



Model Solution

Engineering Subordinates Departmental Accounts Examination

Session -4/2017

Paper-I

(Work Accounts for Civil Candidates)

Model solution -Question 1(a)

- (i) Issue of the materials in excess of the bona fide requirements of the work is a serious irregularity and contravention of instructions laid in Chapter 21.1 of Material Accounting manual. The matter will, accordingly, be reported to the Superintending Engineer. Furthermore, the issue rate of material will be compared with the market rate under and if it was appreciably lower than the market rate the desirability of recovering the loss from the official responsible for excessive issue will also be suggested.
- (ii) The secured advance on bricks could be paid to the contractor only if it had actually been brought to the site of the work and if all the conditions laid down in the Para 11.1 of CEFA were fulfilled. As the bricks are to be stated to be in kilns, paying any secured advance there-on is irregular.
- (iii) Measurements should be taken by the Executive, Assistant Executive or Assistant Engineer, or by Executive Subordinates In charge of Works, in a Measurement Book and nowhere else as per Para 37.4 (v) of CEFA. The orders of the Executive Engineer of copying the measurements recorded by the departmental subordinates or Contractor's men on slips of paper into measurement books are, therefore irregular.
- The Executive Engineer, should have taken suitable action against the executive subordinate in charge of the work for noncompliance of these requirements and at the same time moved to the BOD for making payment to the Contractor in absence of original measurements recorded.
- (iv) The orders of the Divisional Engineer are in contravention of instructions laid in chapter 37 of CEFA wherein it is clearly provided that payments for construction of works otherwise than by daily labour are always to be made on the basis of the detailed measurements unless the work is executed under lump sum contract system. As the works are not based on the lump sum contract system the orders of the Divisional Engineer are irregular.
- (v) Full rates should be allowed only if the quality of work done is upto the stipulated specification. If the work was badly done a deduction should have been made. If the work was not done at all, it could have been detected at once at the time of preparation and exercising check measurement of the bill if the provisions of Para 37.5 of CEFA were adhered to by the Sub Divisional Officer.

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Model solution -Question 1(b)

- a) The entry in the cash book once made should in no circumstances be erased. If a mistake has been made and it is discovered before the cash book is closed and submitted to the divisional; office , the mistake should be corrected by drawing the pen through the incorrect entry by inserting the correct one in red ink between the lines .The disbursing officer should initial every such correction and invariably date his initials.
- b) When the mistake is discovered too late i.e. after the close of the cash book and sent to the Divisional office, an intimation of correction should sent at once to the divisional Officer accompanied by a proposed journal entry and a suitable remark in red ink will be corrected against original erroneous entry in the cash book . No Correction of errors in amount, classification or name of work in the cash book should be made by Sub Divisional Officer unless authorized by the Divisional office to do so. The same principle should be observed in correcting errors noticed in the divisional cash book.

E.S.

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Paper-Ist (Civ'l)

Model solution -Question 2(i)Log book of vehicle

In order to maintain proper control on running of vehicle, lorry book is maintained for each vehicle. Detail of all journey under taken daily are recorded in it showing date/time and K.M ,reading at commencement and at the end of journey ,total KM run for the purpose of journey. These entries are authenticated by the officer in-charge of the vehicle .At the end of the month an abstract of the journey is prepared. In order to keep control over the consumption of Petrol, Mobil oil, grease and other expenses in the vehicle a detailed daily account is maintained in the lorry Maintenance Register. Total KM run by the vehicle during the month is divided by total consumption of Petrol/diesel so as to obtain the average consumption of vehicle.

Model solution -Question 2(ii)Dismantle Register

Some material is usually retrieved when a permanent work is dismantled, a work is augmented, or a work is replaced. So immediately after dismantlement an inventory of material dismantled should be prepared. The same should be entered in the register of dismantlement. The inventory should be verified by the SDO and the entry in the register should be attested. Serviceable material & scrap should be return to stores through SRW. Unserviceable material shall be return to stores as scrap.

Model solution -Question 2(iii)Kind of Tenders

Various kind of Tender As per works regulation are of following kinds-

Open Tenders -for the major works, tenders will be invited from the eligible contractor's through publicity in the newspaper/journals allowing a minimum period of 4 weeks from the d ate of first publication for submission of tenders. In urgent cases, the period may be reduced to 2 weeks.

Limited Tenders

For minor works tenders may be invited from all registered contractors through letters sent by registered post : acknowledgement due' giving a minimum period of 15 days from the date of issue of such letters for submission of tenders In exceptional cases the period can be reduced as considered necessary by the competent authority.

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Limited tender may be invited for major works upto Rs 50 lacs only in any emergent case. The detailed reason thereof may be recorded and the approval of the authorities noted below will be obtained before inviting limited tenders-

Authority which can accept tenders
tender

Approving Authority for inviting

CE

Member in charge

SE

CE

SrXen

SE

Limited tenders shall be invited from all the contractors registered with the appropriated authority. In case where the number of such registered contractor is less than 5, limited tenders shall be invited from the contractors registered with other organizations of the Board/PWD.

