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A) Explain the Principles of Service Management.

Answer:

1.Specialization and Coordination

The aim of service management is to make available capabilities and resources useful to the customer in the highly usable form of services at acceptable levels of quality, cost, and risks. Service providers help relax the constraints on customers of ownership and control of specific resources. In addition to the value from utilizing such resources now offered as services, customers are freed to focus on what they consider to be their core competence. The relationship between customers and service providers varies by specialization in ownership and control of resources and the coordination of dependencies between different pools of resources .

Customers specialize in business management to achieve one set of outcomes using a set of resources (Pool A). Similarly, service providers specialize in service management with another set (Pool B). Service management coordinates the dependencies between the two sides through assurances and utilization. Customers are content with utilization of certain resources (Pool B) unless ownership is a prerequisite for strategic advantage.

Specialization is a necessary condition for developing organizational capabilities. Management potential accumulates from specialized knowledge and experience with a set of resources." Specialization drives the grouping of capabilities and resources under the same span of control to achieve focus, expertise, and excellence. Coordination of capabilities and resources is easier when they are under the same span of control because of accountability, authority and managerial attention. Capabilities and resources with high degree of dependency and interaction are grouped together to reduce the need for coordination." Where coordination is easy through well-defined interfaces, protocols and agreements, they are placed under the control of the group most capable of managing them." The strength of specialized capabilities on one side relative to the other creates the difference in potential, which justifies the transfer of resources from Pool A to Pool B and makes the case for a new or changed service.

2 The Agency Principle

Principals employ or hire agents to act on their behalf towards some specific objectives. Agents may be employees, consultants, advisors or service providers. Agents act on behalf of principals who provide objectives, resources (or funds), and constraints for agents to act on. They provide adequate sponsorship and support for agents to succeed on their behalf. Agents act in the interest of their principals, for which they receive compensation and reward, and in their own self-interest (Figure 2.7). Written or implied contracts record this agreement between principals and agents. Employment contracts, service agreements and performance incentive plans are examples.

Within the context of service management, customers are principals who have two types of agents working for them - service providers contracted to provide services, and users of those services employed by the customer. Users need not be on the payroll of the customer. Service agents act as intermediary agents who facilitate the exchange between service providers and customers in conjunction with users. Service agents are typically the employees of the service provider but they can also be systems and processes that users interact with in self-service situations. Value for customers is created and delivered through these interlocking relationships between principals and agents. The agency model is also applied in client/server models widely used in software design and enterprise architecture. Software agents interact with users on behalf of back-end functions, processes, and systems to which they provide access.

3. Encapsulation

Customers care about affordable and reliable access to the utility of assets. They are not concerned with structural complexity, technical details, or low-level operations. They prefer simple and secure interfaces to complex configurations of resources such as applications, data, facilities, and infrastructure. Encapsulation hides what is not the customer's concern and exposes as a service what is useful and usable to them. Customers are concerned only with utilization

3.1Separation Of Concerns

Complex issues or problems can be resolved or separated into distinct parts or concerns. Specialized capabilities and resources address each concern leading to better outcomes overall. This improves focus and allows optimization of systems and processes at a manageable scale and scope. Challenges and opportunities are suited with appropriate knowledge, skills, and experience.

It is necessary to identify persistent and recurring patterns, to separate fixed elements from those that vary, and to distinguish what from how (Figure 2.1). These separations are important for a service-oriented approach to IT management or simply service orientation. For example, it is useful to identify and consolidate demand with common characteristics but different sources and serve it with shared servic**es.**

3.2 Modularity

Modularity is a structural principle used to manage complexity in a system .12 Functionally similar items are grouped together to form modules that are self-contained and viable. The functionality is available to other systems or modules through interfaces. Modularity contributes to efficiency and economy by reducing duplication, complexity, administrative overheads, and the cost of changes. It has a similar impact through the reuse of modules. Encapsulation is possible at several levels of granularity, from software and hardware components to business processes and organizational design. Figure 2.8 illustrates the role of service management in encapsulating business processes and IT applications into business services and IT Services.

3.3 Loose Coupling

Separation of concerns and modularity facilitate loose coupling between resources and their users. With loose coupling, it is easier to make changes internal to the resource without adversely affecting utilization. It also avoids forcing changes on the customer's side, which can add unexpected costs to the customer. Loose coupling also allows the same set of resources to be dynamically assigned to different uses. This has several advantages, including shared services, Demand Management, redundancy, and investment protection for the customer and the service provider from reduced lock-in. Loose coupling requires good design, particularly of service interfaces, without which there will be more problems than benefits.

B) Differentiate between Business and Service Units

Answer:

A business unit is simply a bundle of assets meant to create value for customersin the form of goods and services . Customers pay for the value theyreceive, which ensures that the business unit maintains an adequate return on assets. The relationship is good as long as the customer receives value and the business unit recovers costs and receives some form of compensation or profit.

The business unit’s capabilities coordinate, control, and deploy its resources tocreate value. Value is always defined in the context of customers. Some servicessimply increase the resources available to the customer. For example, a storage service may assure that a customer’s business systems can achieve a particular level of throughput in transaction processing with the availability of adequate,error-free and secure storage of transaction data. The storage service simply increases the capacity of the system, although one might argue that it actually enables the capability of high-volume transaction processing. Other services increase the performance of customer’s management, organization, people and processes. For example, a news-feed service provides real-time market data to be used by traders to make better and quicker decisions on trades.

