

Mark Scheme

Summer 2009

Principal Learning

Information Technology

Level 3

IT302/01 IT307/01

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General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

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Question Number	Answer	Mark
1(a)	First mark for identifying characteristic, second mark for the associated expansion. Maximum of two characteristics <ul style="list-style-type: none"> • Limited liability: directors/managers need not risk own money • Share Capital: easy to raise finance through shareholders • Share trading: value of company increased with good performance • Shareholders have a say in running the business: and can buy and sell shares in the company 	(4)

Question Number	Answer	Mark
1(b)	First mark for identifying disadvantage, second mark for the associated expansion. Maximum of one disadvantage. <ul style="list-style-type: none"> • Loss of control: shareholders can pressure the company to work to their best advantage • Vulnerable to takeover: by other companies buying up shares. • Public information: lot of information about company has to be published. • Profits will be distributed to shareholders: less money for future investment. • Shares can be traded: company can lose value. 	(2)

Question Number	Answer	Mark
1(c)	One mark per responsibility correctly identified. <ul style="list-style-type: none"> • Determining the IT strategy • IT procurement • Data security • Disaster recovery • IT policy • Managing IT staff • Attending board meetings • Budgets • <u>Organising</u> the maintenance of IT equipment • <u>Organise</u> IT training Any other reasonable response	(2)

Question Number	Answer	Mark
2(a)	<p>First mark for identifying method, second mark for the associated expansion. Maximum of three methods</p> <ul style="list-style-type: none"> • Internet research: into competitors, products, customer preferences. • Purchase Market Research Data: investigate market trends and preferences. • Telephone Research purchase data base of potential customers and contact them. • Focus Groups: to conduct in-depth interviews with potential customers • Questionnaires: consumer preferences • Search trade journals: monitor advertising and promotions. • Monitor competition: secret shopper, sample purchases etc <p>Any other appropriate response with expansion.</p>	(6)

Question Number	Answer	Mark
2(b)	<p>One mark for any three of the following points.</p> <ul style="list-style-type: none"> • compliance with relevant legislation • system security • staff training and procedures • commercial confidentiality • ensure data is securely stored and backed-up 	(3)

Question Number	Answer	Mark
3(a)	<p>One mark for each item correctly placed on grid</p> <p>Strengths</p> <ul style="list-style-type: none"> • (4) Tim Hortons will have the lowest price in the quality coffee market • (8) Tim Hortons already has experience of European operations through its branches in Ireland. <p>Weaknesses</p> <ul style="list-style-type: none"> • (6) Tim Hortons is an unknown brand in England <p>Opportunities</p> <ul style="list-style-type: none"> • (1) Fast food is a popular purchase amongst all age groups • (2) Many small independent fast food retailers are likely to go out of business in a recession. • (5) The quality of coffee served in budget fast food restaurants is very poor • (7) There are plenty of potential sites for drive through coffee outlets <p>Threats</p> <ul style="list-style-type: none"> • (3) Coffee shops are well established and competition is fierce 	(8)

Question Number	Answer	Mark
3(b)(i)	<p>Any two valid points. Maximum two marks.</p> <ul style="list-style-type: none"> • A protocol is a set of rules • Used to communicate between systems • They must have the same rules/compatible 	(2)

Question Number	Answer	Mark
3(b)(ii)	<p>First mark for identifying a problem, second mark for example or equivalent.</p> <ul style="list-style-type: none"> • May not be able to view each others webpages: internet protocol • May not be able to send/receive emails: email protocol • Computers may not talk to each other: network protocol • Data may not be exchanged between computers: max 1 mark as not a protocol • Different versions of software: software protocol 	(2)

Question Number	Answer	Mark
4(a)	<p>1 mark each, for each correctly labelled element of data flow diagram. Answers need not use exactly the words below but alternative phrases should convey the same meaning.</p> <p>A - Kitchen, food preparation staff/meal prepared/assembled</p> <p>B - Orders database (the word 'database' must be used)</p> <p>C - Collect payment, issue receipt (dispense order)</p> <p>D - Update stock (database)</p> <p>E - Daily money taken, Daily revenue/update from finance database</p> <p>F- (Coffee Shop) manager</p>	(6)

Question Number	Answer	Mark
4(b)	<p>Any common convention for data flow charts is acceptable.</p> <p>One mark for each of the following elements.</p> <ul style="list-style-type: none"> • Process box correctly drawn following conventions • Process box suitably labelled as below, or similar - including suitable number • Both dataflow arrows correctly drawn • Both data flows suitably labelled as below, or similar <pre> graph TD S3[3 Stock Database] -- Stock Levels --> P4[4 Weekly Order Check stock levels and create a weekly order] P4 -- Weekly Order --> E[Central distribution warehouse] </pre>	(4)