Single Tenders

Single tenders may be invited for jobs such as maintenance and repairs of propriety equipment etc., which can be got, done through specialized firm/contractors.

Spot Tenders. In urgent cases tender for works may be obtained through spot committee with the approval of Director/concerned using power of limited tender. One member of the committee should be from accounts member. The committee will collect the tenders along with earnest money.

Model solution -Question 3(i)

Employer's liability for compensation

- 3(i) if personal injury is caused to a workman by accident arising out of and in the course of his employment, his employer shall be liable to pay compensation in accordance with the provisions contained in the Chapter 2 of Workmen Compensation Act 1923.

Provided that the employer shall not be so liable:-

- a) In respect of any injury which does not result in total or partial disablement of the workman for a period exceeding three days.
- b) in respect of any injury not resulting in death, or permanent total disablement caused by an accident which is directly attributable to -
The workman having been at the time thereof under the influence of drink or drugs, or the willful disobedience of the workman to an order expressly given, or to a rule expressly framed, for the purpose of securing the safety or workmen, or the willful removal or disregard by the workmen of any safety guard or other device he knew to have been provided for the purpose of securing the safety of workman.

Nothing herein contained shall be deemed to confer any right to compensation on a workman in respect of any injury if he has instituted in a Civil Court a suit for damages shall be maintainable by a workman in any court of law in respect of any injury-

- a) if he has instituted a claim to compensation in respect of injury before Commissioner :or
- b) If an agreement has been come to between workman and his employer providing for the payment of compensation in respect of the injury in accordance with the provisions of this Act.

Model solution -Question 3(ii)

It is a fundamental rule that no work shall be commenced unless a properly detailed design and estimate have been sanctioned, allotment of funds made and order for its commencement issued by competent authority.

If in any case, whether on grounds of urgency or otherwise, Divisional Officer is required to carry out a work for which no estimates have been sanctioned or for which no financial provision exists (whether estimates have been sanctioned or not) the orders of the officer authorizing the work should be conveyed in writing. On receipt of such written orders the officer who is directed to carry out the work should immediately intimate to the Accounts Officer concerned that he is incurring a liability for which there is no provision or inadequate provision of funds and should, at the same time, state approximately the amount of the liability which he will likely to incur by compliance of the written orders which he has received. The Accounts Officer will then be responsible for bringing the facts instantly to the notice of higher financial authority, with a view to necessary steps being taken either to stop the progress of the work or to regularize its execution.

The chief Engineer or the Superintending Engineer whosoever is competent to sanction the estimate for work proposed to be taken in hand in anticipation of a sanctioned estimate or provision of funds is the authority to decide as to whether the urgency of any case warrants the commencement of any work. No work whatsoever should be commenced in the absence of sanctioned estimate, without the previous approval in writing of Chief Engineer or Superintending Engineer, which will be accorded only in cases of real urgency. Even if such an approval has been accorded, the expenditure is in no way regularized, until an estimate is sanctioned by competent authority.

In case of periodical repairs in anticipation of a detailed estimate or Allotment of funds

1. In case of urgency, the Superintending Engineer may authorize the commencement of Periodical repairs in anticipation of formal sanction to the detailed estimate, but in such cases a preliminary rough estimate should be sanctioned by him.
2. Such sanction will not, however, be operative unless funds for the repairs are properly appropriated by the competent authority. The Divisional Officer will be responsible that a properly detailed estimate is submitted at the earliest possible date.

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Model solution -Question -4

1	To convey administrative approval for capital expenditure on works other than residential buildings not forming part of the project estimate, specially approved by the Board.	CEs=Rs 25 lacs SEs=RS 10 lacs Xen/RE=Rs 5 lacs in each case	DOP- Srno-5 If the works are directly remunerative
2	To convey technical sanction to the detailed estimates of other capital /works already approved by competent authority.	CEs= Full Power SEs=Rs 20 lacs Xen/RE=Rs 8 Lacs AE/AEE in charge of S/Divn= Rs 1 lacs	DOP-Srno 20 Up to the amount administratively approved and also upto 5% in excess of this amount.
3	To approved administratively and convey technical sanction to detailed estimate for special repair of Boards vehicle chargeable to Capital/ revenue.	CEs=Full Power SEs =Rs50,000 Xen/RE=Rs 10000	DOP Sr no.34 If special repair are carried more than once in a year, sanction of the higher authority be obtained.
4	To convey administrative approval for expenditure on special repair other than residential building.	CEs= Rs. 5 Lac SE= Rs. 2 lacs Xen/RE= Rs 50000	DOP Sr No 16 (a) Special repairs.
5	To convey administrative approval and technical sanction to detailed estimate for the working of Motor Vehicles chargeable to capital/revenue.	SEs= Full Powers Xen/RE= Rs 20000	DOP Sr No.33

Model solution -Question 5(i)

5(i)

when an accounting unit transfer material or render services or execute work on behalf of another accounting unit or transfer cash, the originating accounting unit will raise the demand for such transfer or execution of work through bill called IUT bill. In other works inter unit bill will be raised when transactions are between offices linked to the different accounting units.