The service unit

Service units are like business units, a bundle of service assets that specializes in creating value in the form of services . Services define the relationship between business units and service units. In many instances,business units (customers) and service units are part of the same organization.

C) Briefly explain Operational Risks.

Answer:

Operational risks are faced by every organization. Contracts are risk-sharing arrangements in which customers transfer ownership of certain types of costs and risks to service providers . Two sets of risks are considered from a service management perspective: risks faced by business units

and the risks faced by the service units. A more complex view of risk is considered by taking into account the risks across an entire value net that includes partners and
suppliers. This shared view of risks may be much more difficult to manage butmay provide better visibility and control since the risks interact with each other

D) What is Closed loop control system? Summarize the functions of closed loop control system.

Answer.

There are two types of control processes: open-loop and closed-loop.

Control processes in which the value of the outcome hasinfluence (with or without some delay) on the process input in such a manner asto maintain the desired value are closed-loop.
Control action in closed loop systems is goal driven and sensitive to disturbances or deviations.

Closed-loop solutions, however, are based on compensating feedback. A well-designed household air-conditioner or furnace leaves the home too cool or too warm – unless regulated by the feedback of a thermostat.

E) Explain the building blocks of high performance service providers.

Answer:
The three building blocks of high performance service providers:

Market focus and position – The spotlight is on optimal scale within a market space. A market space is defined by a set of outcomes that customers desire, which can be supported through one or more services. This is the 'where and how to compete' aspects of a service strategy. High-performance service providers – even Type I and II providers – have remarkable clarity when it comes to setting this strategic direction. They understand the dynamics of their market space, and the customers within, better than their competing alternatives, and manage through appropriate strategies. Such strategies allow the provider to build and manage valuable Service Portfolios, achieve optimal scale, exploit positioning advantages in the value network, and identify and possibly enter alternative market spaces or serve new customers.

Distinctive capabilities – The spotlight is on creating and exploiting a set of distinctive, hard-to-replicate capabilities that deliver a promised customer experience. This is about understanding the critical interplay between resources, capabilities, value creation and value capture. To create value, a service provider develops a formula for doing business that successfully translates a big idea regarding customer needs into a distinctive and cost-effective set of connected capabilities and resources to satisfy those needs. This ability is sometimes referred to as 'differentiation on the outside and simplification on the inside'.
To be a high-performance service provider, be clear about what capabilities

really contribute to enhancing customer outcomes. Understand the need to build distinctive capabilities that are demonstrably better and, in the short term, difficult to replicate by competing alternatives. This includes mastering technical capabilities and excelling at innovation, as well as lower cost structures and customer know-how. Take for example, the Type I service provider who, after years of outsourcing, decided to in-source its application-hosting services. By incorporating virtualization and dynamic provisioning technologies, the provider created speed and cost structures no outsourcer could match – precisely the same distinctive capabilities that prompted the provider to outsource in the first place.

Performance anatomy – The spotlight is on creating cultural and organizational characteristics that move service providers toward their goal of out-executing competing alternatives. Performance anatomy comprises a set of organizational world views that are measurable and actionable by organizational leadership. Example views include:
• Services are a strategic asset
• Workforce productivity is a key execution differentiator
• Performance measurement is highly selective in its focus and metrics
• Continual improvement and renewal are real and permanent necessities.

F) Write a short note on IT Service Management.
Answer:

ITSM is the process of designing, delivering, managing, and improving the IT services an organization provides to its end users. ITSM is focused on aligning IT processes and services with business objectives to help an organization grow.

Effective ITSM processes can have positive effects on an IT organization's overall function. Here are a few key benefits of ITSM:

- Lower costs for IT operations
- Higher returns on IT investments
- Minimal service outages
- Ability to establish well-defined, repeatable, and manageable IT processes
- Efficient analysis of IT problems to reduce repeat incidents
- Improved efficiency of IT help desk teams
- Well-defined roles and responsibilities
- Clear expectations on service levels and service availability
- Risk-free implementation of IT changes
- Better transparency into IT processes and services

Q2

A) Explain the objectives of Service Design.
Answer:

- Design services to satisfy business objectives, based on the quality, compliance, risk and security requirements, delivering more effective and efficient IT and business solutions and services aligned to business needs by coordinating all design activities for IT services to ensure consistency and business focus
- Design services that can be easily and efficiently developed and enhanced within appropriate timescales and costs and, wherever possible, reduce, minimize or constrain the long-term costs of service provision
- Design efficient and effective processes for the design, transition, operation and improvement of high-quality IT services, together with the supporting tools, systems and information, especially the Service Portfolio, to manage services through their lifecycle
- Identify and manage risks so that they can be removed or mitigated before services go live
- Design secure and resilient IT infrastructures, environments, applications and data/information resources and capability that meet the current and future needs of the business and customers
- Design measurement methods and metrics for assessing the effectiveness and efficiency of the design processes and their deliverables
- Produce and maintain IT plans, processes, policies, architectures, frameworks and documents for the design of quality IT solutions, to meet current and future agreed business needs
- Assist in the development of policies and standards in all areas of design and planning of IT services and processes, receiving and acting on feedback on design processes from all other areas and incorporating the actions into a continual process of improvement
- Develop the skills and capability within IT by moving strategy and design activities into operational tasks, making effective and efficient use of all IT service resources
- Contribute to the improvement of the overall quality of IT service within the imposed design constraints, especially by reducing the need for reworking and enhancing services once they have been implemented in the live environment.

