

Name:	 UPES <small>UNIVERSITY WITH A PURPOSE</small>
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2020

Course: Human Factors Engineering Program: B. Tech FSE Course Code: FSEG 441	Semester: VIII Time 03 hrs. Max. Marks: 100
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Instructions:

SECTION A

S. No.		Marks	CO
Q 1	Designer's habit patterns may not be the user's habit patterns. This is known as a. Population stereotype b. Color stereotype c. Design stereotype d. Behavioral stereotypes	5	CO1
Q 2	NIOSH lifting equation is a tool to assess a. Ergonomic risks during manual lifting and lowering b. Ergonomic risks during pulling or pushing of load c. Ergonomic risks during carrying of load d. All of the above	5	CO2
Q 3	Which of the following is not a type of Man-Machine System a. Manual System b. Mechanical System c. Automated System d. Computer Integrated System	5	CO2
Q 4	The transition from aerobic to anaerobic works is indicated by a. VO ₂ max b. Occupational Work Capacity c. Dynamic Work d. HSI	5	CO3
Q 5	1000 workers are working in an assembly line in a plant. The management decides to install an overhead emergency stop switch. It will be designed for the 90th percentile in terms of reach height. How many workers will not be able to reach the emergency switch. e. 1000 f. 900 g. 500 h. 90	5	CO4

Q 6	Often used items should be placed a. Primary Work Zone b. Secondary Work Zone c. Near Left Hand d. Near Right Hand	5	CO2
SECTION B			
Q 7	Discuss the physiological responses of body when an individual is engaged in physical works.	10	CO3
Q 8	Describe briefly how the extreme temperatures affects human body and worker's performance. Summarize the various indices or scores used to assess the risk.	10	CO5
Q 9	a. Use of average body dimensions for work-place design is unsafe" – discuss with examples. Or b. What do you mean by Human Factor Engineering? How its effective implementation will improve the health, safety and the productivity of working population?	10	CO5
Q 10	a. What is CTD? b. Discuss any four specific CTD.	2+8	CO 2
Q 11	Discuss various methods used in workload evaluation	10	CO 3
SECTION-C			
Q 12	a. You are employed in a warehouse of an multinational company where large no of manual handling activities are going on and the company is heavily emphasizing on the lifting rules; discuss the changes that you will incorporate in company's manual material handling training module. Or b. On account of increasing number of low back injury cases, top management considers to implement back belt for the affected person. You are counseled to give an expert opinion on this matter. Prepare a report on the same to be submitted to the top management and the report shall detail your action plan as well.	20 20	CO 4