Inter units bill are raised in the following cases:-

- (1) Transfer of coal & oil and fuel from one Thermal Plant to other.
- (2) Transfer of material and material related transaction between accounting units.
- (3) Transfer of capital expenditure and fixed assets
- (4) Cash remittances by various Divisions, Sub-Divisions units to Board's/ PSPCL Main Bank Account.
- (5) Funds transfer from Head Office.
- (6) Head office disbursement
- (7) Employee related transaction between various division/accounting units.

After completion of monthly account, accounting unit will raise IUT on the basis of the transaction appearing in the account. IUT bill prepared will specify the following information:-

- (1) Date
- (2) Serial number
- (3) Name & location code of transfer or all/Division.
- (4) Name of location code of transferee all/Division.
- (5) Account code as per chart of accounts related to the type of inter unit transaction i.e. Fuel, Material etc.
- (6) Particular of transactions including details and number of supporting documents.
- (7) Amount

Model solution 5(ii)

BENCH MARKS

Permanent reference bench marks established and maintained by the PSEB are available on or close to the Project site. Contractor shall arrange to build and maintain at his cost any additional temporary bench marks that may be required by him to lay out lines levels etc., required for the completion of the work covered in the contract. The Contractor shall also arrange at his cost for all

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necessary surveying, leveling etc. to be carried out to standardize the co-ordinates and levels of these additional temporary bench marks with reference to the nearest of the permanent bench marks mentioned above. The responsibility for the accuracy of the temporary bench marks for any works carried out based on these bench marks lies entirely with the contractor.

Model solution 5(iii)

Input Devices The devices which are used to input the data and the programs in the computer are known as "**Input Devices**". Input device can read data and convert them to a form that a computer can use. E.g. Key Board, Mouse, Scanner.

Output Devices the devices can produce the final product of machine processing into a form usable by humans. It provides man to machine communication. E.g. Monitors, Printers, Projectors etc.

Model solution 5(iv)

RAM	ROM
RAM allows the computer to read data quickly to run applications. It allows reading and writing.	ROM stores the program required to initially boot the computer. It only allows reading.
Ram is volatile i.e. its contents are lost when the devices are powered off.	Rom is non-Volatile its contents are retained even when the device is powered off.
The two main types of RAM are static RAM and dynamic Ram.	The type of ROM includes PROM, EPROM and EEPROM.

Solution Paper-I (Works accounts for Electrical Candidates)

Que.1 (a) AS per Chapter 17 of Material accounting manual:-

Purpose of maintenance of MECR:-

Where initial works Register (IWR) is not to be maintained i.e. in case of minor work, maintain a material Estimate Control Register for each sanctioned estimate/work. This register will show at any point of time. The cumulative quantity and value of material received in respect of major material items and cumulative value of petty material items vis-à-vis sanctioned requirements. The register shall also indicate consumption and balance of material in hand both with regard to the quantity and value on last day of each month/financial year or on completion of work.

This Register shall be maintained by the sectional officer/junior Engineers and other authorised officials for all the minor works under capital/revenue accounts.

Filling the column of register:-

JE/Works:-Enter only total value of material as per estimate in the register in value column. Enter the consumption of materials in the register given reference to location (s) where materials are used.

AE/AEE:-Verify the consumption of principle items of materials such as conductor cable, whether proof, switchgear, cable boxes etc. in case of electrical works and cement sand, Bajri, wood, paints etc. in case of civil works and initial the entries with date.

Que 1. (b) AS per Chapter 1 of IUT manual:-

The IUT bill prepared will specify the following information

- 1 Date
- 2 Serial Number
- 3 Name and location code of transferer AU/Division
- 4 Account code as per the Chart of Accounts related to the type of inter Unit Transaction i.e. fuel, materials etc.
- 5 Particulars of transactions including details and number of supporting documents.
- 6 Amount.

The IUT bill will be prepared in the following number of copies:-

- 1) In case of transaction relating to divisions within the same circle. 4 copies to be distributed as follows:-
 - a) 2 copies to the transferee division.
(Division will retain one copy and forward the other copy to Sub Division for Verification)
 - b) 1 Copy to the parent Circle, Accounting Unit (CAU) (Broadsheet Section).
 - c) 1 copy to be retained as office copy.
- 2) In Case of transactions relating to divisions not within the same circle. 5 circle to be distributed as follows:-
 - a) 2 copies to the transferee division.
 - b) 1 copy to the transferee division's parent CAU (Broadsheet Section).
 - c) 1 copy to its own parent CAU (Broadsheet Section).
 - d) 1 copy to be retained as office copy.
- 3) In case of transactions between a division and its parent CAU. 3 copies to be distributed as follows:-
 - a) 2 copies to the parent CAU (1 for Accounting Section and 1 for Broadsheet Section).