B) State the two aspects of Service Catalogue. Explain in detail.

Answer:

The Service Catalogue has two aspects:

- The Business Service Catalogue: containing details of all the IT services delivered to the customer, together with relationships to the business units and the business process that rely on the IT services. This is the customer view of the Service Catalogue.
- The Technical Service Catalogue: containing details of all the IT services delivered to the customer, together with relationships to the supporting services, shared services, components and Cls necessary to support the provision of the service to the business. This should underpin the Business Service Catalogue and not form part of the customer view.

Some organizations only maintain either a Business Service Catalogue or a Technical Service Catalogue. The preferred situation adopted by the more mature organizations maintains both aspects within a single Service Catalogue, which is part of a totally integrated Service Management activity and Service Portfolio. More information on the design and contents of a Service Catalogue is contained in Appendix G. The Business Service Catalogue facilitates the development of a much more proactive or even preemptive SLM process, allowing it to develop more into the field of Business Service Management. The Technical Service Catalogue is extremely beneficial when constructing the relationship between services, SLAs, OLAs and other underpinning agreements and components, as it will identify the technology required to support a service and the support group(s) that support the components. The combination of a Business Service Catalogue and a Technical Service Catalogue is invaluable for quickly assessing the impact of incidents and changes on the business.

C) Briefly explain the risks factors which are directly associated with the Service Design phase.

Answer:

- If maturity levels of one process are low, it will be impossible to achieve full maturity in other processes.
- Business requirements are not clear to IT staff.
- Business timescales are such that insufficient time is given for proper Service Design.
- Insufficient testing, resulting in poor design and therefore poor implementation.
- An incorrect balance is struck between innovation, risk and cost while seeking a competitive edge, where desired by the business.
- The fit between infrastructures, customers and partners is not sufficient to meet the overall business requirements.
- A coordinated interface is not provided between IT planners and business planners.
- The policies and strategies, especially the Service Management strategy, are not available from Service Strategy, or its content is not clearly understood.
- There are insufficient resources and budget available for Service Design activities.
- The risk of services developed in isolation using their 'own' assets and infrastructure. This can appear to be cheaper in isolation, but can be much more costly in the long term

because of the financial savings of corporate buying and the extra cost of supporting different architecture.

- Insufficient time given to the design phase, or insufficient training given to the staff tasked with the design.
- Insufficient engagement or commitment with the application's functional development, leading to insufficient attention to Service Design requirements.

D) Write a short note on IT Service Continuity Management.

Answer:

'The goal of ITSCM is to support the overall Business Continuity Management process by ensuring that the required IT technical and service facilities (including computer systems, networks, applications, data repositories, telecommunications, environment, technical support and Service Desk) can be resumed within required, and agreed, business timescales.'

The objectives of ITSCM are to:

- Maintain a set of IT Service Continuity Plans and IT recovery plans that support the overall Business Continuity Plans (BCPs) of the organization
- Complete regular Business Impact Analysis (BIA) exercises to ensure that all continuity plans are maintained in line with changing business impacts and requirements
- Conduct regular Risk Analysis and Management exercises, particularly in conjunction with the business and the Availability Management and Security Management processes, that manage IT services within an agreed level of business risk
- Provide advice and guidance to all other areas of the business and IT on all continuity- and recovery-related issues
- Ensure that appropriate continuity and recovery mechanisms are put in place to meet or exceed the agreed business continuity targets
- Assess the impact of all changes on the IT Service Continuity Plans and IT recovery plans
- Ensure that proactive measures to improve the availability of services are implemented wherever it is cost-justifiable to do so
- Negotiate and agree on the necessary contracts with suppliers for the provision of the needed recovery capability to support all continuity plans in conjunction with the Supplier Management process.

E) Discuss the challenges faced during the Service Design Process.

Answer:

- Understanding the business requirements and the business priorities and ensuring that these are uppermost in mind when designing the processes and the services.
- Communications will be vitally important both in explaining what is happening and how individuals will be affected and in listening to the requirements and needs of the

individuals. It's vitally important to communicate with people about concerns that relate to their daily job.

