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UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2017

Program: B. Tech CSE Telecom Informatics
Subject (Course): Operation Support System (OSS)
Course Code : CSIB485
No. of page/s: 2

Semester – VII
Max. Marks : 100
Duration : 3 Hrs.

*This paper consists of 3 sections as **Section A, Section B and Section C** having **20, 40 and 40 Marks** respectively. The guidelines for each section are given separately at the start of the section. Answer should be point to point. Use diagrams wherever mentioned/required.*

Section A (Marks: 20)

Attempt ALL questions. Each question is of 4 marks.

1. Write one-line definition for the following terms.

a). ITIL b). IMS c). FCAPS d). NEMS

2. Fill in the blanks:

a). With a _____, service providers can manage all the features of each network element individually.

b). Problem Management processes are integrated with Incident Management (IM), Change Management, and Availability Management (AM). The lead role in analyses of failures is performed by _____.

c). Information Security Management (ITSM) is classified under _____.

d). The 7-step Improvement Process consists of the following steps: Analysis of what should be measured and what can be measured, measurement of data, _____ and _____ of data, presenting and using the information, and implementing _____ action.

3. True/False. Provide justification for your answer.

a). Accurate network inventory gives service providers information about whether there is physical connectivity to the end customer.

b). Domain Object Models provide a common representation of inventory across the enterprise.

c). The four layers of the TMN Model applicable to OSS are the Business Management Layer, Service Management Layer, Network Management Layer, and the Element Management Layer.

d). Within the Service Management Layer of the TMN Model, Change Management is concerned with management of the risk associated with a change.

4. Provide a comparison between (Use two Column Comparison point by point)

a). OSS Vs BSS b). NEMS vs NIMS

5. How network expansion can be done. List the Requirements of Network Expansion Plan.

Section B (Marks: 40)

Attempt ALL questions. Each question is of 10 marks. There is an internal option for question 9

6. Explain NEMS and NEP and its role in OSS. Describe their characteristics.
7. Describe resource in the terms of telecom industry. Write the importance of Resource Management in OSS. What are the activities involved in resource management?
8. Describe services in the terms of telecom industry. What is the importance of service improvement as improving the service quality? Describe the seven step improvement process for services.
9. Write the components of telecom service management. Explain the role of customer care in service management.

OR

What is service management layer? Describe its function and importance.

Section C (Marks: 40)

Attempt ALL questions. Each question is of 20 marks. There is an internal option for question 11

10. a) Describe the FCAPS model. Explain the need, benefits, attributes and components of Incident Management and Configuration Management.
 - b). Describe the CSI model. Write its importance.
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11. a). Elaborate upon the roles and sub-components of each layer of the TMN layered architecture.
 - b). What is the role of service desk? Explain all of its function. How service desk is important for improving the customer satisfaction.

OR

- a). Explain the need, attributes and benefits of effective Resource Management Systems.
- b). What is workforce management. Explain how AWFM management help in making management easier.

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Section A (Marks: 20)

Attempt ALL questions. Each question is of 4 marks.

1. Write one-word definition for the following.

a). BSS b). EMS c). Network Element d). CMDB

2. Fill in the blanks:

- a). Problem Management processes are integrated with Incident Management(IM), Change Management, and Availability Management (AM). The lead role in analyses of failures is performed by _____.
- b). In the Network Management Layer of the TMN Model, the Network _____ Management component is concerned with the restoration of telecom services.
- c). Network planning in a turbulent and competitive environment requires data about customer demand, cost, _____ and _____ support.
- d). _____ inventory enables service providers to accurately provision new services faster.

3. True/False

- a). Within the Service Management Layer of the TMN Model, Change Management is concerned with management of the risk associated with a change.
- b). Release Management processes lead to consistency in implementation of change, but introduce a lag in the change process.
- c). The Traffic Engineering process includes analyses of the types of devices in the network, its physical topology, and performance requirements.
- d). While workforce management can improve operational efficiency, it might lead to increased employee turnover.

4. List the five stages in the lifecycle of an IT service.

5. Describe the need for NEMS.

Section B (Marks: 40)

Attempt ALL questions. Each question is of 10 marks. There is an internal option for question

- 6.** What is service management layer? Describe its function and importance.
- 7.** Describe resource in the terms of telecom industry. Explain how service providers provision a network resource.
- 8.** Describe services in the terms of telecom industry. List the functions of, and need for Service Management activities
- 9.** Write the components of telecom service management. Explain the role of customer care in service management.

OR

Explain NEMS and NEP and its role in OSS. Describe their characteristics.

Section C (Marks: 40)

Attempt ALL questions. Each question is of 20 marks. There is an internal option for question 11.

- 10.a).** Explain the need, benefits, attributes and components of Incident Management and Configuration Management.
 - b).** What is workforce management. Explain how AWFM management help in making management easier.
- 11.** Elaborate upon the roles and sub-components of each layer of the TMN layered architecture.

OR

- a).** Explain the need, attributes and benefits of effective Resource Management Systems.
- b).** What is workforce management. Explain how AWFM management help in making management easier