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- b) One copy to be retained as office copy.
- 4. In case of transactions between a division and another CAU. 4 copies to be distributed as follows:-
 - a) 2 copies to the transferee CAU (1 for Accounting Section and 1 for Broadsheet Section).
 - b) 1 copy of its own parent CAU.
 - c) 1 copy to be retained as office copy.
- 5. In case of transactions between One CAU another 4 copies to be distributed as follows:-
 - a) 2 copies to the parent CAU (1 for Accounting Section and 1 for Broadsheet Section).
 - b) 1 copy for its own Broadsheet Section.
 - c) 1 copy to be retained as office copy.
- 6. In Case of transactions between a CAU and the Head Office (HO) 4 copies to be distributed as follows:-
 - a) 2 copies to the HO 1 for Accounting Section and 1 for Broadsheet Section).
 - b) 1 copy of the Broadsheet Section.
 - c) 1 copy to be retained as Office copy.
- 7. In case of transactions between a division and the Head Office (HO). 4 copies to be distributed as follows:-
 - a) 2 copies to the HO 1 for Accounting Section and 1 for Broadsheet Section).
 - b) 1 copy to the parent CAU (Broadsheet Section).
 - c) 1 copy to be retained as Office copy.
- 8. In case of transactions between HO and a division, 4 copies to be distributed as follows:-
 - a) 1 copy to the transferee division.
 - b) 1 copy to the division's parent CAU (Broadsheet Section).
 - c) 1 copy to the HO Broadsheet Section.
 - d) 1 copy to be retained as office copy.

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Que 2. (a) AS per Chapter 16 of Sale of Power manual transaction in SOP-6 and SOP 6A:-

1) Sundry Charges & Allowances Register (Form SOP-6). This register will embrace the following type of transactions.

- i) Over and under charges in the previous bills including prior period over/under charges.
- ii) Bills raised on accounts of Theft of Power & Malpractices.
- iii) Sundry services rendered by the Board via charges for duplicate bills, Bill challenge fee, Meter challenge fee, Resealing charges, Fuse replacement charges, Reconnection fee etc.
- iv) Adjustment of annual minimum charges under Annual Minimum charges clause of Street Light Tariff.

2) Sundry Allowances Adjustment Register (SOP-6 A)

The following type of transactions the credit for which is to be given to the consumers through energy bills will be recorded in this register:-Adjustment of final energy bills against consumers' securities.

- i) Adjustment of interest on consumers' security deposits.
- i) Adjustment of interest on Debentures.
- ii) Write off of Bad debts.
- iv) Adjustment of amount received under ARPC schemes and interest thereon where payable.

Que 2 (b) AS per Chapter 9 of Sale of Power manual Maintenance of register of variation in consumption of energy:-

UDC Revenue:-

- 1) Maintain separate register of variation of Energy As a when consumption for general category consumers and Industrial Supply consumers to record the variation in consumption of electricity by consumer.

UDC/RA:

- 2) Compare the units consumed during the current Monthly billing cycle with the normal Monthly/Bi-monthly consumption of the consumer during the previous billing cycles. In case of Industrial consumers actual consumption recorded should also be compared with normal expected consumption per Kw of similar industries.
- 3) If there is any fluctuation/variation in consumption of 3% or more, to be worked out on the bases of maximum recorded consumption during the last three reading cycles (i.e. 3 monthly bases for Industrial and others and six monthly basis for general) record the details in the consumption verification register.
- 4) Forward the register for investigation as provided in SMI-201 as under:
SDO For all LS consumers and other consumers having metering equipment with both CT & PT.
J.E-1 For MS & SP connections.
JE-11 For general connections.

SDO/JE

- 5) Investigate the variation in consumption Record the immediately finding in the Register and return to SDO/RA.

RA/UDC

- 6). Carry out the necessary adjustments in the SC & A. Register. Inform the computer centre on the prescribed proforma of SC & A-Advice for charges & allowance issue job order where so required.