- Involve as many people as possible in the design. Setting up focus groups or steering groups can be very effective in getting the right solution as well as gaining wider support.
- Gaining commitment from senior management as well as from all levels of staff.
- The need to ensure alignment with current architectural directions, strategy and policies. An example of this may be that the procured infrastructure may have poor monitoring and control features.
- The use of diverse and disparate technologies and applications.
- Documentation and adherence to agreed practices and processes.
- Unclear or changing requirements from the business. This may be unavoidable in some cases because business needs are likely to change. The important thing is to ensure that there is a very close relationship between the IT service provider organization and the business customer of the service, so that any changing requirements can be identified as quickly as possible.
- A lack of awareness and knowledge of service and business targets and requirements.
- Linked to the above point, it may be that certain facilities are not built into the design. Again, it is imperative that representatives of every user of the designed service or process are involved throughout the process to reduce the chance of this happening. Details of service testing (an important element here) are contained within the Service Transition publication.
- A resistance to planning, or a lack of planning leading to unplanned initiatives and unplanned purchases.
- Inefficient use of resources causing wasted spend and investment.
- As mentioned previously, a good knowledge and appreciation of the business impacts and priorities is imperative.
- Poor relationships, communication or lack of cooperation between the IT service provider and the business may result in the design not achieving the business requirements.
- Resistance to work within the agreed strategy.
- Use of, and therefore the constraints of, old technology and legacy systems.
- Required tools are too costly or too complex to implement or maintain with the current staff skills.
- Lack of information, monitoring and measurements.
- Unreasonable targets and timescales previously agreed in the SLAs and OLAs.
- Over-commitment of available resources with an associated inability to deliver (e.g. projects always late or over budget).
- Poor Supplier Management and/or poor supplier performance.
- Lack of focus on service availability.
- Lack of awareness and adherence to the operational aspects of security policies and procedures.
- Ensuring normal daily operation or business as usual is considered as part of the design.

- Cost and budgetary constraints.
- Ascertaining the ROI and the realization of business benefit.

F) Explain how Business Service Management enables IT components to be linked to the goals of the business.

Answer:

Business Service Management (BSM) is a strategy and an approach to enable IT components to be linked to the goals of the business. This way the impact of technology on the business and how business change may impact technology can both be predicted. The creation of a totally integrated Service Catalogue - including business units, processes and services, and their relationships and dependencies on IT services, technology and components - is crucial to increasing the IT service provider's capability to deliver BSM. All aspects of Service Design are vital elements in supporting and enhancing the Business Service Management capability of the IT service provider, particularly the design of the Service Portfolio, the Service Catalogue and the individual IT services. All of these activities will also improve the alignment of IT service provision with business and its evolving needs. See Figure 3.15. BSM enables an IT service provider organization to:

- Align IT service provision with business goals and objectives
- Prioritize all IT activities on business impact and urgency, ensuring critical business processes and services receive the most attention
- Increase business productivity and profitability through the increased efficiency and effectiveness of IT processes
- Support the requirements for corporate governance with appropriate IT governance and controls
- Create competitive advantage through the exploitation and innovation of IT infrastructure as a whole
- Improve service quality, customer satisfaction and user perception
- Ensure regulatory and legislative compliance
- Ensure appropriate levels of protection on all IT and information assets
- Ensure that IT services are aligned and continue to be aligned with changing business needs.

Q3

A) Explain the objectives of Service Transition.

Answer:

The objectives are to:

- Plan and manage the resources to establish successfully a new or changed service into production within the predicted cost, quality and time estimates
- Ensure there is minimal unpredicted impact on the production services, operations and support organization
- Increase the customer, user and Service Management staff satisfaction with the Service Transition practices including deployment of the new or changed service, communications, release documentation, training and knowledge transfer
- Increase proper use of the services and underlying applications and technology solutions
- Provide clear and comprehensive plans that enable the customer and business change projects to align their activities with the Service Transition plans.

B) Discuss the challenges faced for successful Service Transition.

Answer:

- Enabling almost every business process and service in IT, resulting in a large customer and stakeholder group that is involved and impacted by Service Transition
- Managing many contacts, interfaces and relationships through Service Transition, including a variety of different customers, users, programmes, projects, suppliers and partners
- There being little harmonization and integration of the processes and disciplines that impact Service Transition, e.g. finance, engineering, human resource management
- There being inherent differences among the legacy systems, new technology and human elements that result in unknown dependencies and are risky to change
- Achieving a balance between maintaining a stable production environment and being responsive to the business needs for changing the services
- Achieving a balance between pragmatism and bureaucracy
- Creating an environment that fosters standardization, simplification and knowledge sharing
- Being an enabler of business change and, therefore, an integral component of the business change programmes
- Establishing leaders to champion the changes and improvements
- Establishing 'who is doing what, when and where' and 'who should be doing what, when and where'
- Developing a culture that encourages people to collaborate and work effectively together and an atmosphere that fosters the cultural shifts necessary to get buy-in from people

- Developing standard performance measures and measurement methods across projects and suppliers • Ensuring that the quality of delivery and support matches the business use of new technology
- Ensuring that the Service Transition time and budget is not impacted by events earlier in the service lifecycle (e.g. budget cuts)
- Understanding the different stakeholder perspectives that underpin effective risk management within an organization
- Understanding, and being able to assess, the balance between managing risk and taking risks as it affects the overall strategy of the organization and potential mismatch between project risks and business risk
- Evaluating the effectiveness of reporting in relation to risk management and corporate governance.

C) Write a short note on Change Management.

Answer:

Changes arise for a variety of reasons:

- Proactively, e.g. seeking business benefits such as reducing costs or improving services or increasing the ease and effectiveness of support
- Reactively as a means of resolving errors and adapting to changing circumstances.

Changes should be managed to:

- Optimize risk exposure (supporting the risk profile required by the business)
- Minimize the severity of any impact and disruption
- Be successful at the first attempt.