Question Number	Answer	Mark
5(a)	One mark for each element of the definition; <ul style="list-style-type: none"> • Ability to earn revenue/make money • In relation to expenditure 	(2)

Question Number	Answer	Mark
5(b)	One mark for each element of the explanation; <ul style="list-style-type: none"> • Operating profit is based on the income from sales less expenditure required to generate these sales • Net profit is after deduction of all operating costs, interest charges, administration, marketing and other expenses Accept diagrammatic representation / formula	(2)

Question Number	Answer	Mark
5(c)	<p>EITHER One mark for each of the following points.</p> <ul style="list-style-type: none"> • Value resulting from the income generated by a particular investment • measured over the expected useful life span of the investment • offset against the interest the capital used for the project would have gained if invested instead. <p>OR Up to three marks for a valid textbook definition covering</p> <ul style="list-style-type: none"> • Identifying potential income from an investment • Over a period of time • Discounted for tying up the capital • Identifying the basis for the calculation of the discount (Opportunity Cost) <p><i>eg NPV is the value today of the estimated cash flows resulting from an investment, discounting these future cash flows to make allowance for the Opportunity Cost of tying up the capital in the investment, and calculated over the life span of the investment.</i></p>	(3)

Question Number	Answer	Mark
5(d)	<p>First mark for giving a reason, second mark for the associated expansion. Maximum of two reasons</p> <ul style="list-style-type: none"> • The NPV value is positive; suggesting the investment is viable but not making a huge profit • The NPV compared with turnover is tiny; and so is not going to make any impact on profits • There is very little leeway if the technology has problems; could turn into a negative NPV. • Risk of escalating set up costs: that will wipe out any profit • Comparability issues: cost of resolving may wipe out profit • Technology doesn't work: leading to increased expenditure to resolve problem 	(4)

Question Number	Answer	Mark
5(e)	<p>One mark for each of the following points. Maximum three marks</p> <ul style="list-style-type: none"> • The effect of competition in the area • Local labour rates • Local property prices/rents • Local taxes • Distance from suppliers • Local employment rates • Currency/exchange rate • Local affluence • Pollution or environmental tax 	(3)

Question Number	Answer	Mark
6(a)	<p>One mark for each of the following points. Maximum two marks</p> <ul style="list-style-type: none"> • Customer pays in advance • Quicker for staff on the tills • No cash to handle • Customer more likely to use TH rather than competition • Reduced risk of fraud as with credit card/ forged notes • Can be linked to promotions • Improved customer relations • Monitor spending patterns • Data from customer can be used 	(2)

Question Number	Answer	Mark
6(b)	<p>One mark for any of the following points. Maximum one mark</p> <ul style="list-style-type: none"> • Has to use it where valid • Could lose the card • Have paid in advance • Run out of credit unexpectedly • Worthless if company goes bust • No use in a systems failure 	(1)

Question Number	Answer	Mark
6(c)	<p>One mark for each reason, and one for the associated expansion. Maximum two reasons</p> <ul style="list-style-type: none"> • Encrypt data on the card: difficult for anyone to change the data unless the decrypt. • Card data stored by company: check to see if card is in credit. • PIN: must be entered to use card. • Block lost cards: no longer any use • Use photo cards: difficult for someone else to use • CHIP or similar security device: makes it difficult to forge the card 	(4)

Question Number	Indicative Content
6(d)	<p>Only bullet pointed answers max L2</p> <p>General Benefits (GB)</p> <ul style="list-style-type: none"> • identify certain customers for targeted mail shots • create special offers at the till based on spending e.g. 'bogof' • increased knowledge of the buying pattern of the customer • generate typical customer profile in each store. <p>Spending Patterns (SP)</p> <ul style="list-style-type: none"> • individual customer spend patterns • daily, weekly, seasonal trends for individual customers • geographical spending patterns, which stores a customer visits • frequency of visits <p>Data Searches (DS)</p> <ul style="list-style-type: none"> • an individual's shopping pattern over time • create a store profile, what sells at which point in the day • study store data in relation to other local social indices • performance of individual sales staff by age, experience, gender • sectorisation of the market
Mark	
1-3	<ul style="list-style-type: none"> • Candidates produce an unstructured response, with some indication that the data would be useful but do not give any specific examples. • Candidates must give at least one example of a valid data search/use that might be made of the data
4-6	<ul style="list-style-type: none"> • Candidates attempt to produce a structured response that demonstrates some understanding of the potential of searching the data set • Candidates must give at least two examples of valid data searches/uses that might be made of the data
7-9	<ul style="list-style-type: none"> • Candidates produce a structured, well thought out response and clearly demonstrate a good understanding of the potential of searching the data set • Candidates must give at least three examples of valid data searches/uses that might be made of the data