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Model Solution E.S. S-4/2017 Paper-I (Electrical)

Que 3. (a) AS per Chapter 13 of Meter accounting manual scrapping of meters in ME sub divisions:-

Responsible	Action	Timing
Test Inspector	1. Initiate procedure for the write off of burnt meters and received and entered in the register of surveyed off meter.	As and when
	2. Prepare survey report sub-division wise for meters and state clearly the following: 1) Meter serial number, make & capacity 2) Reason why considered for write off. 3) Description and number of part salvageable from each meter 4) Value the parts salvageable at rates fixed by competent authority (According to existing instructions of the Board salvaged components are to be valued at 50% of their market value.	-do-
SDO	3. Forward the survey report, to the sub divisional office.	Same day
	4. On receipt of the survey report test check the meters.	-do-
	5. Sign the survey report if in order and forward to the divisional office.	
	6. On receipt of the survey report, conduct test check.	within two days
Divisional office (ME)	7. On complete satisfaction sign the survey report and sanction it. (Sr. Xen ME has full power to survey off and dispose of unserviceable metering equipment of all types).	Immediately
SDO/Test inspector	8. On receipt of sanction to survey off, give reference of report number and date in the register of surveyed off meters.	-do
	9. Conduct the survey as per sanctioned survey report.	immediately
	10. Prepare a list of parts salvaged in triplicate and put up to SDO	
Test Inspector	11. Compare the list of parts salvaged with the inventory of retrieved parts also with survey report. On satisfactory examination sign the list in token of verification and return one copy of list to JE.	Same day
SDO	12. Receive the list of parts salvaged and enter into memorandum stock register and get entries verified from SDO with signature	
Test inspector	13. Prepare a journal voucher for the value of parts salvaged as given at serial number 4 of subject code 23	immediately
Sub Divisional office	14. Forward the JV along with one copy of list of parts salvaged to divisional office under signature of SDO	Same day
	15. Receive the JV and list of parts salvaged. Scrutinise and get it approved by divisional office.	

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Model Solution E.S. S-4/2017 Paper-Ist (Electrical)

Divisional accounts section	16. Prepare a Sub division/division wise summary of meters surveyed off from the register of surveyed off meters giving the following details: 1) Name of distribution sub division 2) M.R No. 3) Survey report no. and date	Month End
Test Inspector	17. Give a reference number to the 4 summaries prepared. 18. Enter the reference number of summaries against corresponding entries in the register of surveyed off meters. 19. Get approval from SDO on summaries. 20. Despatch the summaries to respective distribution division. 21. Receive the summary of meters written off and forward to concerned sub division. 22. Verify the summaries with MRIC, MMR and BMR. 23. Follow steps 7 to 12 of subject code 12.	immediately -do-
Distribution Divn. accounts section Distribution sub division		

Que 3 (b) Annual estimate for 66 KV transmission lines:-

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Sr. No	List of material	Quantity in units	Rate/unit	Amount
1	Single circuit line	352.188	840	295837.92
2	Double Circuit line	239.889	1260	302260.14
Total				598098.06
Premium				263163.15
G. Total				861261.21
Say				861261

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Sr. No	List of material	Quantity in units	Rate/unit	Amount
1	Single circuit line	352.188	840	295837.92
2	Double Circuit line	239.889	1260	302260.14
Total				598098.06
Premium				287087.07
G. Total				885185.13
Say				885185

Model Solution E.S. S-4/2017 Paper-Ist (Electrical)

Que 4 (a) Computer:-

Computer is a device that transforms data into meaningful information. Data can be anything like marks obtained by you in various subjects. It can also be name, age, sex, weight, height, etc. of all the students in a class.

Computer can also be defined in terms of functions it can perform. A computer can i) accept data, ii) store data, iii) process data as desired, and iv) retrieve the stored data as and when required and v) print the result in desired format.

The major characteristics of a computer are high speed, accuracy, diligence, versatility and storage.

Que 4 (b) Input devices

Input devices accept data and instructions from the user. Following are the examples of various input device, which are connected to the computer for this purpose.

1. Keyboard
2. Mouse
3. Light Pen
4. Optical/magnetic Scanner
5. Touch Screen
6. Microphone for voice as input
7. Track Ball

Keyboard:-

A keyboard is the most common input device. Several kinds of keyboards are available, but they resemble each other with minor variations. The keyboard in most common use is the QWERTY board. Generally standard keyboard has 104 keys. In these keyboards, the cursor control keys are duplicated to allow easier use of the numeric pad.

Mouse:-

A mouse is an electro-mechanical, hand-held device. It is used as a pointer. It can perform functions like selecting menu commands, moving icons, resizing windows starting programs, and choosing options.

The most common mouse uses an internal, magnetically coated ball, to detect the movement of the mouse across a flat surface, usually a desktop. Now a days Optical or laser mouse is used to detect the movement. All windows based applications today are designed to work with a mouse. A mouse is used to replace hard-to-remember key combinations with easier "Point and Click" actions. However It cannot substitute all keyboard operations. It can be alternative for commands based operations.

Light Pen:-

An input device that utilizes a light-sensitive detector to select objects on a display screen . A light pen is similar to a mouse except that with a light pen you can move the pointer and select objects on the display screen by directly pointing to the objects with the pen.