Such an approach will deliver direct benefit to the bottom line for the business by delivering early realization of benefits (or removal of risk), with a saving of money and time.

To make an appropriate response to all requests for change entails a considered approach to assessment of risk and business continuity, change impact, resource requirements, change authorization and especially to the realizable business benefit. This considered approach is essential to maintain the required balance between the need for change and the impact of the change.

The purpose of the Change Management process is to ensure that:

- Standardized methods and procedures are used for efficient and prompt handling of all changes

- All changes to service assets and configuration items are recorded in the Configuration Management System
- Overall business risk is optimized.

The goals of Change Management are to:

- Respond to the customer's changing business requirements while maximizing value and reducing incidents, disruption and re-work
- Respond to the business and IT requests for change that will align the services with the business needs.

The objective of the Change Management process is to ensure that changes are recorded and then evaluated, authorized, prioritized, planned, tested, implemented, documented and reviewed in a controlled manner.

D) State the principles for implementing a formal policy for Service Transition.
Answer:

1. Define And Implement A Formal Policy For Service Transition
2. Implement All Changes To Services Through Service Transition
3. Adopt A Common Framework And Standards
4. Maximize Re-use Of Established Processes And Systems Policy:
5. Align Service Transition Plans With The Business Needs
6. Establish And Maintain Relationships With Stakeholders
7. Establish Effective Controls And Disciplines
8. Provide Systems For Knowledge Transfer And Decision Support
9. Plan Release And Deployment Packages
10. Anticipate And Manage Course Corrections
11. Proactively Manage Resources Across Service Transitions
12. Ensure Early Involvement In The Service Lifecycle
13. Assure The Quality Of The New Or Changed Service
14. Proactively Improve Quality During Service Transition

E) What is Service Validation and Testing? List its objectives.
Answer:

Service Testing and Validation contributes is quality assurance - establishing that the Service Design and release will deliver a new or changed service or service offering that is fit for purpose and fit for use. Testing is a vital area within Service Management and has often been the unseen underlying cause of what was taken to be inefficient Service Management processes. If services are not tested sufficiently then their introduction into the operational environment will bring a rise in:

- Incidents, since failures in service elements and mismatches between what was wanted and what was delivered impact on business support
- Service desk calls for clarification, since services that are not functioning as intended are inherently less intuitive causing a higher support requirement
- Problems and errors that are harder to diagnose in the live environment
- Costs, since errors are more expensive to fix in production than if found in testing
- Services that are not used effectively by the users to deliver the desired value.

Objectives are as following :

- Provide confidence that a release will create a new or changed service or service offerings that deliver the expected outcomes and value for the customers within the projected costs, capacity and constraints
- Validate that a service is 'fit for purpose' - it will deliver the required performance with desired constraints removed
- Assure a service is 'fit for use' - it meets certain specifications under the specified terms and conditions of use
- Confirm that the customer and stakeholder requirements for the new or changed service are correctly defined and remedy any errors or variances early in the service lifecycle as this is considerably cheaper than fixing errors in production.

F) Briefly explain the difficult conditions under which Service Transition is implemented.

Answer:

Service Transitions will be required under atypical or difficult conditions, such as:

- Short timescale
- Restricted finances
- Restricted resource availability - not enough people or lack of test environments, inadequate tools etc.
- Absence of anticipated skills sets
- Internal political difficulty, staff disincentives, such as:
- Redundancy/outsourcing or similar threats
- Difficult corporate culture of confrontational management style

- Internal rivalries and competitiveness
- External difficulties such as weather, political instability, post-disaster, legislation.

Q4

A) What is Service Operation? Explain the various processes of Service Operations.

Answer:

Service Operation is to coordinate and carry out the activities and processes required to deliver and manage services at agreed levels to business users and customers. Service Operation is also responsible for the ongoing management of the technology that is used to deliver and support services.

The processes are as following:

Event Management

Event Management monitors all events that occur throughout the IT infrastructure, to monitor normal operation and to detect and escalate exception conditions.

Incident and Problem Management

Incident Management concentrates on restoring unexpectedly degraded or disrupted services to users as quickly as possible, in order to minimize business impact. Problem Management involves: root-cause analysis to determine and resolve the cause of incidents, proactive activities to detect and prevent future problems/incidents and a Known Error sub-process to allow quicker diagnosis and resolution if further incidents do occur.

Request Fulfilment

Request Fulfilment is the process for dealing with Service Requests - many of them actually smaller, lower-risk, changes - initially via the Service Desk, but using a separate process similar to that of Incident Management but with separate Request Fulfilment records/tables - where necessary linked to the Incident or Problem Record(s) that initiated the need for the request. To be a Service Request, it is normal for some prerequisites to be defined and met (e.g. needs to be proven, repeatable, pre-approved, proceduralized).

In order to resolve one or more incidents, problems or Known Errors, some form of change may be necessary. Smaller, often standard, changes can be handled through a Request Fulfilment process, but larger, higher-risk or infrequent changes must go through a formal Change Management process.

Access Management

Access Management is the process of granting authorized users the right to use a service, while restricting access to non-authorized users. It is based on being able accurately to identify authorized users and then manage their ability to access services as required during different stages of their

Human Resources (HR) or contractual lifecycle. Access Management has also been called Identity or Rights Management in some organizations.

