उप अभियंता (यांत्रिकी), महाराष्ट्र अभियांत्रिकी सेवा, गट - अ
जलसंपदा विभाग

परीक्षेचे टप्पे: **1)** लेखी परीक्षा - 200 गुण
2) मुलाखत- 50 गुण

-: परीक्षा योजना :-

विषय व सांकेतांक	गुण	प्रश्नसंख्या	कालावधी	दर्जा	माध्यम	प्रश्नपत्रिकेचे स्वरुप
सामान्य ज्ञान व यंत्रअभियांत्रिकी (९२८)	२००	१००	एक तास	पदवी	इंग्रजी	वस्तुनिष्ठ बहुपर्यायी

अंतीम गुणवत्ता यादी ही वस्तुनिष्ठ परीक्षेतील व मुलाखतीतील एकत्रित गुणांवर आधारीत राहील.

-: अभ्यासक्रम :-

सामान्य ज्ञान, यांत्रिकी विषयक घटक या विषयामध्ये खालील घटक व उपघटकांचा समावेश असेल.

[1] **जागतिक तसेच भारतातील चालू घडामोडी :**
राजकीय, औद्योगिक, आर्थिक, सामाजिक, शैक्षणिक, भौगोलिक, खगोलशास्त्रीय, सांस्कृतिक, वैज्ञानिक, इत्यादी

[2] **माहितीचा अधिकार कायदा-२००५**

[3] **General Engineering :**

a) Non destructive Testing methods and details of N.D.T.
b) Various types welding methods, weld defects and remedies.
c) Various types of casting methods, casting defects and remedies.
d) Various types of machines in machine shop, their use and machinery processes.
e) Various types of measuring instruments and their application.
f) Various types of material handling equipments with their application.
g) Various types of heat treatment processes and their application.
h) Various types of I.C. Engines and their application.
i) Various types of Industrial Engineering Techniques such as PERT, CPM, EOQ, SCADA, BASE WEB BASE Technology etc.
j) Purpose of the Various Labour Laws such as Industrial dispute Act, Factory Act, Industrial Safety Act, Minimum Wages act.

[4] **Construction Machinery :**

a) Types of construction machineries used for construction of Earthen Dams, M.I. Tanks Canal cleaning and various types of Tank cleaning and rebuilding works.
b) Construction, Capacity, Utility and Use of allied equipments of construction machinery.
c) Calculation of requirement of construction machineries for the specific work.
d) Operation, Maintenance and Repairs of all types of construction machinery.
e) Details of the fuels, lubricants, tyres, batteries and other allied spare parts required for construction machineries.

[5] **Hydraulic gates :**

a) Purpose and types of various Hydraulic Gates, Hoists and Cranes used in Irrigation Dams, Hydro Power Houses, Lift Irrigation Schemes.
b) Construction details of the various types of Hydraulic Gates, Hoists and Cranes.
c) Design of the all types of Hoists and Cranes required for the operation of Hydraulic gates.
d) Details of various materials and equipments used in Manufacturing of Hydraulic Gates, Hoists and Cranes.
e) Manufacturing, Erection Testing and Commissioning of the Hydraulic Gates, Hoists and Cranes.
f) Operation, Maintenance and Repairs of the Hydraulic Gates, Hoists and Cranes.
g) Inspection and Testing of the Hydraulic Gates, Hoists and Cranes during manufacturing, erection and commissioning.
h) Types of various operation troubles and remedies during the operation of Hydraulic Gates, Hoists and Cranes.

[6] **Lift Irrigation Schemes :**

a) Layout and construction of the Lift Irrigation Scheme.
b) Types of pumps and motors along with their construction details operation, maintenance repairs and testing used in the L.I.S.
c) Selection of type of pump with its capacity for the specific requirement of any L.I.S.
d) Types of valves along with their construction details operation, maintenance repairs used in L.I.S.
e) Various types of allied equipments such as starters, Air Vessels, Manifolds, reducers etc. used in the L.I.S.
f) Details of various tests carried out for the various equipments used in L.I.S.
g) Testing and Commissioning of L.I.S.
h) Various type trouble shootings and remedies for that during the operation of L.I.S.
i) Various phenomena such as Cavitations, Water hammer Priming etc. in L.I.S.

[7] **Road Construction Machinery and Boring :**

a) Types of Road Construction Machineries used for Construction of National and State Highway and Rural Roads.
b) Construction details Capacity, utility of the allied equipments and Road Construction Machinery.
c) Operation, maintenance and repairs of all types of Road Construction Machinery.
d) Details of the Fuels, Lubricants, tyres, batteries and other allied spares or parts required for Road Construction Machinery.
e) Purpose of boring in the field of various projects.
f) Types of Boring machines, their construction and capacities.
g) Operation, Maintenance and Repairs of Boring Machines.
h) Various types of Boring techniques such as NX, BX Core etc.

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