Optical Scanner:-

These devices are used for automatic data collection. The devices of this category completely eliminate manual input of data. For example, the bar-code reader is actually just a special type of image scanner. An image scanner translates printed images into an electronic format that can be stored in a computer's memory, and with the right kind of software, one can alter a stored image. Another example of scanner is optical character recognition (OCR) device, used by banks to convert the scanned image of a typed or printed page into text that can be edited on the computer.

Touch Screen:-

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Touch panel displays and pads are now being offered as alternatives to keyboard. Here the input can be given through the computer screen, that accepts the input through monitor; users touch electronic buttons displayed on the screen or they may use light pen.

Microphone:-

Microphone is an input device, which takes voice as input. The voice communication is more error-prone than information through keyboard. There are two types of microphones available:

1. Desktop Microphone
2. Hand held Microphone

Track ball:-

Trackball, a pointing device, is a mouse lying on its bank. To move the pointer, you rotate the ball with your thumb, your fingers, or the palm of your hand. There are usually one to three buttons next to the ball, which you use just like mouse buttons. The advantage of trackballs over mouse is that the trackball is stationary so it does not require much space to use it. In addition, you can place a trackball on any type of surface, including your lap. For both these reasons, trackballs are popular pointing devices for portable computers.

Ans 4 (c):- SOFTWARE

As you are aware, computer cannot do anything on its own. It is the user who instructs computer; what to do, how to do and when to do. In order to perform any task, you have to give a set of instructions in a particular sequence to the computer. These sets of instructions are called Programs. Software refers to a set of programs that makes the hardware perform a particular set of tasks in particular order. Software can be classified mainly into following categories and sub-categories .

System Software:-

when you switch on the computer the programs stored in ROM are executed which activates different units of your computer and makes it ready for you to work on it. This set of programs can be called system software.

System Softwares are sets of programs, responsible for running the computer, controlling various operations of computer systems and management of computer resources. Operating System (OS) falls under this category.

An operating system is a system software that provides an interface for a user to communicate with the computer, manages hardware devices (disk drives, keyboard, monitor, etc), manages and maintains disk file systems and supports application programs. Some popular Operating systems are UNIX, Windows and Linux.

Although operating system provides all the features users need to use and maintain their systems, inevitably, they still do not meet everyone's expectations. This has led to another type of system software called "Utilities". These are programs that bridge the gap between the functionality of an OS and the needs of users. Utility programs are a broad category of software such as compress (zip)/ uncompress (unzip) files software, anti virus software, split and join files software, etc.

Application Software:-

Application software is a set of programs, which are written to perform specific tasks, for example: An application package for managing library information system is used account older details, book issue details, book return details etc. Another application package for managing student details is called student's information system, manages student's roll no, name, parents name, address, class, section, processing of examination results etc. Application software can be broadly classified into two types:

- 1 Generalized packages
- 2 Customized packages

model solution ES 5-4/2017 Paper-IST (Electrical)

Que 5 (a)

- | | | |
|------|--------|---|
| i) | 71.500 | Cost of Water --- Thermal Projects. |
| ii) | 71.501 | Cost of Water --- Hydel Projects |
| iii) | 76.196 | Expenditure incurred by Ombudsman |
| iv) | 76.197 | Expenditure on Corporate Social Responsibility |
| v) | 15.450 | Shahpur Kandi Barrage project-Expenditure account |
| vi) | | |

Que 5 (b) The service Connection charges deposited by the prospective or existing consumer shall be refunded in full in those cases where the PSPCL has not incurred any expenditure for catering supply/laying of line etc. and the consumer withdraws his application for availing connection/extension.

- i) where the works have been taken in hand and the PSPCL has spent any amount contingent to this work, the amount so spent shall be forfeited and the balance amount of service connection charges will be refunded.
- ii where the works have been completed, no refund of service connection shall be allowed.
- iii The Refund of Security (works) wherever applicable shall be regulated as per provisions of Regulation-20 of the Supply Code.

Que 5 (c) Elements Of Service Line

1.Elements of EHT/HT Service Line: EHT/HT service will comprise the following:-

- a) Length of EHT/HT Line required to release connection.
- b) EGT/HT Switchgear including Isolator/ GO Switch both at sending end and receiving end.
- c) Lightning Arrestors.