B) Differentiate between Internal IT and External business view.

Answer:

The most fundamental conflict in all phases of the ITSM Lifecycle is between the view of IT as a set of IT services (the external business view) and the view of IT as a set of technology components (internal IT view).

• The external view of IT is the way in which services are experienced by its users and customers. They do not always understand, nor do they care about, the details of what technology is used to manage those services. All they are concerned about is that the services are delivered as required and agreed.

• The internal view of IT is the way in which IT components and systems are managed to deliver the services. Since IT systems are complex and diverse, this often means that the technology is managed by several different teams or departments - each of which is focused on achieving good performance and availability of 'its' systems.

Both views are necessary when delivering services. The organization that focuses only on business requirements without thinking about how they are going to deliver will end up making promises that cannot be kept. The organization that focuses only on internal systems without thinking about what services they support will end up with expensive services that deliver little value.

The potential for role conflict between the external and internal views is the result of many variables, including the maturity of the organization, its management culture, its history, etc. This makes a balance difficult to achieve, and most organizations tend more towards one role than the other. Of course, no organization will be totally internally or externally focused, but will find itself in a position along a spectrum between the two. This is illustrated in Figure 3.1:

Table outlines some examples of the characteristics of positions at the extreme ends of the spectrum. The purpose of this table is to assist organizations in identifying to which extreme they are closer, not to identify real-life positions to which organizations should aspire.

	Extreme internal focus	Extreme external focus
Primary focus	• Performance and management of IT Infrastructure devices, systems and staff, with little regard to the end result on the IT service.	• Achieving high levels of IT service performance with little regard to how it is achieved.
Metrics	• Focus on technical performance without showing what this means for services	• Focus on External Metrics without showing internal staff

	• Internal metrics (e.g. network uptime) reported to the business instead of service performance metrics.	how these are derived or how they can be improved • Internal staff are expected to devise their own metrics to measure internal performance.
Customer/user experience	• High consistency of delivery, but only delivers a percentage of what the business needs. • Uses a 'push' approach to delivery, i.e. prefers to have a standard set of services for all business units.	• Poor consistency of delivery • 'IT consists of good people with good intentions, but cannot always execute' • Reactive mode of operation. • Uses a 'pull' approach to delivery, i.e. prefers to deliver customized services upon request.
Operations strategy	• Standard operations across the board • All new services need to fit into the current architecture and procedures.	• Multiple delivery teams and multiple technologies • New technologies require new operations approaches and often new IT Operations teams.
Procedures and manual	• Focus purely on how to manage the technology, not on how its performance relates to IT services	• Focuses primarily on what needs to be done and when and less on how this should be achieved.
Cost strategy	• Cost reduction achieved purely through technology consolidation • Optimization of operational procedures and resources • Business impact of cost cutting often only understood later • Return on Investment calculations are focused purely on cost savings or 'payback periods'.	• Budget allocated on the basis of which business unit is perceived to have the most need • Less articulate or vocal business units often have inferior services as there is not enough funding allocated to their services.
Training	• Training is conducted as an apprenticeship, where new Operations staff have to learn the way things have to be done, not why	• Training is conducted on a project-by-project basis • There are no standard training courses since operational

		procedures and technology are constantly changing.
Operations staff	• Specialized staff, organized according to technical specialty • Staff work on the false assumption that good technical achievement is the same as good customer service.	• Generalist staff, organized partly according to technical capability and partly according to their relationship with a business unit • Reliance on 'heroics', where staff go out of their way to resolve problems that could have been prevented by better internal processes.

C) State the risks factors in Service Operations.

Answer:

- Inadequate funding and resources: Funding must be justified, allocated and held in reserve for its original purpose.
- Loss of momentum: Where staff see Service Management as 'flavour of the month' rather than permanently changing the way they work for the future, any impetus is lost as a result: it must be made clear from the outset that a new way of working is required. Also, mechanisms should be in place to ensure that the initiative survives organizational changes.
- Loss of key personnel: Sometimes the loss of one or two key personnel can have a severe impact: to try to minimize this effect, organizations should seek to cross-train staff and reduce dependencies upon individuals. This is especially true in less mature organizations where knowledge has still not been formalised into processes, documents and tools. These organizations tend to be dependent on 'heroic' efforts of a few knowledgeable people, and are devastated when they leave.
- Resistance to change: Sometimes people object to new things and are reluctant to take them on board. Education, training, communication and highlighting benefits will help.
- Lack of management support: This often occurs among Middle Managers, who may not see the overall vision or gain the hands-on benefits that more junior staff may gain. See paragraph 9.2.1 for more information on this, but managers need to support Service Management and participate in the appropriate phases and processes of Service Design, Transition and Operation to provide tangible support.
- If the initial design is faulty, a successful implementation will never give the required results - and redesign will ultimately be necessary.
- In some organizations Service Management can be viewed with suspicion by both IT and the business. IT staff see it as an attempt to control them, while the business perceives it as an attempt by IT to gain more funding without actually improving anything. The benefits of Service Management should be clearly articulated for all stakeholders.
- Differing customer expectations. While operational staff are encouraged to execute against standards, customer and user expectations sometimes differ. In other cases one customer may have paid more for a superior service, but when a user from a different area sees the

superior service, they feel cheated. This problem should be resolved through clear SLM and careful communication during Service Design. Complaints of this nature should be taken up through Continual Service Improvement processes and should not simply involve Service Operation automatically increasing service upon request.

