	.4608	.4616	.4625	.4633
1.8	.4641	.4649	.4656	.4664	.4671	.4678	.4686	.4693	.4699	.4706
1.9	.4713	.4719	.4726	.4732	.4738	.4744	.4750	.4756	.4761	.4767
2.0	.4772	.4778	.4783	.4788	.4793	.4798	.4803	.4808	.4812	.4817
2.1	.4821	.4826	.4830	.4834	.4838	.4842	.4846	.4850	.4854	.4857
2.2	.4861	.4864	.4868	.4871	.4875	.4878	.4881	.4884	.4887	.4890
2.3	.4893	.4896	.4898	.4901	.4904	.4906	.4909	.4911	.4913	.4916
2.4	.4918	.4920	.4922	.4925	.4927	.4929	.4931	.4932	.4934	.4936
2.5	.4938	.4940	.4941	.4943	.4945	.4946	.4948	.4949	.4951	.4952
2.6	.4953	.4955	.4956	.4957	.4959	.4960	.4961	.4962	.4963	.4964
2.7	.4965	.4966	.4967	.4968	.4969	.4970	.4971	.4972	.4973	.4974
2.8	.4974	.4975	.4976	.4977	.4977	.4978	.4979	.4979	.4980	.4981
2.9	.4981	.4982	.4982	.4983	.4984	.4984	.4985	.4985	.4986	.4986
3.0	.4987	.4987	.4987	.4988	.4988	.4989	.4989	.4989	.4990	.4990
3.1	.4990	.4991	.4991	.4991	.4992	.4992	.4992	.4992	.4993	.4993
3.2	.4993	.4993	.4994	.4994	.4994	.4994	.4994	.4995	.4995	.4995
3.3	.4995	.4995	.4995	.4996	.4996	.4996	.4996	.4996	.4996	.4997
3.4	.4997	.4997	.4997	.4997	.4997	.4997	.4997	.4997	.4997	.4998
3.5	.4998									
4.0	.49997									
4.5	.499997									
5.0	.4999997									
6.0	.499999999									

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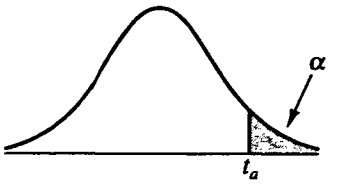
Critical Values from the t Distribution



Values of α for one-tailed test and $\alpha/2$ for two-tailed test						
df	$t_{.100}$	$t_{.050}$	$t_{.025}$	$t_{.010}$	$t_{.005}$	$t_{.001}$
1	3.078	6.314	12.706	31.821	63.656	318.289
2	1.886	2.920	4.303	6.965	9.925	22.328
3	1.638	2.353	3.182	4.541	5.841	10.214
4	1.533	2.132	2.776	3.747	4.604	7.173
5	1.476	2.015	2.571	3.365	4.032	5.894
6	1.440	1.943	2.447	3.143	3.707	5.208
7	1.415	1.895	2.365	2.998	3.499	4.785
8	1.397	1.860	2.306	2.896	3.355	4.501
9	1.383	1.833	2.262	2.821	3.250	4.297
10	1.372	1.812	2.228	2.764	3.169	4.144
11	1.363	1.796	2.201	2.718	3.106	4.025
12	1.356	1.782	2.179	2.681	3.055	3.930
13	1.350	1.771	2.160	2.650	3.012	3.852
14	1.345	1.761	2.145	2.624	2.977	3.787
15	1.341	1.753	2.131	2.602	2.947	3.733
16	1.337	1.746	2.120	2.583	2.921	3.686
17	1.333	1.740	2.110	2.567	2.898	3.646
18	1.330	1.734	2.101	2.552	2.878	3.610
19	1.328	1.729	2.093	2.539	2.861	3.579
20	1.325	1.725	2.086	2.528	2.845	3.552
21	1.323	1.721	2.080	2.518	2.831	3.527
22	1.321	1.717	2.074	2.508	2.819	3.505
23	1.319	1.714	2.069	2.500	2.807	3.485
24	1.318	1.711	2.064	2.492	2.797	3.467
25	1.316	1.708	2.060	2.485	2.787	3.450
26	1.315	1.706	2.056	2.479	2.779	3.435
27	1.314	1.703	2.052	2.473	2.771	3.421
28	1.313	1.701	2.048	2.467	2.763	3.408
29	1.311	1.699	2.045	2.462	2.756	3.396
30	1.310	1.697	2.042	2.457	2.750	3.385
40	1.303	1.684	2.021	2.423	2.704	3.307
50	1.299	1.676	2.009	2.403	2.678	3.261
60	1.296	1.671	2.000	2.390	2.660	3.232
70	1.294	1.667	1.994	2.381	2.648	3.211
80	1.292	1.664	1.990	2.374	2.639	3.195
90	1.291	1.662	1.987	2.368	2.632	3.183
100	1.290	1.660	1.984	2.364	2.626	3.174
150	1.287	1.655	1.976	2.351	2.609	3.145
200	1.286	1.653	1.972	2.345	2.601	3.131
∞	1.282	1.645	1.960	2.326	2.576	3.090