2. L T Service Line:

- a) Length of HT Line (if any) which is required exclusively for the consumer and does not form part of the PSPCL's system (measured from the nearest pole on PSPCL's mains).
- b) Length of L T service Line which is required exclusively for the consumer (measured from the nearest pole on PSPCL's mains up to the meter).
- c) L T Switch including l T cables from the switch (or from the transformer) if such is installed by the PSPCL.
- d) Cut Out.
- e) In the case of an LT service line, cost of transformer expanded metal frame work HT switchgear and lightning arrestor should not be included in LT Service but if an L T switch on the LT side of the transformer is to be installed, it should be included.

model

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Solution to Paper-2nd (Consumer Accounting, Banking Instructions & Sales)
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Answer to Question No. 1(a)

An energy meter is installed at the premises of the consumer. Body of the Meter is sealed by the M.E. Lab. The terminal block is sealed by the J.E. In case, there is a complaint from the consumer for power failure, our maintenance staff inspects the premises. Outside defects are rectified by the line maintenance staff. If there, is some fault in the terminal block or in the Meter/ CT/PT unit, the seals are broken by the authorized employee of the Powercom & a FRO is prepared. On the basis of FRO, the JE/ SDO visits & fixes the seals. Entry of fixing seals are also recorded in the Meter Sealing Record CS-29.

Answer to Question No. 1(b)

The premises of consumers are checked by various authorities *viz.* Meter Reader, Meter Inspector, JE/ SDO, Flying Squad, MMTS etc. If an deficiency is noticed such as broken terminal seals, broken glass, loose connections, a sundry job order (SJO) is issued to the JE for setting the defect right Carrying out the job. After compliance of SJO the JE returns it to the SDO/ RA for debiting charges to the consumer accounts if required.

Answer to Question No. 1(c)

Re-connection Order is issued to restore supply to a consumer whose premises stands disconnected either on his specific request or for non-payment of Powercom's dues or for violations of conditions of supply and report the compliance thereof.

Answer to Question No. 1(d)

Service Connection Order (SCO) is issued after the service line/ main/ sub-main has been laid test report is found to be in order & compliance reported on the Installation Order. UDC/ Consumer Clerk posted in the Sub Division prepare SCO gets an account number allotted from ledger clerk/ RA & put upto SDO for approval & signatures. The JE concerned shall draw meter & shall release connection to the consumer mentioned on the SCO.

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Answer to Question No. 2(a)

Instructions regarding handling & safe custody of cash are as under:-

- 1) Powercom's money should be kept in strong burgler proof chest duly embedded in the wall.
- 2) Main Key of the chest lock should be in the personal custody of RA ARA while the 2nd key with the Cashier. In no case both the keys should be held by one person.
- 3) Duplicate keys of the Chest should be kept in Bank for safe custody.
- 4) The chest should not be operated till both the custodians of keys are present.
- 5) In case of loss of any key, the matter should be reported to the controlling officer, Chief Auditor & CAO. The duplicate key should be called from the Bank, cash taken out & counted. The chest should not be operated till the lock of the chest is replaced by the manufacturer.
- 6) In case of temporary absence of one key holder on leave or otherwise, the keys should be handed over to some other officer subordinate after counting the cash in chest. A cash count certificate should also be recorded. A note of handling over/ taking over of cash/ keys should also be recorded in the Body Column of the Cash Book.
- 7) The cashiers receiving cash at the counter should be housed a cabin with properly bolted door.
- 8) Any body going to Bank to deposit Powercom's cash/ withdraw money exceeding Rs.5,000/- should be provided a Powercom's vehicle.
- 9) A peon or any other class IV employee should not be sent to the Bank for bringing or depositing cash.
- 10) The services of Punjab Police should be availed for providing armed guard to the cashier while going to the Bank for depositing cash or withdrawing money for office use.

Answer to Question No. 2(b)(i)

Pay-in-slip is a specimen form prepared for depositing amount in the Bank. The amount received should be deposited in the Bank on the same day or the next working day. Separate pay-in-slips are prepared for cash & cheques. The pay-in-slips are prepared in triplicate. One copy is retained by the Bank, one copy is sent to the Divisional Office along with Cash account & a copy to the CAO Revenue along with the Statement of Remittance into Bank.

Answer to Question No. 2(b)(ii)

The Meter Book was used by Meter Reader to record readings which were posted by the Ledger Clerks in the Consumer Ledger & billing was done,

After computerization of billing, the readings are recorded in the Meter Blank (instead of Meter Book). In the start of financial year, the computer generated Meter Blank (Group Wise) sent by Computer Centres to Sub Division, which contains Ac No., Name & Address of the Consumer, Meter No., Tariff Type, Meter status etc. After recording readings, the original Meter Blanks sent to the Computer Centre for posting of Data & return to the Sub-Division for recording readings for the next cycle.

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Model

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Answer to Question No. 3(a)

Demand Notice is a Notice to the applicant that the load applied by him & estimate of cost for release of connection has been sanctioned & he is required to submit the additional documents mentioned in the Demand Notice and to deposit the various charges such as Service Connection Charges, extra cost of service line, if any, and to submit wiring contractor's test report & complete other formalities. Any other statutory requirements to be met by the applicant, will also be intimated through the same Demand Notice. The Demand Notice may be delivered by hand or sent under Registered Post with Acknowledgement Due as per provisions of Condition No. 38 of Conditions of Supply.