D) What is Service Management Training?Explain its objectives.

Answer:

Adequate training and awareness can have much wider overall benefits. As well as creating champions of a few, it can be used to win the 'hearts and minds' of many. Service Operation staff must all be aware of the consequences of their actions, both good and bad, on the organization - and all must be instilled with a 'Service Management culture'.

It is possible to have the finest Service Operation practice and tools in the world - but Service Management will not be successful unless the people are also attuned to the overall Service Management objectives. Buy-in and support of all staff are therefore very important - and the role of training and awareness, and even formal qualifications that benefit the individual, should not be underestimated.

Training required for successful Service Management includes:

- Training IT staff on the processes that have been implemented. This will include generic training so that they understand the concepts fully, as well as training specially targeted at the organization's own processes
- Training on 'soft' or 'people' skills, especially for those staff in customer-facing positions
- Training about understanding the business, and the importance of achieving a service culture
- Where tools have been implemented, training on how to use and manage those tools
- Also, customers and users need appropriate training on how to work with IT - access services, request changes, submit requests, use tools, etc.

E) Explain the three levels in which Capacity Management should operate.

Answer:

Capacity Management should operate at three levels: Business Capacity Management, Service Capacity Management and Component Capacity Management.

- Business Capacity Management involves working with the business to plan and anticipate both longerterm strategic issues and shorter-term tactical initiatives that are likely to have an impact on IT capacity.
- Service Capacity Management is about understanding the characteristics of each of the IT services, and then the demands that different types of users or transactions have on the underlying infrastructure - and how these vary over time and might be impacted by business change.

- Component Capacity Management involves understanding the performance characteristics and capabilities and current utilization levels of all the technical components (Cis) that make up the IT Infrastructure, and predicting the impact of any changes or trends.

Many of these activities are of a strategic or longer-term planning nature and are covered in the Service Strategy, Service Design and Service Transition publications. However, there are a number of operational Capacity Management activities that must be performed on a regular ongoing basis as part of Service Operation.

F) Write a short note on Access Management.

Answer:

Access Management is the process of granting authorized users the right to use a service, while preventing access to non-authorized users. It has also been referred to as Rights Management or Identity Management in different organizations.

Access Management provides the right for users to be able to use a service or group of services. It is therefore the execution of policies and actions defined in Security and Availability Management.

Access Management is effectively the execution of both Availability and Information Security Management, in that it enables the organization to manage the confidentiality, availability and integrity of the organization's data and intellectual property. Access Management ensures that users are given the right to use a service, but it does not ensure that this access is available at all agreed times - this is provided by Availability Management.

Access Management is a process that is executed by all Technical and Application Management functions and is usually not a separate function. However, there is likely to be a single control point of coordination, usually in IT Operations Management or on the Service Desk.

Access Management can be initiated by a Service Request through the Service Desk.

Q5

A) Explain the Deming cycle.

Answer:

W. Edwards Deming is best known for his management philosophy leading to higher quality, increased productivity, and a more competitive position. As part of this philosophy he formulated 14 points of attention for managers. Some of these points are more appropriate to service management than others. For quality improvement he proposed the Deming Cycle or Circle. This cycle is particularly applicable in CSI. The four key stages of the cycle are Plan, Do, Check and Act, after which a phase of consolidation prevents the circle from rolling back down the hill. Our goal in using the Deming Cycle is steady, ongoing improvement. It is a fundamental tenet of Continual Service Improvement.

The Deming Cycle is critical at two points in CSI: implementation of CSIs, and for the application of CSI to services and service management processes. At implementation, all four stages of the Deming Cycle are used. With ongoing improvement, CSI draws on the check and act stages to monitor, measure, review and implement initiatives.

The cycle is underpinned by a process-led approach to management where defined processes are in place, the activities are measured for compliance to expected values and outputs are audited to validate and improve the process.

B) Discuss the factors to be considered while making a Communication Plan.

Answer:

- Who is the messenger? - This is often overlooked with regard to the importance of aligning the messenger with the message. There are times when it is appropriate for the CIO to deliver a communication. Another time it may be a Service Owner or Process Owner who should be doing the communicating.
- What is the message? - Define the purpose and objective of the message. This needs to be tailored to the target audience. Keep in mind the importance of communicating the benefits of the CSI programme. The WIIFM (what's-in-it-for-me) approach is still valid and needs to be addressed. Reporting can be a message that is provided.
- Who is the target audience? - The target audience for CSI could be senior management, mid-level managers or the staff who will be tasked with performing CSI activities. The target audience will often dictate who will deliver the message based on what the message is.
- Timing and frequency of communication - Be sure to plan and execute your communication in a timely manner. The one constant about managing change is that for communication to be effective it will take more than a one-time communication. If reporting is what is being communicated you will want to define your reporting timelines and frequency.
- Method of communication - The old standby of sending e-mails and putting something on the web can work for some forms of communication, but in order to effectively manage change it is important to have a number of face-to-face meetings where there is an opportunity for two-way communications to take place. Attending staff meetings, holding information meetings open to all of IT and conducting town hall meetings are all effective methods that need to be considered.
- Provide a feedback mechanism - Be sure to provide some method for employees to ask questions and provide feedback on the change initiative. Someone should have ownership of checking and ensuring responses are provided to the questions/comments that are provided.