Question Number	Indicative Content
7	<p>Key Points:</p> <ul style="list-style-type: none"> • relevant legal requirements may be mentioned under any theme (UK legislation OK as could apply to planned expansion) <p>Collecting Data (CD)</p> <ul style="list-style-type: none"> • restrict access to data to those who need to collect it or process it • data Collection procedures ensure data is accounted for at all times • data is encrypted at time of collection • accountability for all media on which data has been collected • paper based records are securely destroyed once electronic versions have been created or the data has been collated. • staff have clear instructions on how to collect and transmit data. • any other relevant issue relating to collecting data <p>Storing Data (Std)</p> <ul style="list-style-type: none"> • access to stored data is restricted to those who archive it. • data stored on physical media is accounted for by a logging or tracking system • appropriate places and media to store data are explicitly identified • all data is backed up to a secure alternative location • staff are aware of 'shelf life' of data storage media • ensure that Data that is intentionally deleted from storage media cannot be subsequently recovered. • any other relevant issue relating to storing data <p>Sending Data (SeD)</p> <ul style="list-style-type: none"> • if data transmission is over a secure line, data is encrypted. • if data is transmitted on physical media, data is encrypted and the method of movement is secure. • 'chain of evidence' type process to ensure record of who has the data at any time during transit • encryption keys are transmitted by different method, route, time to that of the data. • any other relevant issue relating to sending data
Mark	
1-3	<ul style="list-style-type: none"> • Candidates produce an unstructured response, with some indication that there is a need to keep data secure. • Candidates cover a few (1 or more themes) of the relevant key points above.
4-6	<ul style="list-style-type: none"> • Candidates attempt to produce a structured response that demonstrates some understanding of the need for data security. • Candidates cover some (2 or more themes) of the relevant key points above.
7-9	<ul style="list-style-type: none"> • Candidates produce a structured, well thought out response and clearly demonstrate a good understanding of the need for data security (may quote examples from recent events) • Candidates cover most of the relevant key points above for all three themes

Question Number	Indicative Content
8	<p>Key Points:</p> <p>Attendance (AT) Electronic methods of recording staff attendance, swipe cards, log on to tills etc</p> <ul style="list-style-type: none"> • allow accurate data collection but can be open to fraudulent use by staff • Staff attendance data can be used to identify poor attendance/time keeping of staff, alert management to problems at an early stage • Analysis of attendance data can identify trends related to external events/dates/times ie poor attendance on late shift when no public transport. • Staff may benefit by accurate payment for time worked, access to personal data. • Potential for flexible working hours, flexi-time. • Accurate recording of overtime, extra shifts worked. <p>Training (TR) Technology such as on-line training packs, web seminars, training pod-casts, interactive assessment, simulations of working situations, company dvds</p> <ul style="list-style-type: none"> • allow staff to improve/train at their own pace • new staff can be inducted at any time • allows consistent training to take place across a wide area, large number of staff • training can be updated and amended quickly • reduces need for 'training staff' • training can take place in slack trade periods • technology is impersonal may not pick up on staff problems. <p>Rewards (RE) Data collected from shop sales, training etc</p> <ul style="list-style-type: none"> • used to identify and reward good staff or discipline poor staff • use technology to give rewards such as discount cards • develop performance related pay • Quick recognition of good work/effort
Mark	
1-4	<ul style="list-style-type: none"> • Candidates produce an unstructured response, with some indication that technology is useful in people management. • Candidates cover at least 1 theme and 3 key points. • Candidates need only cover advantages or disadvantages.
5-8	<ul style="list-style-type: none"> • Candidates attempt to produce a structured response that demonstrates some understanding of technology used in people management. • Candidates cover at least 2 themes and 3 key points. • Candidates need only cover advantages or disadvantages.
9-12	<ul style="list-style-type: none"> • Candidates produce a structured, well thought out response and clearly demonstrate a good understanding of the benefits and disadvantages of technology used in people management. • Candidates cover all 3 themes. • Candidates MUST cover advantages and disadvantages.