Answer to Question No. 3(b)

In case, the applicant could not comply with Demand Notice within the period of 3 months, he should apply for extension of period before the expiry of validity, but the request may be accepted for the next 3 months. After the expiry of grace period of 3 months, the application shall be cancelled automatically.

Answer to Question No. 3(c)

Where an applicant is not able to apply for extension in demand notice within the original/ extended period of demand notice and his application has been cancelled or deemed to have been cancelled, such requests may be acceded to by Sr. Xen/ Addl. SE(Ops) concerned subject to the following conditions:-

- Consumer deposits the revival fee at twice the rate of demand notice extension fee;
- Such revival of cancelled application shall be allowed only for a period of two years except AP consumers to be reckoned from the expiry of the validity of original demand notice.

Following officers are competent for Revival of cancelled applications:-

Officers	Time limit
AE/ AEE/ Xen/ Op. (All loads)	One year for all but 2 years for AP from expiry of Original Demand Notice.
Sr. Xen/ Addl. SE (Op) (Load upto 2 MW)	Beyond one year up to a maximum of 2 years
CE (Commercial) with the approval of Director Commercial (Load above 2 MW)	Beyond one year and up to a maximum of 2 years.

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Solution to Paper-2nd (Consumer Accounting, Banking Instructions & Sales)
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Answer to Question No. 4 (a)

Sometimes Industrial Consumers are not in a position to avail the full sanctioned load at the time of release of connection and opt to build up the load gradually. In such cases, Sales Regulation No. 35 is to be followed i.e. authority competent to sanction load can allow the consumer to build up the load in phases upto a maximum period of 6 months. In such cases, the authority shall specify the period & the phased growth of connected load/ contract demand. In case the consumer fails to build up the load within six months, the balance load/ contract demand shall be forfeited. If a consumer opt to avail part of the load, he may be allowed to build up the balance load on the following conditions:-

- 1) By accepting request of consumers for building up of load in phases, the minimum load to be connected at the first time shall not be less than 100 KW for LS consumer & 20 KW for MS consumers.
- 2) The Contract Demand of an LS consumer at various stages of building up shall be 90% of the connected load. Where however the consumer mentions connected load & contract demand at every stage, the contract demand shall not be less than the rating of the highest single motor/ apparatus, whichever is more.
- 3) The consumer during the phased growth period shall be billed on the basis of load actually connected but at the tariff applicable to sanctioned load. Meter rent shall be based on capacity /cost of the meter. Service Connection Charges shall however be recovered for the full load & no refund be allowed if ultimate load is less (SR 35.3).
- 4) ACD shall be got deposited for the full sanctioned load, if after expiry of six months load is not build up 10% of security for the un-availed load be forfeited & balance refunded (SR 35.6).
- 5) In case the consumer does not build up the balance load/ demand & seeks extension in load beyond six months, it may be deemed to be a case of extension of load & agreement with the consumer should be revised (SR 35.7).

Answer to Question No. 4 (b)

Minimum Monthly Charges & Tariff applicable to Seasonal Industry
w.e.f. August 01, 2016 as follows:

(a)	During Season:	Minimum Monthly Charges	Tariff / Energy rate
	SP	Rs.574/ kW	547 paise/ kWh
	MS	Rs.518/ kVA	551 paise/ kWh
	LS	Rs.518/ kVA	603 paise/ kWh
(b)	Off Season:		
	SP	NA	645 paise/ kWh
	MS	NA	686 paise/ kWh
	LS	NA	727 paise/ kWh

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Answer to Question No. 5 (a)

As metering has been done on LT side, so MDI and Consumption is to be raised @ 3%.

M.D.I.	$270 \times 1.03 = 278.10$ KVA
Kwh	$9050 \times 1.03 = 9322$ Units
KVAH	$10350 \times 1.03 = 10661$ Units
Power Factor	$0.87 \quad (9322 / 10661)$

Sr. No.	Particulars	(Rs.)
1.	Energy Charges (9322×6.03)	56,212
2.	MMC (240×188)	45,120
3.	Applicable Amount	56,212
4.	Power Factor Surcharge	1,686
5.	Demand Surcharge $\{(270 - 240) \times 750\}$	22,500
6.	Meter/CT charges	469
7.	Total $(3 + 4 + 5 + 6)$	80,867
8.	Electricity Duty @ 13% on item No. (3 + 4)	7,527
9.	IDF @ 5% on item No. (3 + 4)	2,895
10.	Octroi @ 10 paise per unit	932
11.	Amount payable by due date (Rounded off nearest Rs.10)	92,220
12.	Late payment surcharge:	
	Within 7 days from due date @ 2%	1,844

Answer to Question No. 5 (b)

All NRS & DS consumers are divided in four groups, so that there is even distribution of no. of consumers in all the four groups for proper / timely bringing of meter reading, generation of bills, distribution of bill & collection of revenue.

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