H. P. Board of Departmental Examinations

Departmental Examination of Engineering Officers of HPSEB Ltd.

of Himachal Pradesh Session October, 2015

PAPER-I (WORKS, STORE &COMMERCIAL ACCOUNTS/MANUALS

Time Allowed:3 Hours **Maximum Marks:300**

Note:-

i) Attempt any five questions. Three from Part-I and Two each from Part-II or Part-III as applicable.

ii) Part-I is compulsory for all Engineering Officers.

iii) Part-II is meant for Electrical Engineers.

iv) Part-III is meant for Civil/Mechanical Engineers.

v) Bare Acts/Codes/Rules/Manuals only are allowed.

vi) For each question brief and relevant answer is expected which should not have more than 400 words.

PART-I (Works Accounts & Stores Manual)

Q. I) a) Describe the salient features of the system of Public Accounts. [20]

b) What are the important guidelines that should be followed in the maintenance of Cheque books and Receipt books by the officers of HPSEBL? [20]

c) Explain in detail the various forms of bills and vouchers. [20]

Q. II) a) What are the conditions for the removal of firms from the list of approved contractors? Also, what are the conditions for blacklisting, banning and suspension of firms? [20]

b) Differentiate between the purchase process through Open Tender, Limited Tender and Single Tender by giving salient features of each process. [20]

c) What are the various factors that influence the amount of stock to be kept in hand? What are the main heads and subheads for the annual budget of material? [20]

Q. III) a) Explain the various methods used to dispose of the surplus, unserviceable, and Obsolete Stores. [20]

b) Write a detailed note on how to handle arbitration cases. [20]

c) What are the precautions to be taken against losses of stores in HPSEBL? [20]

Q. IV) a) What is the procedure for drawing meters from the stores of Sr. Executive Engineer Metering & Testing? [20]

b) Describe in detail the process of calling and opening tenders/quotations. [20]

c) Explain how the register of Tools & Plant (T&P) is maintained. [20]

Q. V) a) What are the various duties and responsibilities entrusted to a Superintending Engineer? [20]

b) Define "Administrative Approval" and "Technical Sanction". Differentiate between them and explain the procedure for obtaining them? [20]

c) What are the general rules and guidelines to be followed by officers during transfer of charge? [20]

PART-II FOR ENGINEERNG OFFICERS (ELECTRICAL)

Q. I) a) Describe in detail the procedure to release a connection to other consumers from a sub-station installed for/owned by a particular consumer. [20]

b) A consumer wants to transfer his connection in the name of somebody else. Is it possible? If yes, describe the procedure to be followed in the case. [20]

c) How are the complaints regarding faulty meters dealt with? [20]

Q. II) a) Enumerate the conditions governing seasonal industries and describe the measures that are to be adopted to safeguard against the misuse of the benefit of seasonal load during the off season by the consumers? [20]

b) What are some of the ways used by unscrupulous consumers for the theft of energy? Give at least one way to prevent each way. [20]

c) Describe the main points to be kept in mind while shifting electric lines or poles because of construction in a particular area? [20]

Q. III) a) What are the benefits of installing capacitors in an electrical network, and what factors are to be kept in mind while deciding the choice and rating of capacitors to be installed? [20]

b) How is the cash payment made by the consumers received and disposed? [20]

c) Describe in brief the general duties of the meter inspector. What steps are to be taken by the Sub-Divisonal Officer on receipt of reports from the meter instructor? [20]

Q. IV) a) What are the general steps that are followed for the disposal of applications for electrical connections? What is the main consideration behind formulation of these guidelines? [20]

b) How can unauthorised extension of loads be detected and prevented? How are the consumer accounts overhauled after detection of such unauthorised extensions? [20]

c) Define the terms:i) Connected Load, ii) Diversity Factor iii) Demand Side Management, iv) Spot Billing, v) Service Line, vi) Centralised Billing System, vii) Temporary Connection, viii) Load Factor, ix) AT&C losses, x) Smart meter [20]

PART–III FOR ENGINEERING OFFICERS (CIVIL/MECHANICAL)

Q. I) a) Describe in brief the engineering considerations for selection of Open Channel as the Water Conductor System (WCS) for a Hydro Power Project. [20]

b) Describe the various components of a small hydro power plant and explain the functions of each in brief. [20]

c) Explain the difference between lined and un-lined power channels. Explain where each of these is provided. [20]

Q. II) a) How do we classify rock mass? Explain various empirical approaches for the classification. [20]

b) What are the various types of supports for underground excavations? Explain in detail. [20]

c) Explain various methods of estimation of rock loads for tunnel support design. [20]

Q. III) a) How will you estimate the Hydro Power Potential of a river basin? What factors are important for finalising the same? What is the estimated hydro power potential of Himachal Pradesh? [20]

b) Explain in brief the hydraulic design of a Diversion Barrage. [20]

c) What are the important design considerations for safety of structures, founded on permeable foundations? [20]

Q. IV) a) Explain the key areas to be covered in formulating the specifications of concrete. [20]

b) What are the important factors affecting the production and quality of concrete. Explain. [20]

c) Explain various types of hydraulic losses ina hydro power project with tunnel as its water conductor system. [20]