IT307/01
Making Projects Successful

Section A

Question Number	Answer	Mark
1(a)	Any two of: <ul style="list-style-type: none"> • Replace existing cabling with new cabling • Increase the capacity in the office to accommodate additional staffing • Ensure no disruptions to day to day work • Completed end of June 	(2)

Question Number	Answer	Mark
1(b)	First mark for identifying resource, second mark for associated expansion. Maximum of two marks for each resource. <ul style="list-style-type: none"> • IT staff: to be present during installation to dismantle and reconnect IT equipment, test IT equipment, agreement to pay overtime • Project Manager: to make sure work goes to plan, manage subcontractors, meet project objectives • Budget: money available to fund the project, contingency funds allowed for • Facilities staff: to move furniture, agreement to pay overtime 	(4)


Question Number	Answer	Mark
1(c)	First mark for identifying benefit, second mark for associated expansion. Maximum of two marks for each benefit. <ul style="list-style-type: none"> • Provision of faster data transfer rate: by upgrading cable from Cat 5 to Cat 5e, greater bandwidth • Increased resilience: new cabling will reduce risk of communications failure • Allow for expansions: additional ports provided for staff number increase, additional ports provided for future staff number increase 	(4)

Question Number	Answer	Mark
2(a)	<p>First mark for identifying factor, second mark for associated expansion. Maximum of two marks for each benefit.</p> <ul style="list-style-type: none"> • Breakdown tasks: jobs to be broken down into manageable sub tasks • Estimate timescales: timings for subtasks to be identified • Define dependencies: which tasks need to be completed before others task can commence, which tasks can be down in parallel or isolation • Allocate resources: manpower requirement, costs associated to each resource, when required • High level project costs: overall cost for the project, agreed by client 	(4)

Question Number	Answer	Mark
2(b)	<p>First mark for identifying feature, second mark for associated expansion. Maximum of two marks for each benefit.</p> <ul style="list-style-type: none"> • Different views: use different visual representation to suit needs, creates charts and diagrams • Range of automatic update features: if time allocated to a task is changed all subsequent timings update • Compatibility with other application software: can export data into different software, transfer data electronically • Use of software tools: produce summary headings, insert milestone, insert start / finish date, insert task IDs, task names, duration of task • Any other suitable feature: suitable expansion 	(6)

Question Number	Answer	Mark
3(a)	<p>Any four of:</p> <ul style="list-style-type: none"> • An assessment of what can go wrong with the project • To identify risks • Quantify their likelihood of occurring • Assess their likely impact on the project • Allows risk management to take place 	(4)

Question Number	Answer	Mark
3(b)	<p>First mark for risk, second mark for associated expansion. Maximum of two marks for each risk.</p> <ul style="list-style-type: none"> • Work may not complete over the weekend allocated for the phase: leaving people unable to work, make sure PM/Stake holders agree, allow for contingency time in project plan for subsequent phases • New cables may not all work: order extra cables for contingency in case of faults, ensure testing carried out & issues resolved, use of laptops/home working for non business critical staff • May damage equipment in server room: ensure back ups are taking before each phase, use of duplicate servers, spare IT equipment available 	(4)

Question Number	Answer	Mark
4	<p>1 mark for each correct figure calculated/identified</p>  <p style="text-align: center;">Node X Node Y</p>	(14)

Question Number	Answer
5(a)	<p>Key Points:</p> <ul style="list-style-type: none"> • Even if power is restored by the time quoted there will still may not be enough time to implement the project phase • Project manager could employ extra man power to carryout and complete the work on 21st Sunday, but this will mean extra costs • There are no guarantees that the power will be available by 8.00am, so if extra resources have been employed they will not be needed • Project Manager has planned the project to complete on 23rd June, which still allows enough contingency time to carry out phase 3 without incurring extra overtime payment/resource costs
Mark	
1-2	Candidates produce an unstructured response, showing little if any understanding of the reasons for the postponing stage 3
3-4	Candidates attempt to produce a structured response that demonstrates some understanding of the reasons for postponing stage 3.
5-6	Candidates produce a structured, well thought out response and clearly demonstrate a good understanding of the reasons for postponing stage 3.

Question Number	Answer	Mark
5(b)	<p>First mark for identifying resource, second mark for associated expansion. Maximum of two marks for each resource.</p> <ul style="list-style-type: none"> • Industrial action: IT Technician and or sub contactors could be called out on strike • Staff illness: Key personnel or sub contactors could ill and unable to work • Late or non deliverables of supplies: Cat 5e cable not delivered on site in time for installation • Cash flow problem: Web Masters may be required to commit substantial funds elsewhere and project may need to be postponed/cancelled, sub contractors may go into liquidation 	(4)

Question Number	Answer	Mark
6	<p>First mark for identifying benefit, second mark for associated expansion. Maximum of two marks for each resource.</p> <ul style="list-style-type: none"> • Identify which aspects went well: use successful aspects again in following phases • Identify problems: how they resolved, amend plan so problems do not arise in next phase. • Check progress against plan: to ensure project remains on track, ensure objectives are met, ensure budget timescales do not overrun 	(4)