Be sure to keep a record of your of all of your communications that go out as this represents how the communication plan has been executed.

C) State the responsibilities of Service Owner.

Answer:

- Service Owner for a specified service
- Provides input in service attributes such as performance, availability etc.
- Represents the service across the organization
- Understands the service (components etc.)
- Point of escalation (notification) for major Incidents
- Represents the service in Change Advisory Board meetings
- Provides input in CSI
- Participates in internal service review meetings (within IT)
- Works with the CSI Manager to identify and prioritize service improvement
- Participates in external service review meetings (with the business)
- Responsible for ensuring that the service entry in the Service Catalogue is accurate and is maintained

D) Explain the Seven-Step Improvement Process.

Answer:

1. Define what you should measure
   At the onset of the service lifecycle, Service Strategy and Service Design should have identified this information. CSI can then start its cycle all over again at 'Where are we now?' This identifies the ideal situation for both the Business and IT.
2. Define what you can measure
   This activity related to the CSI activities of 'Where do we want to be?' By identifying the new service level requirements of the business, the IT capabilities (identified through Service Design and implemented via Service Transition) and the available budgets, CSI can conduct a gap analysis to identify the opportunities for improvement as well as answering the question 'How will we get there?'
3. Gathering the data
   In order to properly answer the 'Did we get there?' question, data must first be gathered (usually through Service Operations). Data is gathered based on goals and objectives identified. At this point the data is raw and no conclusions are drawn.
4. Processing the data
   Here the data is processed in alignment with the CSFs and KPIs specified. This means that timeframes are coordinated, unaligned data is rationalized and made consistent, and gaps in data are identified. The simple goal of this step is to process data from multiple disparate sources into an 'apples to apples' comparison. Once we have rationalized the data we can then begin analysis.
5. Analyzing the data
   Here the data becomes information as it is analysed to identify service gaps, trends and the

impact on business. It is the analysing step that is most often overlooked or forgotten in the rush to present data to management.

6. Presenting and using the information
   Here the answer to 'Did we get there?' is formatted and communicated in whatever way necessary to present to the various stakeholders an accurate picture of the results of the improvement efforts. Knowledge is presented to the business in a form and manner that reflects their needs and assists them in determining the next steps.
7. Implementing corrective action
   The knowledge gained is used to optimize, improve and correct services. Managers identify issues and present solutions. The corrective actions that need to be taken to improve the service are communicated and explained to the organization. Following this step the organization establishes a new baseline and the cycle begins anew.

E) Write a short note on Benchmarking.

Answer:

Benchmarking (also known as 'best practice benchmarking' or 'process benchmarking') is a process used in management, particularly strategic management, in which organizations evaluate various aspects of their processes in relation to best practice, usually within their own sector. This then allows organizations to develop plans on how to adopt such best practice, usually with the aim of increasing some aspect of performance. Benchmarking may be a one-time event, but is often treated as a continual process in which organizations continually seek to challenge their practices.

Organizations have a growing need to get a clear view on their own level of quality and performance with regard to their competitors and in the eye of their customers. It isn't sufficient any more to have internal self-assessment reports on the status of IT performance; it is equally important to test and compare it with the view the market has on the performance of the organization. A positive result of this test and comparison can give a competitive edge to the organization in the marketplace and generates trust with its customers. The results of benchmarking and self-assessments lead to identification of gaps in terms of people, process and technology.

A benchmark can be the catalyst to initiating prioritization of where to begin formal process improvement. The results of benchmarking must clearly display the gaps, identify the risks of not closing the gaps, facilitate prioritization of development activities and facilitate communication of this information.

F) Justify the need of Tools to support CSI activities.

Answer:

As part of the assessment of 'Where do we want to be?' the requirements for enhancing tools need to be addressed and documented. These requirements vary depending on both the process and technology maturity. Technology specifically means systems and service management toolsets used for both monitoring and controlling the systems and infrastructure components and for managing process-based workflows, such as Incident Management.

Without question, service management tools are indispensable. However, good people, good process descriptions, and good procedures and working instructions are the basis for successful service management. The need and the sophistication of the tools required depend on the business need for IT services and, to some extent, the size of the organization.

In a very small organization a simple in-house developed database system may be sufficient for logging and controlling incidents. However, in large organizations, very sophisticated distributed and integrated service management tools may be required, linking all the processes with systems management toolsets. While tools can be important assets, in today's IT-dependent organizations, they are a means, not an end in themselves. When implementing service management processes, look at the way current processes work. Each organization's unique need for management information should always be its starting point. This will help define the specifications for the tools best suited to that organization.

There are many tools that support the core ITSM processes and others that support IT governance as a whole which will require integration with the ITSM tools. Information from both of these toolsets typically needs to be combined, collated and analysed collectively to provide the overall business intelligence required to effectively improve on the overall IT service provision.