Question Number	Answer	Mark
7	<p>First mark for identifying criteria, second mark for associated expansion. Maximum of two marks for each resource.</p> <ul style="list-style-type: none"> • Completed on time: all work completed in the month of June • Completed to budget: cost have come in within budget, no unexpected costs, was contingency used and reasons why • Completed to project specification: does the finished product work as expected, are there any problems, are stakeholders happy, have the benefits been realised 	(4)

Section B

Question Number	Answer	Mark
8(a)	<p>One mark for each identified point</p> <ul style="list-style-type: none"> • Create an online application for a fishing licence • Increase overall fishing licence sales • Develop capability to deliver further e-commerce services • To reduce post office/postal applications • Make licensing available 24/7 	(3)

Question Number	Answer	Mark
8(b)	<p>First mark for identifying reason, second mark for the associated expansion. Maximum of two marks for each stakeholder.</p> <p>The Environment Agency</p> <ul style="list-style-type: none"> • Increase revenue: more applications processed, better targeting of customers • Improve image of Environment Agency: using current technology, improved customer experience, encourages customers to return, less scope of errors from manual processing, potential online services - using ecommerce <p>SciSys</p> <ul style="list-style-type: none"> • Professional reputation: show they can do a good job on time, can use to pitch for future contracts <p>Reel Life Magazine</p> <ul style="list-style-type: none"> • Inform audience: sale of editorial space, increase readership, improve/continue relationships with Environmental Agency 	(6)

Question Number	Answer
9	<p>Key Points:</p> <ul style="list-style-type: none"> • Initial Customer Research <ul style="list-style-type: none"> ○ Survey of Anglers to improve understanding of customers needs ○ Identified customers needs to purchase a licence online • Follow up survey <ul style="list-style-type: none"> ○ Conducted by telephone ○ Identified percentage of current rod licence holders that make use of the internet had increased by 21% ○ Results used to make the decision that there was sufficient market potential to invest in an online project • Modification of existing business process <ul style="list-style-type: none"> ○ Developed an IT system to support online sales ○ Environment Agency staff tested the system internally ○ Carried out external launch to coincide with low annual sales • Marketing <ul style="list-style-type: none"> ○ After live version was running successfully, marketing team actively marketed the service to improve customer take up ○ Promotion restricted in 2005-2006 to a limited audience <p>From 2006 direct marketing used</p>
Mark	
1-3	<ul style="list-style-type: none"> • Candidates produce an unstructured response, showing little if any understanding of the Fishing Licence project. • Information may be a list of some key points with no or little relevance to the Fishing Licence project, or simple descriptions of generic project stages and tasks.
4-6	<ul style="list-style-type: none"> • Candidates attempt to produce a structured response that demonstrates some understanding of the Fishing Licence project. • May include some of the stages in the Fishing Licence project with some associated activities.
7-9	<ul style="list-style-type: none"> • Candidates produce a structured, well thought out response and clearly demonstrate a good understanding of Fishing Licence project. • Includes most of the stages and associated activities in the Fishing Licence project.

Question Number	Answer
10	<p>Key Points:</p> <p>Key factors in the success of the project</p> <ul style="list-style-type: none"> • Budget: project delivered within budget • Timescales: project delivered within required timescales • Communication: effective communication with SciSys and other key stakeholders, clear understanding of client requirements and deliverables • Objectives: clearly identified <p>Benefits Realised</p> <ul style="list-style-type: none"> • Surpasses target sales figures • Year on Year increase on Internet Sales (30-60%) • Increase in the % of electronic transaction will reduce manual effort & costs • Greater knowledge of customers to track sales patterns so more direct marketing can be used to increase future sales (not available through conventional sales outlets) • Overall 2% increase in fishing licence sales • Increased Customer Service as 5% of licences now sold outside post office hours • E-commerce available 24/7 and is a more convenient self service system <p>Future Projects</p> <ul style="list-style-type: none"> • Enabled other e-commerce services to be produced - Hazardous Waste and Flood Control • Future e-commerce enabled projects will reduce manual effort & costs • Could migrate bulk of sales into an electronic system should they so decide
Mark	
1-4	Candidates produce an unstructured response, showing limited understanding of the benefits that the Fishing Licence project brought to this and future projects
5-8	Candidates attempt to produce a structured response that demonstrates some understanding of the benefits that the Fishing Licence project brought to this and future projects
9-12	Candidates produce a structured, well thought out response and clearly demonstrate a good understanding of the benefits that the Fishing Licence project brought to this and future projects

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